

## ADULT, CONTINUING EDUCATION & EXTENSION

Phone : + 91-33-2414-6236  
Fax : + 91-33-2412-7583  
Int. : 2457-2290/2530  
H.O.D. : Prof. Tandra Mitra  
E-mail : hod@acee.jdvu.ac.in

**1 A. Courses Offered:** Details of the Courses offered during the period from 1 April 2012 to 31 March 2013 may be found in the Annexure 'A' attached herewith.

**1 B. Number of Faculty Members:** Three (3)

**2 A. Area of Research Activities:** Adult Education & Continuing Education.

**2 B. Major Research Project:**

**3 A. Invited Lectures Delivered / Session Chaired:**

Name of the Teacher : Sri Santwan Chattopadhyay

Type of Participants : Lecture delivered

Name of the Seminar/Conference : Special Summer School organised by Academic Staff College, C.U.

Place : University of Calcutta

Duration : One day (11.7.2012)

Name of the Teacher : Sri Santwan Chattopadhyay

Type of Participants : Lecture delivered

Name of the Seminar/Conference : Swami Vivekananda's 150<sup>th</sup> Birth Anniversary

Place : Jadavpur University

Duration : One day (11.9.2012)

Name of the Teacher : Sri Santwan Chattopadhyay & Dr. Somenath Bhattacharya

Type of Participants : Paper Presentation

Name of the Seminar/Conference : International Seminar on 'Communication – Key to Extension'

Place : Jadavpur University

Duration : One day (11.12.2012)

Name of the Teacher : Sri Santwan Chattopadhyay & Dr. Partha Sarathi Chakraborty

Type of Participants : Paper Presentation

Name of the Seminar/Conference : International Seminar on 'Communication – Key to Extension'

Place : Jadavpur University

Duration : One day (11.12.2012)

Name of the Teacher : Dr. Partha Sarathi Chakraborty

Type of Participants : Lecture delivered

Name of the Seminar/Conference : 'Transportation Optimisation Module and Problem Solving techniques'

Place : Indian Oil Bhawan, Kolkata

Duration :One day(17.9.2013)

**3 C. Seminar/Workshop/Conference/Symposium Organised :**

- (1) Organised International Seminar entitled 'Communication : Key to Extension' on 11.12.2013 at Jadavpur University.  
(2) Organised International Workshop entitled 'The Present Scenario of Brand Integration in Indian Films' on 6.11.2013 at Jadavpur University.

**4 B. Articles Published in Journals:**

Name of the Teacher: X. Charles, **P.S.Chakraborty**

Name of the Article:The Enterprises Web-Portal PECS Product Data Management and Applications

Name of the Journal:International Journal of Scientific and Engineering Research  
Volume / Year: 4(7)/ 2013

Name of the Teacher: X. Charles, **P.S.Chakraborty**

Name of the Article:Web Portal Global Product Master Data Management System

Name of the Journal:VSRD International Journal of Mechanical, Civil, Automobile and Production Engineering  
Volume / Year: III(VI)/ 2013

Name of the Teacher: X. Charles, **P.S.Chakraborty**

Name of the Article: Product Life Cycle Management in Automotive Enterprises

Name of the Journal:International Journal of Engineering and Computer Science  
Volume / Year:2(5)/ 2013

Name of the Teacher: X. Charles, **P.S.Chakraborty**

Name of the Article:Web Portal Product Data Management in Automotive Enterprises

Name of the Journal:International Journal of Science and Research  
Volume / Year: 2(5)/ 2013

Name of the Teacher: X. Charles, **P.S.Chakraborty**

Name of the Article:Portal Productive Automotive Data Management in Engineering Process Enterprises

Name of the Journal: International Journal of Management,  
Volume / Year: 4(4)/2013

Name of the Teacher: X. Charles, **P.S.Chakraborty** S. Datta, C.Samanta, S.S.Mahapatra, Goutam Mondal, **P. S.Chakraborty**, and G. Majumdar

Name of the Article:Selection of internet assessment vendors using TOPSIS method in Fuzzy environment

Name of the Journal: International Journal of Business Performance and Supply Chain Modelling  
Volume / Year: 5(1)/2013

**5. Collaborative Programmes:**

Courses organised in collaboration with different organisations have been shown in Annexure 'A'.

**6. Major Achievements:**

Sri Santwan Chattopadhyay acted as Guest Editor (Jointly with Dr. Saswati Gangopadhyay),  
Global Media Journal (Indian Edition), ISSN 2249 – 5835, Summer issue, June, 2012.

**Annexure : 'A'**

**COURSES OFFERED FOR THE SESSION 2012 – 2013 :**

**GRADUATE LEVEL COURSES :**

Title of the Course: B.Ed. in Special Education (Locomotor Impairment and Neuro-Muscular Disorder)(With Indian Institute of Cerebral Palsy)

Duration: 1 Year

Course Fee: Rs.20,000/- +Rs.460/-

Eligibility: Graduate in any discipline

Title of the Course: B.Ed. in Special Education(Mental Retardation)(With Manovikash Kendra)

Duration: 1 Year

Course Fee: Rs.20,000/- +Rs.460/-

Eligibility: Graduate in any discipline\_\_\_\_\_

**POST – GRADUATE DIPLOMA LEVEL COURSES :**

Title of the Course: Post Graduate Diploma in Mass Communication

Duration : 1 Year

Course Fee :Rs.20,000/-

Eligibility : Graduate in any discipline

**DIPLOMA LEVEL COURSES:**

Title of the Course: Diploma in Food Processing and Customized Management

Duration : 1 Year

Course Fee :Rs.10,000/-

Eligibility : Madhyamik or equivalent

Title of the Course: Diploma in Food Processing, Nutrition and Health Care

Duration : 1 Year

Course Fee :Rs.10,000/-

Eligibility : Madhyamik or equivalent

Title of the Course: Diploma in Food Processing, Nutrition and Health Care

Duration : 1 Year

Course Fee :Rs.10,000/-

Eligibility : Madhyamik or equivalent

Title of the Course: Diploma in Electrical Technician(With Aurobindo Engineering Institute)

Duration : 1 Year

Course Fee :Rs.Rs.32,000/-

Eligibility : Madhyamik or equivalent

Title of the Course: Diploma in Automobile Engineering (With Aurobindo Engineering Institute)  
Duration : 1 Year  
Course Fee :Rs.Rs.32,000/-  
Eligibility : Madhyamik or equivalent

CERTIFICATE LEVEL COURSES :

Title of the Course: Technician Training Course in Air-Conditioning and Refrigeration(In collaboration with St. Thomas Technical Training Centre)

Duration : 1 Year  
Course Fee : Rs.500/- per month  
Eligibility : Passed Class VIII standard

Title of the Course: Computer Hardware(In collaboration with St. Thomas Technical Training Centre)

Duration : 6 Months  
Course Fee : Rs.4500/-  
Eligibility : Class X appeared.

Title of the Course: Basic Management of Cerebral Palsy for Medical Professionals(In collaboration with IICP)

Duration : 4 Weeks  
Course Fee : Rs. 2000/-  
Eligibility : Qualified Medical Professionals (Medical practitioners, therapists and rehabilitation professionals.)

Title of the Course: Community Management (With Indian Association)

Duration : 12Weeks  
Course Fee : Rs. 1200/-  
Eligibility : Higher Secondary or equivalent

Title of the Course: Offset Printing & Binding

Duration : 20 Weeks  
Course Fee : Rs.2000/-  
Eligibility : Higher Secondary or equivalent

Title of the Course: Offset Printing & Binding

Duration : 20 Weeks  
Course Fee : Rs.2000/-  
Eligibility : Higher Secondary or equivalent

Title of the Course: Acupuncture

Duration : 16 Weeks  
Course Fee : Rs.3600/-  
Eligibility : Regd. Medical Practitioners (MBBS/BHMS/DMS/BAMS/BDS or equivalent)

Title of the Course: Educational Administration (With Nopany Charitable Trust)

Duration : 12 Weeks(Saturday & Sunday)  
Course Fee : Rs.5000/-  
Eligibility : Graduate (Desirable : work experience in Educational Institution)

Title of the Course: Basic Networking(With St. Thomas Technical Training Centre)  
Duration : 16 Weeks  
Course Fee : Rs.3500/-  
Eligibility : Class X appeared and knowledge of Computer Hardware.

Title of the Course: Women and Legal Literacy  
Duration : 2 Weeks  
Course Fee : Rs.200/-  
Eligibility : H.S. or equivalent engaged in administration, panchayat members and officials, school teachers, housewives, small entrepreneurs, etc.

Title of the Course: Vocational courses on 'Industrial Practices'(With TMC Institute of Learning)  
Duration : 6 Months  
Course Fee : Rs.6000/-  
Eligibility : Madhyamik or equivalent / Class VIII passed with 5 years experience in related industry.

Title of the Course: Caregivers for persons with disabilities(With IICP)  
Duration : 8 Weeks  
Course Fee : Rs.1000/-  
Eligibility : Class VIII passed

Title of the Course: Manuscriptology & Paleography  
Duration : 24 Weeks  
Course Fee : Rs.5500/-  
Eligibility : Graduate with working knowledge of Sanskrit

#### COURSES FOR THE PERSONS WITH SPECIAL NEEDS :

Title of the Course: Computer Operation Course for recovering mentally ill and chemical dependency patients (In collaboration with Antara Psychiatric Centre)  
Duration : 12 Weeks  
Course Fee : Rs.1200/-  
Eligibility : Madhyamik or equivalent

Title of the Course: Computer Operation Course for the Deaf and Physically Challenged Persons (In collaboration with Silence Training Institute)  
Duration : \_\_\_\_\_ 1 Year  
Course Fee : Rs.576/-  
Eligibility : Persons having normal functioning of brain, if of course hands and eyes are not affected, ability to read English alphabets & Numericals.

Title of the Course: Art & Craft Course for the Deaf and Physically Challenged Persons  
(With Silence Training Institute)

Duration : 1 Year  
Course Fee : Rs.576/-  
Eligibility :Passed Class VIII standard or Passed Class VI standard with relevant experience.  
Persons should be adult and physically challenged and having normal functioning of brain, if of course hands and eyes are not affected.

Title of the Course: Desk Top Publishing (With IICP)  
Duration : 24 Weeks  
Course Fee : Rs.2600/-  
Eligibility :Madhyamik or equivalent. Persons with physical and multiple disabilities, hearing impairment and persons without disabilities from economically weaker sections who have working knowledge in English.

Title of the Course: Web Designing & Publishing(With IICP)  
Duration : 24 Weeks  
Course Fee : Rs.3500/-  
Eligibility :Madhyamik or equivalent. Persons with physical and multiple disabilities, hearing impairment and persons without disabilities from economically weaker sections who have working knowledge in English.

Title of the Course: Office Management(With IICP)  
Duration : 16 Weeks  
Course Fee : Rs.2100/-  
Eligibility :Madhyamik or equivalent. Persons with physical and multiple disabilities, hearing impairment and persons without disabilities from economically weaker sections who have working knowledge in English.

Title of the Course: Database Management(With IICP)  
Duration : 8Weeks  
Course Fee : Rs.1200/-  
Eligibility :Madhyamik or equivalent. Persons with physical and multiple disabilities, hearing impairment and persons without disabilities from economically weaker sections who have working knowledge in English.

#### EXTENSION & FIELD OUTREACH PROGRAMMES :

Title of the Course :Computer Literacy Programme(With Bhola Basu Smriti Bhavan)  
Duration :6 Weeks  
Course Fee : Nil  
Target Group : Unemployed Youth

Title of the Course :Sewing and Tailoring(Kalikapur I No. Gram Panchyat)  
Duration :\_6 Months  
Course Fee : Nil  
Target Group : Rural underprivileged women

Title of the Course :Sewing and Tailoring(Kalikapur II No. Gram Panchyat)  
Duration :\_6 Months  
Course Fee : Nil

Target Group : Rural underprivileged women

Title of the Course :Sewing and Tailoring(Pratapnagar Gram Panchyat)

Duration :\_6 Months

Course Fee : Nil

Target Group : Rural underprivileged women

Title of the Course : Sewing – Basic(Emmanuel Ministries )

Duration :\_6 Months

Course Fee : Nil

Target Group : Street Children

Title of the Course : Sewing – Advanced(Emmanuel Ministries )

Duration :\_6 Months

Course Fee : Nil

Target Group : Street Children

Title of the Course : Sewing(Kolkata Socio Cultural Research Institute)

Duration :\_6 Months

Course Fee : Nil

Target Group : Urban underprivileged women(Minority)

Title of the Course : Sewing and Tailoring(Ward No. 16, KMC) (BSPS)

Duration :\_6 Months

Course Fee : Nil

Target Group : Urban underprivileged women

## **ARCHITECTURE**

Phone : + 91-33-2414-6667

Int. : 2457-2209/2824

H.O.D. : Dr. Jayita Guha Niyogi

E-mail : hod@arch..jdvu.ac.in

### **1. A. Courses Offered :**

Name of the Course :	Duration of Course :	No. of Students Enrolled
Bachelor of Architecture :	5 Years	38
Master of Architecture :	2 Years	08

### **B. Number of Faculty Members: 8**

### **2. A. Area of Research Activities :**

Prof. Shubhrajit Das : Architecture Theory and Pedagogy

Prof. Tapas Bhattacharya : Building construction, Building services, Human Settlement  
 Dr. Jayita Guha Niyogi : Town and Regional Planning, Transportation Planning, Integrated  
 Land use and Traffic System  
 Dr. Shivashish Bose : Theory of Architecture & Urban Design; Architectural  
 Design for Thermal Comfort & Energy Efficiency; Architectural and  
 Urban Conservation; Environmental Planning; Sustainable Develo  
 Dr. Madhumita Roy : Urban Design, Energy Efficient Architecture  
 Dr. Suchandra Bardhan : Buildings and climate change &  
 sustainability; Historic, regional &  
 urban landscapes  
 Dr. Sanjib Nag : Architecture, Urban Housing, Urban Design & Related Urban  
 Transformations.  
 Sri Debashish Das : Urban Building Microclimate, Eco-City planning

**B. Major Research Project :**

Departmental/Individual :Dr. Jayita Guha Niyogi

Name of the Project :Principal Investigator for Research project under PURSE, Jadavpur University titled "Study to develop a land use cum stochastic transportation model for a better Kolkata"

Funding Agency :DST

Departmental/Individual :Dr. Shivashish Bose (Individual)

Name of the Project :Search for Appropriate Design and Construction of Top Floor of Modern Residential Buildings in Kolkata for Comfort and Sustainability

Funding Agency :UGC

Departmental/Individual :Dr. Madhumita Roy

Name of the Project :ON-LINE system for sanctioning building plans for West Bengal Housing Infrastructure Development Corporation (WBHIDCO)

Funding Agency :WBHIDCO

Departmental/Individual :Dr. Madhumita Roy

Name of the Project :ON-LINE system for sanctioning building plans for Howrah Zilla Parishad(HZP), West Bengal

Funding Agency :HZP, West Bengal

Departmental/Individual :Dr. Madhumita Roy

Name of the Project :ON-LINE system for sanctioning building plans for Kolkata Municipal Corporation(KMC)

Funding Agency : KMC

Departmental/Individual :Dr. Madhumita Roy

Name of the Project :Formulation of building rules & regulations for Kolkata Municipal Corporation (KMC)

Funding Agency : KMC

Departmental/Individual :Dr. Madhumita Roy



Name of the Project :R & D Project on The Feasibility Of Bamboo Structure For Possible Inclusion Into NBC & CPWD Schedule for NMBA, DST.

Funding Agency : NMBA, DST

Departmental/Individual : Dr. Suchandra Bardhan

Name of the Project :Assessment of embodied water content of contemporary urban buildings

Funding Agency : UGC Major Research Project

Departmental/Individual : Sri Debashish Das

Name of the Project :PhD on "Aspects of Urban Built Form-Investigations for Interventions in Urban Environment of Kolkata"

Funding Agency : None

Departmental/Individual : Sri Debashish Das

Name of the Project : Principal Investigator for Research project under PURSE, Jadavpur University titled "Developing framework for an integrated approach to Ecocity planning for Megacities- Case Study of Kolkata"

Funding Agency : DST

### **3. A. Invited Lectures Delivered (Session Chaired)**

Name of the Teacher :Prof. Shubhrajit Das

Type of Participants : Post Graduate Students of Architecture

Name of the Seminar/Conference :CEPT Graduate Program in Architecture Theory. August 2012

Place : Ahmedabad

Duration :1 Day

Name of the Teacher :Prof. Shubhrajit Das

Type of Participants : Post Graduate Students of Architecture

Name of the Seminar/Conference : CEPT Graduate Program in Architecture Theory. January 2013

Place : Ahmedabad

Duration :1 Day

Name of the Teacher : Prof. Tapas Kumar Bhattacharyya

Type of Participants : Lecture delivered

Name of the Seminar/Conference : Visited the ResearchLaboratory and lectured on acoustic testing and Product Development in Armstrong World Industries

Place :USA

Duration :June,2013

Name of the Teacher : Dr.Suchandra Bardhan

Type of Participants : Architects, students & members of Green Building industry

Name of the Seminar/Conference :IGBC student chapter launch

Place : Dept of Architecture, JU

Duration :11<sup>th</sup> October 2012

**B. Seminar/Workshop/Conference/Symposium Attended :**

Name of the Teacher :Dr. Shivashish Bose  
Name of the Paper Presented :Participated  
Name of the Seminar/Conference :International Symposium titled "Cities Under Change",organized by the Centre for Built Environment, Kolkata.  
Place :Rabindranath Tagore Centre, Indian Council for Cultural Relations (ICCR)  
Duration :17<sup>th</sup>-19<sup>th</sup> October, 2012

Name of the Teacher : Dr. Shivashish Bose  
Name of the Paper Presented :Climate Responsive Architecture: House of Samar Banerjee in Kolkata  
Name of the Seminar/Conference : International Conference on 'Advances in Architecture and Civil Engineering' AARCV 2012 organized by Department of Civil Engineering & School of Architecture of M S Ramaiah Institute of Technology (MSRIT), Bangalore.  
Place : M S Ramaiah Institute of Technology (MSRIT), Bangalore  
Duration : 21<sup>st</sup>-23<sup>rd</sup> June, 2012

Name of the Teacher : Dr. Suchandra Bardhan  
Name of the Paper Presented :Energy sustainability Studies on under-construction buildings: Baseline for tomorrow's policy  
Name of the Seminar/Conference :International Conference on Sustainable Built Environment, 2012  
Place : Kandy, Sri Lanka  
Duration : 14-16 Dec. 2012

Name of the Teacher : Sri Debashish Das  
Name of the Paper Presented :Participated  
Name of the Seminar/Conference :2 Days UGC-sponsored National Workshop on "Climatology of Humid Tropics: Contemporary Issues and Techniques"  
Place : Department of Geography, University of Kolkata  
Duration : June 1-2, 2012,

Name of the Teacher : Sri Debashish Das  
Name of the Paper Presented : Convener and Participated  
Name of the Seminar/Conference :Workshop on " Urban Green Spaces"  
Place : At Mahanayak Mancha, UnnayanBhavan, Salt Lake,Kolkata  
Duration : September 25-26<sup>th</sup>, 2012

**C. Seminar/Workshop/Conference/Symposium Organized :**

Name of the Teacher :Debashish Das  
Name of the Paper Presented : Convener  
Name of the Seminar/ Conference :Workshop on " Urban Green Spaces"  
Place : At Mahanayak Mancha, UnnayanBhavan,Salt Lake,Kolkata  
Duration : September 25-26<sup>th</sup>, 2012

Name of the Teacher :Dr. Sanjib Nag

Name of the Paper Presented : Member, Organizing Committee  
Name of the Seminar/ Conference : Annual Convention 2012, The IIA.  
Place : The Princeton Club, Kolkata.  
Duration : June 24 & 25, 2012.

Name of the Teacher : Dr. Sanjib Nag  
Name of the Paper Presented : Coordinator  
Name of the Seminar/ Conference : IGBC Student Chapter Launch  
Place : Jadavpur University  
Duration : October 2012.

Name of the Teacher : Dr. Sanjib Nag  
Name of the Paper Presented : Coordinator  
Name of the Seminar/ Conference : Departmental Magazine Launch  
Place : Jadavpur University  
Duration : May 2013,

**D. Orientation Courses/Refresher Courses Attended :**

Name of the Teacher : Sri Debashish Das  
Title of the Course : 12 days Short Term Course I Remote Sensing and GIS at,  
Duration : 30<sup>th</sup> April-11<sup>th</sup> May, 2012.  
Place : Geoinformatics and Remote Sensing Cell, Bikash Bhavan, Kolkata

**4. A. Books/Monographs etc. Published :**

Name of the Teacher : Prof. Tapas Kumar Bhattacharyya  
Name of the Book : Article titled "Heritage and Architecture in India" published in the Book titled "Aspects of Indian History and Culture" (ISBN-13:978-81-7479-134-4)  
Name of the Publisher : Kavery Books, New Delhi

Name of the Teacher : Dr. Suchandra Bardhan  
Name of the Book : Editorial Advisor for departmental magazine 'Blueprint', Vol. 2 published in May 2013  
Name of the Publisher : SSAJU, Dept. of Architecture, JU

Name of the Teacher : Dr. Sanjib Nag  
Name of the Book : Editorial Member of the souvenir, 'Hospitality Architecture & Design' published in June 2013.  
Name of the Publisher : The Indian Institute Of Architects.

**B. Articles Published in Journals :**

Name of the Teacher : Dr. Jayita Guha Niyogi (with Co-author)  
Name of the Articles : A Quick Assessment Technique to Determine Profitability in Private City-Bus-Services – Case Study Kolkata-Howrah Urban Area, India  
Name of the Journal : RACST- International Journal of Research in Management & Technology (IJRMT), ISSN: 2249-9563  
Date of Publication : August 2012

Volume : Vol. 2, No. 4, Page 383-389

Name of the Teacher :Dr Shivashish Bose

Name of the Articles : Climate and Urban Design Responsive Modern Architecture in Existing Setting

Name of the Journal :International Peer-reviewed Research Journal titled 'Industrial Engineering & Management Science' (ISSN: 2250-1096)

Date of Publication : December, 2012

Volume : Volume 2, No. 4, December 2012 pp.62-67.

Name of the Teacher :Dr Shivashish Bose

Name of the Articles : Historic Buildings at Chitpur in Kolkata: Problems and Prospects through Urban Conservation and Planning

Name of the Journal :International Indexed Peer-reviewed Planning Journal titled 'disP – The Planning Review' (ISSN: 0251-3625) published by Swiss Federal Institute of Technology-Zurich (ETH-Zurich), Switzerland through Routledge of Taylor & Francis, UK.

Date of Publication : September, 2012

Volume : Volume 48, Issue No. 188.1/2012, pp.68-82.

Name of the Teacher :Dr Shivashish Bose

Name of the Articles : Restoration of Town Hall in Kolkata for Adaptive Reuse: A Case Study

Name of the Journal :International Indexed Peer-reviewed Structural Engineering Journal titled 'Structural Survey' (ISSN: 0263-080X) of Emerald Group Publishing Ltd, UK,

Date of Publication : June, 2012

Volume : Volume 30.3 – a Special Issue titled "Building Adaptation and Sustainability", pp.280-291.

Name of the Teacher :Dr Shivashish Bose

Name of the Articles : Baboo Ghat: Study of a Historic Riverfront Element in Kolkata

Name of the Journal :Journal titled 'ABACUS' (ISSN: 0973-8339), published by Department of Architecture of Birla Institute of Technology in Mesra, Ranchi, India

Date of Publication : Spring 2012

Volume : Vol. 7, No. 1, pp.103-107.

Name of the Teacher :Dr. Sanjib Nag(Co-author)

Name of the Articles :Visual Perception Of Urban Place :Case Study Of Kolkata

Name of the Journal : The Journal Of Indian Institute Of Architects

Date of Publication : Publication In Process

Volume :

Name of the Teacher :Sri Debashish Das

Name of the Articles : Urban Built Forms – Analysing the daylight potential of an architectural form

Name of the Journal : Architecture – Time, Space & People'- a Journal of the Council of Architecture, India

Date of Publication : June 2012

Volume : Vol. 12, Issue 6, pp.18-23.

Name of the Teacher :Sri Debashish Das

Name of the Articles : A city and its climate, Urban Built Forms-Development of Parametric models for analysis of its microclimatic aspects in Kolkata"

Name of the Journal : Architecture – Time, Space & People'- a Journal of the Council of Architecture, India

Date of Publication : July 2012

Volume : Vol. 12, Issue 7, pp.16-23

Name of the Teacher :Sri Debashish Das

Name of the Articles : Sky View Factor of Urban Canyon Geometry and its role in UHI Effect - Case study of Kolkata,

Name of the Journal : Indian Journal of Landscape Systems and Ecological Studies, Institute of Landscape, Ecology and Ekistics, Kolkata ,

Date of Publication : July 2012

Volume : Vol. 35, No. 1, ISSN 0971-4170 ,2012

#### **5. Collaborative Programmes :**

Dr. Shivashish Bose organized a one-day International Workshop on 'Urban and Regional Planning for Regeneration and Sustainable Development' on behalf of Jadavpur University at the Department of Architecture of Jadavpur University, Kolkata in collaboration with the Department of Urban and Regional Planning of the University of Florence, Italy.

Dr. Suchandra Bardhan facilitated the introductory presentation of the annual National level students' competition by Indian Institute for Human Settlements (IIHS), Bangalore- Delhi for the students of the department.

Dr. Sanjib Nag coordinated the award of scholarships, under Students Assistance Programme 2012-13 of the Alumni Association, JU and the IIA, WB Chapter, for the students of the department.

#### **6. Major Achievements:**

- Prof. Tapas Kumar Bhattacharyya acted as an expert in the Building Committee of the Bose Institute, Kolkata
- Prof. Tapas Kumar Bhattacharyya participated as a member in the process of selection of Design entries for the Students' Design competition conducted by INSDAG (a Govt. of India undertaking on research on Steel)
- Prof. Tapas Kumar Bhattacharyya prepared the architectural acoustic design for the Auditorium at the RG Kar College, Kolkata
- Prof. Tapas Kumar Bhattacharyya rendered consultancy service for extension of ATC (Air Traffic Control) Building at the NSCBI Airport, Kolkata
- Prof. Dr. Jayita Guha Niyogi was invited as the Subject Expert Member of Syllabus Review Committee of Diploma Engg. & Arch. Course under Dept. of Technical Education & Training, Govt. of W. Bengal.
- She acted as the Jury member of National jury Board of selection of Design entries for the Students' Design competition organized by INSDAG.
- Prof. Jayita Guha Niyogi acted as Organizing Committee member of 2 days National Conference on Sustainable Development Through Innovative Research in Science and Technology supported by DST PURSE Programme held in Jadavpur University on 28-29th September, 2012.

- Prof. Jayita Guha Niyogi acted as Reviewer of Journal of Architectural Engineering and Design Management', Taylor & Francis, UK.
- She acted as the Convener of Planning Education Sub Committee of Institute of Town Planners, India, West Bengal Chapter.
- Prof. Jayita Guha Niyogi is the External Expert member of Doctoral research committee of Prof. H. Bohra in Dept. of Arch. T&RP, Bengal Engg. & Sc. Univ., Shibpur.
- Dr. Shivashish Bose has supervised (Co-supervisor along with Supervisor Prof. Raffaele Paloscia) the research work of Master Degree Thesis titled "Politiche e Pratiche di Riquilificazione degli Slums a Kolkata" of Ms. Francesca Gronchi of University of Florence, Italy, during October-December 2012 (Field & Research work of Ms. Gronchi in Kolkata). Ms. Gronchi stood First amongst students in her class in Thesis Examination (in 2013) scoring 100%.
- Dr. Shivashish Bose supervised (solely) the Ph.D. research titled "Development Control of Organic Human settlements in Urban and Peri-Urban Areas for Physical and Environmental Sustainability of Housing Stock – Case Study Kolkata" of Architect Mr. Goutam Banerjee who registered under Jadavpur University on 12.05.2009, submitted thesis on 21.05.12 and awarded Ph.D. on 04.12.2012.
- Dr. Suchandra Bardhan served as a member of Jury, National Students' Design Competition (NSDC) organized by School of Planning & Architecture, Bhopal, 6-8 October, 2012.
- Dr. Suchandra Bardhan is the Expert member of the Student Research Committee (SRC) for the doctoral work of PhD scholar Ms. S. Raje at School of Planning & Architecture, Bhopal.
- Dr. Suchandra Bardhan was invited to act as External Examiner for the Final Jury and viva-voce for Final Year B. Arch. Thesis Examination, Dept. of Arch. & Regional Planning, IIT-Kharagpur, 8<sup>th</sup>-9<sup>th</sup> May, 2013.
- Dr. Suchandra Bardhan was nominated member of Board of Studies, Dept. of Interior Designing, J.D.Birla Institute of Home Sciences by Hon'ble Vice Chancellor, Jadavpur University in July 2013.
- Dr. Sanjib Nag is a Member of the Education & Examination Sub-Committee, of the IIA, since 2009.
- Dr. Sanjib Nag is a Member of the Board Of Studies, of the West Bengal University Of Technology, since 2011.
- Dr. Sanjib Nag served a Member of the Selection Committee, of the Public Service Commission, West Bengal, in 2012.
- Dr. Sanjib Nag served as a Member of the Organizing Committee, for the Annual Convention of the IIA, in 2012.
- Dr. Sanjib Nag is a Member of the Doctoral Committee, of the Dept. of Arch. T&RP, Bengal Engg. & Sc. Univ., Shibpur, since 2013.
- Dr. Sanjib Nag is a Member of the P.G. Syllabus Review Committee, of the J.D. Birla Institute, Kolkata, since 2013.
- Sri Debashis Das is the member of the Souvenir Committee for Indian Institute of Architects, West Bengal Chapter for IIA Convention 2012.
- Sri Debashis Das is the member of the Committee for the survey of trees, gardens and water bodies of Jadavpur University, which was formed for making suggestions for planting of new trees, clearing of jungles and beautification of water bodies.

## CHEMICAL ENGINEERING

Phone : + 91-33-2414-6378  
Int. : 2457-2246  
H.O.D. : Prof. Avijit Bhowal  
E-mail : hod@chemical.jdvu.ac.in

### 1 A. Courses Offered :

Name of Courses	Course Duration	Intake Capacity
Bachelors Degree in Chemical Engineering	4 years	86
Master's Degree in Chemical Engineering	2 years	19
Master's Degree in Bioprocess Engineering	2 years	10

### B: Number of Faculty Members:

Sanctioned post – 29  
Currently – 17

### 2 A. Area of Research Activities:

- Bioprocess Engineering
- Energy Engineering
- Industrial Pollution Control & Waste management
- Interfacial Science and technology
- Membrane Separation
- Nano-Science & Technology
- Process intensification

### B: Major Research Projects:

#### Prof. Siddhartha Datta & Prof. Avijit Bhowal

[1] Title: Study on the Enrichment and Adaptability on Marine Water of Microbial Consortia used in Biodigester Technology (ongoing)  
*Funding agency:* Defence Research Laboratory

#### Prof. Chiranjib Bhattacharjee

[1] Title: Production and Purification of  $\alpha$ -galactosidase from Milk Whey-based Lactic Acid Bacteria using Fermentation and Membrane-based Separation Techniques  
*Funding Agency:* UGC

[2] Title: Nano-material based membrane in water purification (ongoing)  
*Funding agency:* DST, Govt. of India (Indo-Korean)

[3] Title: From Grey to Green: How to Improve the Sustainability of Wastewater and Drinking Water  
*Funding agency:* DST, Govt. of India sponsored New Indigo project (Indo-EU project)

[4] Title: Conversion of de-proteinated whey to ethanol  
Funding Agency: AICTE

**Prof. Chandan Guha**

[1] Title: Analysis and Development of Conceptual Design Methodologies for Air Collection and Enrichment System of Air Breathing Propulsion – PHASE II  
Funding Agency: ISRO

**Prof. Kajari Kargupta**

[1] Title: Generation of Silent Green Energy with Performance and Efficiency Enhancement using Inorganic-Organic Hybridization and Nano-structuring in Fuel Cell System  
Funding Agency: DST, Govt. Of India

[2] Title: Development of polybenzimidazole based novel composite electrolyte membrane for high temperature fuel cell  
Funding Agency: UGC

**Dr. Ujjaini Sarkar**

[1] Title: Environmental Observatory: Modelling the Photochemistry of Surface Ozone and its Unusual Precursors with a Regional Model  
Funding Agency: ISRO-GBP/-ATCTM

[2] Title: Application of Functionalised Activated Carbon for treating pharmaceutical wastewaters containing a mixture of chlorhexidine gluconate and cetrимide  
Funding Agency: DST

[3] Title: Finite Element Modelling to Predict the Evolution of microstructure and properties of metastable stainless steel during forming and subsequent heat treatments  
Funding Agency: Swedish Research Council

**A. Invited Lectures Delivered :**

**Dr. Ujjaini Sarkar**, Removal of Hexavalent Chromium using Natural and Functionalized Adsorbents, Indian Institute of Metals, Kolkata, December, 2012.

**F. Seminar/Workshop/Conference/Symposium Attended :**

**INTERNATIONAL CONFERENCES**

1. Debasree Banerjee, **Ujjaini Sarkar**, Debasri Roy, *Adsorption of Chlorhexidine Gluconate in a Mesoporous Material: Role of Pore Widths and Electrostatic Interactions*, **ECSEE2013**, 4-7, July, 2013, Brighton, UK.
2. Debreka Ghosh and **Ujjaini Sarkar**, *Modeling the Photochemical formation of ozone at a surface site in Kolkata, India*, 39th **COSPAR** Assembly 14-22, July, 2012, Mysore, Karnataka, India.

**NATIONAL CONFERENCES**

1. Ratna Dutta, Saikat Mallik, **Ujjaini Sarkar**, *Microwave Assisted Extraction Process: Standardization of the Conventional Ones*. CHEMCON 2012, 27 – 30 December, 2012, N.I.T Jalandhar, Punjab
2. Debreka Ghosh and **Ujjaini Sarkar**, *Photolytic Rate Constant of Nitrogen dioxide ( $\text{O}_3$ ): Estimation using Tropospheric Ultra-Visible Radiation Model*, National Conference on Sustainable



Development through Innovative Research in Science and Technology, 28-29, September 2012, Jadavpur University, India

3. Dipanjan Ghosh and **Ujjaini Sarkar**, *Evaluation of Unusual Levels of  $SO_2$  at an urban site of Kolkata using HYbrid Single Particle Lagrangian Integrated Trajectory (HYSPLIT) Model*, National Conference on Sustainable Development through Innovative Research in Science and Technology, 28-29, September 2012, Jadavpur University, India
4. Somdutta Singha and **Ujjaini Sarkar**, *Modification of Granular Activated Carbon by  $HNO_3$ : Comparison of the Adsorption properties of Polar with Non-polar Pollutants*, National Conference on Sustainable Development through Innovative Research in Science and Technology, 28-29, September 2012, Jadavpur University, India
5. Debasree Banerjee, **Ujjaini Sarkar**, Debasri Roy, *Adsorption of Chlorhexidine Gluconate from Pharmaceutical Waste water by Functionalized Activated Carbon*.. Recent Developments in Pharmaceutical Education and Research, 20-21, February, 2012, Calcutta Institute of Pharmaceutical Technology & AHS, Uluberia, Howrah, West Bengal.

#### H. Orientation Course/Refresher Course Attended :

**Dr. Ujjaini Sarkar**, Refresher Course on *Modern Chemical Sciences: Theories and Applications*, 2<sup>nd</sup> January, 2013 – 22<sup>nd</sup> January, 2013 Jadavpur University.

#### 4. C. Articles Published in Journals:

##### Prof. Siddhartha Datta

1. U.S. Roy, A. Aich, B. Chattopadhyay, **S. Datta**, S. K. Mukhopadhyay, Studies on the toxicity of composite tannery effluent using guppy (*Poecilia reticula*) as a fish model, *Environmental Engineering and Management Journal* 12 (2013) 557-563.
2. A. Kumar, B. Bhunia, D. Dasgupta, T. Mandal, A. Dey, **S. Datta**, P. Bhattacharya, Optimization of culture condition for growth and phenol degradation by *Alcaligenes faecalis* JF339228 using Taguchi Methodology. *Desalination and Water Treatment* 51(2013) 3153-3163.
3. U. S. Roy, A. R. Goswami, A. Aich, B. Chattopadhyay, **S. Datta**, S. K. Mukhopadhyay, Changes in physicochemical characteristics of wastewater carrying canals after relocation of Calcutta tannery agglomerates within the East Calcutta Wetland ecosystem (a Ramsar site). *International Journal of Environmental Studies* 70(2013) 203-221.
4. A. R. Goswami, A. Aich, S. Pal, B. Chattopadhyay, **S. Datta**, S.K. Mukhopadhyay, Antioxidant response to oxidative stress in zooplankton thrived in wastewater-fed ponds in East Calcutta Wet land Ecosystem, a Ramsar site. *Toxicological and Environmental Chemistry* 95(2013) 627-634
5. K. Sinha, S. Chowdhury, P. D. Saha, **S. Datta**, Modeling of microwave-assisted extraction of natural dye from seeds of *Bixa orellana* (Annatto) using response surface methodology (RSM) and artificial neural network (ANN). *Industrial Crops and Products* 41 (2013) 165-171.
6. A. Mondal, A. Bhowal, **S. Datta**, Gas-liquid sensible heat transfer in spray and packed bed under a centrifugal field. *Industrial Engineering Chemistry Research* 52(1) (2013) 499-506.
7. A. Mondal, S. Ghosh, A. Bhowal, **S. Datta**, Vanadium extraction using pseudo-emulsion based hollow-fiber with strip dispersion technique. *Separation Science and Technology* 28(2013) 877-883.

8. M. Mukherjee, J. Basu, **S. Datta**, Air quality analysis and indexing of Kolkata city with respect to vertical floor heights and seasonal variation. *Toxicological and Environmental Chemistry* 94(2012) 1864- 1885
9. K. Sinha, P. Saha, **S. Datta**, Extraction of natural dye from petals of Flame of forest (*Butea monosperma*) flower: Process optimization using response surface methodology (RSM). *Dyes and Pigments* 94(2) (2012) 212-216.
10. K. Sinha, P. D. Saha, **S. Datta**, Extraction of natural dye from petals of Flame of forest (*Butea monosperma*) flower: Process optimization using response surface methodology (RSM). *Dyes and Pigments* 94 (2012) 212-216.
11. P. D. Saha, S. Chowdhury, **S. Datta**, S. K. Sanyal. Removal of Pb(II) from aqueous solutions by adsorption onto clayey soil of Indian origin: Equilibrium, kinetic and thermodynamic profile. *Korean Journal of Chemical Engineering* 29 (2012) 1086-1093.
12. S. Chatterjee, L. Singh, B. Chattopadhyay, **S. Datta**, S. K. Mukhopadhyay, A study on the waste metal remediation using floriculture at East Calcutta Wetlands, a Ramsar site in India. *Environmental Monitoring and Assessment* 184 (2012) 5139-5150.
13. A. K. Samanta, A. Konar, **S. Datta**, Dyeing of jute fabric with tesu extract: Part II - Thermodynamic parameters and kinetics of dyeing. *Indian Journal of Fibre and Textile Research* 37(2012) 172-177.
14. K. Sinha, P.D. Saha, **S. Datta**, Response surface optimization and artificial neural network modeling of microwave assisted natural dye extraction from pomegranate rind. *Industrial Crops and Products* 37 (2012) 408-414.
15. R. S. Policegoudra, S. Goswami, S. M. Aradhya, S. Chatterjee, **S. Datta**, R. Sivaswamy, P. Chattopadhyay, L. Singh, Bioactive constituents of *Homalomena aromatica* essential oil and its antifungal activity against dermatophytes and yeasts, *Journal de Mycologie Medicale* 22 (2012) 83-87.
16. A. Choudhury, S. Sengupta, C. Bhattacharjee, **S. Datta**, Effects of co-solutes on Cr(VI) removal by micellar enhanced ultrafiltration (MEUF) process. *Desalination and Water Treatment* 44 (2012) 67-74. [citation: 0, IF: 0.852, SJR: 0.267, SNIP: 0.299]
17. S. Dutta, P.Sarkar, C. Bhattacharjee, **S. Datta**, Performance comparison of rotating disk ultrafiltration membrane module, a high shear device with cross-flow module. *International Journal of Environment and Pollution* 49 (2012) 197-209.
18. A. Bhowal, G. Bhattacharjee, **S. Datta**, Continuous removal of hexavalent chromium by emulsion liquid membrane in a modified spray column. *Separation and Purification Technology* 99 (2012) 6976.
19. A. Chowdhury, A. Bhowal, **S. Datta**, Equilibrium, thermodynamic and kinetic studies for removal of Copper (II) from aqueous solution by onion and garlic scale. *Water Journal* 4 (2012) 37-51.
20. A. Mondal, A.Pramanik; A. Bhowal, **S. Datta**, Distillation Studies in Rotating Packed Bed with Split Packing. *Chemical Engineering Research and Design* 90 (2012) 453-457.

**Prof. Ranjana Chowdhury**

1. A. Nath, S. Chakraborty, S. Sarkar, C. Bhattacharjee, E. Droili, **R. Chowdhury**, Purification and characterization of  $\alpha$ -galactosidase synthesized from *Bacillus safensis* (JUCHE). *Industrial and Engineering Chemistry Research* 52(2013) 11663-11672.
2. K. Selvaraj, **R. Chowdhury**, C. Bhattacharjee, Isolation and structural elucidation of flavonoids from aquatic fern *Azolla microphylla* and evaluation of free radical scavenging activity, *International Journal of Pharmacy and Pharmaceutical Sciences*, Volume 5(2013) 743-749.
3. S. Bandyopadhyay, **R. Chowdhury**, C. Bhattacharjee, S. Pan, Simultaneous production of biosurfactant and ULSD (ultra low sulfur diesel) using *Rhodococcus* sp. in a chemostat. *Fuel* 113 (2013) 107-112.
4. A. Nath, C. Bhattacharjee, **R. Chowdhury**, Synthesis and separation of galacto-oligosaccharides using membrane bioreactor. *Desalination* 316 (2013) 31-41.
5. R. De, **R. Chowdhury**, Hydrodynamics of a packed bed biofilm reactor (PBBR) for the removal of  $Hg^{2+}$  ion - RTD experiments with biotic and characteristically similar abiotic films and axial dispersion model. *Journal of Chemical Technology and Biotechnology* 88 (2013) 1612-1621
6. **R. Chowdhury**, A. Sarkar, Reaction kinetics and product distribution of slow pyrolysis of Indian textile wastes. *International Journal of Chemical Reactor Engineering* 10 (1) (2012) , art. no. A67.
7. D. Sen, A. Sarkar, S. Das, **R. Chowdhury**, C. Bhattacharjee, Batch hydrolysis and rotating disk membrane bioreactor for the production of galacto-oligosaccharides: A comparative study. *Industrial and Engineering Chemistry Research* 51 (32) (2012), 10671-10681.
8. S. Ghoshal, P. Bhattacharya, **R. Chowdhury**, De-mercurization of wastewater by *Bacillus cereus* (JUBT1): Growth kinetics, biofilm reactor study and field emission scanning electron microscopic analysis. *Journal of Hazardous Materials* 194 (2012) 355-361.

#### **Prof. Chiranjib Bhattacharjee**

1. A. Nath, S. Chakraborty, S. Sarkar, C. Bhattacharjee, E. Droili, **R. Chowdhury**, Purification and characterization of  $\alpha$ -galactosidase synthesized from *Bacillus safensis* (JUCHE). *Industrial and Engineering Chemistry Research* 52(2013) 11663-11672.
2. K. Selvaraj, R. Chowdhury, **C. Bhattacharjee**, Isolation and structural elucidation of flavonoids from aquatic fern *Azolla microphylla* and evaluation of free radical scavenging activity, *International Journal of Pharmacy and Pharmaceutical Sciences*, Volume 5(2013) 743-749.
3. L. Liu, M. Son, S. Chakraborty, **C. Bhattacharjee**, H. Choi, Fabrication of ultra-thin polyelectrolyte/carbon nanotube membrane by spray-assisted layer-by-layer technique: characterization and its anti-protein fouling properties for water treatment. *Desalination and Water Treatment* (2013) Article in Press.
4. S. Bhattacharyya, S. Chakraborty, S. Datta, E. Drioli, **C. Bhattacharjee**, Production of total reducing sugar (TRS) from acid hydrolysed potato peels by sonication and its optimization. *Environmental Technology* 34 (2013) 1077-1084.
5. A. Nath, S. Chakraborty, **C. Bhattacharjee**, Bioadsorption of industrial dyes from aqueous solution onto water hyacinth (*Eichhornia crassipes*): Equilibrium, kinetic, and sorption mechanism study. *Desalination and Water Treatment* Article in Press (2013).

6. D. Sen, S. Sarkar, S. Bhattacharjee, S. Bandopadhyaya, S. Ghosh, **C. Bhattacharjee**, Simulation of the effect of various operating parameters for the effective separation of carbon dioxide into an aqueous caustic soda solution in a packed bed using lattice boltzmann simulation. *Industrial and Engineering Chemistry Research* 52 (4) (2013) 1731-1742.
7. S. Bandyopadhyay, R. Chowdhuri, **C. Bhattacharjee**, S. Pan, Simultaneous production of biosurfactant and ULSD (ultra low sulfur diesel) using *Rhodococcus* sp. in a chemostat. *Fuel* 113 (2013) 107-112.
8. A. Nath, **C. Bhattacharjee**, R. Chowdhuri, Synthesis and separation of galacto-oligosaccharides using membrane bioreactor. *Desalination* 316 (2013) 31-41.
9. J. Sikadar, S. Chakraborty, P. Pal, E. Droili, **C. Bhattacharjee**, Purification of lactic acid from microfiltrate fermentation broth by cross-flow nanofiltration. *Biochemical Engineering Journal* 69 (2012) 130-137.
10. S. Dutta, P. Sarkar, **C. Bhattacharjee**, S. Datta, Performance comparison of rotating disk ultrafiltration membrane module, a high shear device with cross-flow module. *International Journal of Environment and Pollution* 49 (2012) 197-209.
11. A. Sarkar, D. Sarkar, M. Gupta, **C. Bhattacharjee**, Recovery of Polyvinyl Alcohol from Desizing Wastewater Using a Novel High-Shear Ultrafiltration Module. *Clean - Soil, Air, Water* 40 (8) (2012) 830-837.
12. A. Sarkar, D. Sarkar, **C. Bhattacharjee**, Design and performance characterization of a new shear enhanced module with inbuilt cleaning arrangement. *Journal of Chemical Technology and Biotechnology* 87 (8) (2012) 1121-1130.
13. R. Das, S. Ghosh, C. Bhattacharjee, Enzyme membrane reactor in isolation of antioxidative peptides from oil industry waste: A comparison with non-peptidic antioxidants. *LWT - Food Science and Technology* 47 (2) (2012) 238-245.
14. D. Sarkar, A. Sarkar, A. Roy, **C. Bhattacharjee**, Performance characterization and design evaluation of spinning basket membrane (SBM) module using computational fluid dynamics (CFD), *Separation and Purification Technology* 84 (2012) 23-33.
15. A. Choudhury, S. Sengupta, **C. Bhattacharjee**, S. Datta, Effects of co-solutes on Cr(VI) removal by micellar enhanced ultrafiltration (MEUF) process. *Desalination and Water Treatment* 44 (2012) 67-74.
16. A. Sarkar, S. Moulik, D. Sarkar, A. Roy, **C. Bhattacharjee**, Performance characterization and CFD analysis of a novel shear enhanced membrane module in ultrafiltration of Bovine Serum Albumin (BSA). *Desalination* 292 (2012) 53-63.
17. R. Das, A. Dutta, **C. Bhattacharjee**, Preparation of sesame peptide and evaluation of antibacterial activity on typical pathogens. *Food Chemistry* 131(4) (2012) 1504-1509.
18. S. Bhattacharyya, S. Datta, **C. Bhattacharjee**, Sonication boost the total reducing sugar (TRS) extraction from sugarcane bagasse after dilute acid hydrolysis. *Waste and Biomass Valorization* 3 (2012) 81-87.
19. D. Sarkar, S. Bardhan, A. Bandyopadhyay, M. Chakraborty, **C. Bhattacharjee**, Simulation of continuous stirred ultrafiltration process: An approach based on surface renewal theory. *Asia-Pacific Journal of Chemical Engineering* 7(2) (2012) 279-294.

1. R. Sridar, **A. Bhowal**, C. Garlapati, A new model for the solubility of dye compounds in supercritical carbon dioxide. *Thermochimica Acta* 561 (2013) 91-97.
2. A. Mondal, **A. Bhowal**, S. Datta, Gas-liquid sensible heat transfer in spray and packed bed under a centrifugal field. *Industrial Engineering Chemistry Research* 52(1) (2013) 499-506.
3. A. Mondal, S. Ghosh, **A. Bhowal**, S. Datta, Vanadium extraction using pseudo-emulsion based hollow-fiber with strip dispersion technique. *Separation Science and Technology* 28(2013) 877-883.
4. **A. Bhowal**, G. Bhattacharjee, S. Datta, Continuous removal of hexavalent chromium by emulsion liquid membrane in a modified spray column. *Separation and Purification Technology* 99 (2012) 69-76.
5. A. Chowdhury, **A. Bhowal**, S. Datta, Equilibrium, thermodynamic and kinetic studies for removal of Copper (II) from aqueous solution by onion and garlic scale. *Water Journal* 4 (2012) 37-51.
6. A. Mondal, A.Pramanik; **A. Bhowal**, S. Datta, Distillation Studies in Rotating Packed Bed with Split Packing. *Chemical Engineering Research and Design* 90 (2012) 453-457.

#### **Prof. Kajari Kargupta**

1. M. Mitra, K. Chatterjee, S. Ganguly, **K. Kargupta**, D. Banerjee, Reduction of graphene oxide through a green and metal-free approach using formic acid. *Diamond and Related Materials* 37 (2013) 74-79.
2. K. Chatterjee, M. Mitra, **K. Kargupta**, S. Ganguly, D. Banerjee, Synthesis, characterization and enhanced thermoelectric performance of structurally ordered cable like novel polyanilinebismuth telluride nanocomposite. *Nanotechnology* 24, (2013) 215703.
3. S. Ganguly, S. Das, **K. Kargupta**, D. Banerjee, Reduced Order Inferential Model based Optimization of Phosphoric Acid Fuel Cell (PAFC) Stack. *Industrial & Engineering Chemistry Research* (2013) Article in Press.
4. K. Chatterjee, P. Dhara, S. Ganguly, **K. Kargupta**, D. Banerjee, Morphology dependent ammonia sensing with 5 - sulfosalicylic acid doped nanostructured polyaniline synthesized by several routes. *Sensors & Actuators B: Chemical*.181, (2013) 544-550.
5. A. Sehgal, D. Bandyopadhyay, **K. Kargupta**, A. Sharma, A. Karim, From Finite-amplitude Equilibrium Structures to Dewetting in Thin Polymer Films on Chemically Patterned Substrates. *Soft Matter* 8 (2012) 40, 10394-10402.
6. S. Ganguly, S. Das, **K. Kargupta**, D. Banerjee, Optimization of Performance of Phosphoric Acid Fuel Cell (PAFC) Stack using Reduced Order Model with Integrated Space Marching and Electrolyte Concentration Inferencing. *Computer-Aided Chemical Engineering* 31, Part B, (2012), 1010-1014.
7. **K. Kargupta**, S. Saha, D. Banerjee, M. Seal, S. Ganguly, Performance Enhancement of Phosphoric acid Fuel cell using Phosphosilicate Gel based Electrolyte. *Journal of fuel chemistry and Technology* 40. (2012), 6, 707-713.
8. C. K. Dhole, A. Nanda, **K. Kargupta**, S. Ganguly Synthesis, Characterization and Performance Study of Phosphosilicate Gel-Sulfonated Poly(Ether Ether Ketone) Nanocomposite Membrane for Fuel Cell Application. *Journal of Nano and Electronic Physics* 4 (2012) 01015-1- 01015-4.

#### **Dr. Chanchal Mondal**

1. **C. Mondal**, B. Saha, Beneficiation Of Indian Coal by Using Mixture of Two Solvents & Comparative Study with Individual Solvents. *International Journal of Chemical Engineering Research* 5(1) (2013) 61-65.
2. **C. Mondal**, B. Saha, Studies on Role of Solvents on Reduction of Ash from Indian coal. *Journal of Chemical Science Photon* 107(2013)187-191.
3. **C. Mondal**, A. Das, Catalytic Effect of Tungsten on anaerobic digestion process for Biogas production Fruit and Vegetable Waste. *International Journal of Scientific Engineering and Technology* 2(4), 216- 221.
4. **C. Mondal**, A. Das, Catalytic Enhancement of Biogas Yield from Mixed Fruit and Vegetable Waste By Anaerobic Digestion. *The Journal of Bioprocess Technology, Photon* 97 (2013) 165-170.
5. **C. Mondal**, B. Saha, Removal of Ash Content from Indian Coal by Using Solvents. *International Journal of Modern Engineering Research* 3(2013) 133-138.
6. **C. Mondal**, G. K. Biswas, Effect of Temperature on Kinetic constants in anaerobic Bio-digestion. *Journal of Chitkra Chemisry Review* 1(1) (2013), 19-28.
7. **C. Mondal**, Importance of Carbon Footprint with perspective to Leather Industry. *The Journal of Energy and Environmental Science, Photon* 127 (2013) 177-188.
8. **C. Mondal**, G. K. Biswas, A comparative Study on Production of Biogas using Green and Dried Vegetable Wastes by Anaerobic Digestion Process. *International Journal of Engineering and Science* 1 (2012) 01-06.

#### **Dr. Ujjaini Sarkar**

1. R. Dutta, **U. Sarkar**, A Mukherjee, Extraction of Oil from Crotalaria Juncea seeds in A Modified Soxhlet Apparatus: Physical and Chemical characterization of A Prospective Bio-Fuel. *Fuel*, Article in Press (2013).
2. D. Ghosh, S. Lal, **U. Sarkar**, High Nocturnal Ozone Levels at a surface site in Kolkata, India: Trade-off between meteorology and specific nocturnal chemistry, *Urban Climate*, Article in Press (2013).
3. D. Banerjee, **U. Sarkar**, D. Roy, Multicomponent Adsorption of ChlorhexidineGluconate in presence of a Cationic Surfactant: Role of Electrostatic Interactions and Surface Complexation, *Journal of Environmental Chemical Engineering*, 1 (3) (2013) 241-251.
4. D. Ghosh, **U. Sarkar**, S. Lal, S. High Nocturnal Ozone Levels at a surface site in Kolkata, India: Trade-off between meteorology and specific nocturnal chemistry, *Urban Climate*, Article in Press (2013).
5. D. Banerjee, **U. Sarkar**, D. Roy, Multicomponent Adsorption of ChlorhexidineGluconate in presence of a Cationic Surfactant: Role of Electrostatic Interactions and Surface Complexation, *Journal of Environmental Chemical Engineering*, Article in Press (2013).
6. S. Singha, **U. Sarkar**, P. Luharuka, Functionalised Granular Activated Carbon and Surface Complexation with Chromates and Bi-Chromates in wastewater, *Science of The Total Environment* 447 (2013) 472-487.
7. B. Rajbansi, **U. Sarkar**, Sensing 1-propanethiol ethyl methyl sulfide, Disulfide, bis[1-(methylthio) ethiol] from odorous emissions of a Sewage Treatment Plant, *Proceedings of the International Conference on Sensing Technology*, art. no. 6461793 (2012) 836-841.

8. S. Singha, **U. Sarkar**, S. Dutta, B. Bhaduri, Batch equilibrium analysis for the removal of hexavalent chromium: Analysis of uncertainties using numerical modelling, *Desalination and Water Treatment* 48 (1-3) (2012) 70-81.
9. S. Singha, **U. Sarkar**, S. Mondal, S. Saha, Transient behaviour of a packed column of Eichhorniacrassipes stem for the removal of hexavalent chromium, *Desalination* 297 (2012) 48-58.
10. R. Mukherjee, **U. Sarkar**, S. E. Hobbs, Source areas for a passively diffusing methane gas from South Asian paddy fields using the Flux Footprint Model, *Atmospheric Research* 104-105 (2012) 154-163.
11. S. Saha, **U. Sarkar**, S. Mondal, Modelling the transient behaviour of a fixed bed considering both intra and inter-pellet diffusion for adsorption of parachloro-meta-xylene (PCMX), *Desalination and Water Treatment* 37 (1-3) (2012) 277-287.

#### **Dr. Rajat Chakraborty**

1. M. Bera, **R. Chakraborty**, P. Bhattacharya, Optimization of Intensification of Freeze-Drying Rate of Banana: Combined Applications of IR Radiation and Cryogenic Freezing. *Separation Science and Technology* 48 (2013) 1-13.
2. **R. Chakraborty**, D. RoyChowdhury, Fish bone derived natural hydroxyapatite-supported copper acid catalyst: Taguchi optimization of semibatch oleic acid esterification. *Chemical Engineering Journal* 215-216 (2013) 491-499.
3. **R. Chakraborty**, D. RoyChowdhury, Freeze-Drying kinetics in synthesis of biological hydroxyapatite-supported catalyst. *Indian Journal of Science and Technology* 6 (1) (2013), 3933-3939.
4. **R. Chakraborty**, H. Sahu, Intensification of biodiesel production from waste goat tallow using infrared radiation: Process evaluation through response surface methodology and artificial neural network. *Applied Energy* (2013) Article in press.
5. **R. Chakraborty**, D. RoyChowdhury, Optimization of biological-hydroxyapatite supported iron catalyzed methyl oleate synthesis using response surface methodology. *Journal of the Taiwan Institute of Chemical Engineers* (2013) Article in press.
6. **R. Chakraborty**, S. K. Das, Optimization of Biodiesel Synthesis from Waste Frying Soybean Oil Using Fish Scale-Supported Ni Catalyst. *Industrial & Engineering Chemistry Research* 51(2012) 8404-8414. \

#### **Mrs. Ratna Dutta (Paul)**

1. **R. Dutta**, U. Sarkar, A Mukherjee, Extraction of Oil from Crotalaria Juncea seeds in A Modified Soxhlet Apparatus: Physical and Chemical characterization of A Prospective Bio-Fuel. *Fuel*, Article in Press (2013).

### **CIVIL ENGINEERING**

Phone : + 91-33-2414-6210

Int. : 2457-2204

H.O.D. : Prof. Saroj Mandal

E-mail : hod@civil.jdvu.ac.in

- **Name of the Department:** Civil Engineering Department
- **Year of Establishment:** 1956
- **Faculty to which the Department is Attached:** Faculty of Engineering & Technology
- **Names of Programmes Offered (UG, PG, MPhil, PhD, Integrated Masters; Integrated PhD, DSc, DLitt, etc.):** Bachelor of Civil Engineering ,Bachelor of Civil Engineering (Part time evening course) , Master of Civil Engineering , PhD programmes for full time and external part time students
- **Participation of the Department in Courses Offered by Other Departments:** UG courses of Department of Architecture and PG courses of departments like Pharmacy , Chemical Engineering , Food Technology , Construction Engineering , M Phil in Environmental Science

- **Faculty Profile with Name, Qualification, Designation, Area of Specialization, Experience:**

Name: Dr.Somnath Ghosh  
Qualification: BE , MTech, PhD,MBA  
Designation: Professor  
Specialization: Structural Engineering and Material  
Experience :30 years

Name: Dr.Sudipto Ghosh  
Qualification: BE,MCE,PhD  
Designation: Professor  
Specialization: Geotechnical Engineering  
Experience : 10 years in industry and 18 years of teaching

Name: Prof.Sankar Chakrabarty  
Qualification: BE,M Tech (IITKGP)  
Designation:Professor  
Specialization: Geotechnical Engineering  
Experience : 5 years in industry and 31 years of teaching

Name: Dr.S.N.Mukherjee  
Qualification: PhD IITKGP), MTech (IITKGP), BCE (CU)  
Designation: Professor  
Specialization: Environmental Engineering  
Experience :30 + years

Name: Dr.S.P.Mukherjee  
Qualification: PhD(IITKgp),MCE(JU), BCE (JU)  
Designation:Professor  
Specialization: Soil Mechanics & Foundation Engg.  
Experience : 29 years



Name: Dr. R. B. Sahu  
Qualification: Ph.D., M.C.E., B.C.E.  
Designation: Professor  
Specialization: Soil Mechanics & Foundation Engg.  
Experience : 25 years

Name: Dr. Saroj Mandal  
Qualification: BCE, MCE, Ph.D  
Designation: Professor & Head  
Specialization: Structural Engineering  
Experience : 22 years

Name: Dr. A. Guha Niogy  
Qualification: BCE, MCE, Ph.D  
Designation: Professor  
Specialization: Structural Engineering Bridge Engineering, and Transportation Planning  
Experience : 27 years

Name: Prof. Sibnath Chakraborty  
Qualification: BCE, MCE,  
Designation: Professor  
Specialization: Environmental Engineering  
Experience : 22 years

Name: Dr. D Chakravorty  
Qualification: PhD, M Tech (IIT) , BCE (JU)  
Designation: Professor  
Specialization: Structural Engineering  
Experience : 18 years

Name: Dr. Partha Bhattacharya  
Qualification: PhD, M Tech (IIT) , BCE (JU)  
Designation: Associate Professor  
Specialization: Structural Dynamics and Aerodynamics  
Experience : 14 years

Name: Dr. Anupam Deb Sarkar  
Qualification: PhD, M Tech (IIT) , BCE (JU)  
Designation: Associate Professor  
Specialization: Environmental Engineering  
Experience : 14 years

Name: Dr. Amit Dutta  
Qualification: PhD, M Tech (IIT) , BCE (JU)  
Designation: Associate Professor  
Specialization: Environmental Engineering  
Experience : 14 years

Name: Dr. G Bhandari  
Qualification: PhD, ME (JU), BE in Civil (B.E. College, CU)  
Designation: Associate Professor  
Specialization: Geotechnical Engineering & Remote Sensing

Experience : 13 years

Name: Sumit Kumar Biswas

Qualification: M E (JU) ,BCE (BEC)

Designation: Associate Professor

Specialization: Foundation and Geotechnical Engineering

Experience : 5+ years of Industry and 8+ years of teaching

Name: Subhashish Roy Chowdhury

Qualification: PhD, MCE (JU), BE (JU)

Designation: Assistant Professor

Specialization: Structural Engineering

Experience : 6+ years

Name: Pritam Aitch

Qualification: MCE (JU), BE (JU)

Designation: Associate Professor

Specialization: Transportation Engineering Geotechnical Engineering & Remote Sensing

Experience : 10 years

Name: Kalyan Kumar Mondal

Qualification: MCE (JU), BE (JU)

Designation: Assistant Professor

Specialization: Structural Engineering

Experience : 2- industry, 2- research 6 - teaching

Name: Sreyashi Das Pal

Qualification: MCE (JU), BE (JU)

Designation: Assistant Professor

Specialization: Structural Engineering

Experience : 8 + years

Name: Dr. Tumpa Hazra

Qualification: PhD, MCE (JU), BE (JU)

Designation: Assistant Professor

Specialization: Environmental Engineering

Experience : 3 + years

#### **Research Thrust Areas as Recognized by Major Funding Agencies:**

- Bacterial Concrete : AICTE, DBT, DRDO, DST
- High Volume fly ash concrete : DST- PURSE
- Geopolymer concrete : AICTE
- Assessment of Environmental Consequences for Sustainability of Waste Recycling in Present Urban Agricultural Practices.
- Phytoremediation Study for Treatment of Community Waste Water and Some Toxic Substances by Aquatic and Wetland Plants.
- Seismic Hazard Analysis for Kolkata City with Emphasis on Local Site Conditions
- Numerical and Experimental Study on Active Control of Coupled Structural Acoustic (CSA)
- Problems Involving Laminated Composite Structures

- Evaluation of Mechanical, Durability and Microstructural Properties of High volume Fly ash Concrete
- A Study to Correlate Air and Noise Quality with Urban Traffic Characteristics for Kolkata Metropolis
- Contaminant Transport (Heavy Metals Pollution)
- Soil structure interaction
- Self-compacting concrete (SCC)

**Ongoing Projects from a) National b) International Funding Agencies and c) Total grants received. Give the Names of the Funding Agencies, Project Titles and Grants Received Project-wise.**

Funding Agencies :Department of Biotechnology

Project Titles : Self Healing Concrete : A Microbial approach to find out an alternative in sustainable Concrete Technology

Grants Received :Rs 42 lacs

Funding Agencies :DST

Project Titles : Seismic Hazard Analysis for Kolkata City with Emphasis on Local Site Conditioning

Grants Received :

Funding Agencies : J.U. (Under Research Support from J.U. Research Fund)

Project Titles : Pile Response under lateral load in layered soil

Grants Received :Rs 0.5 Lakhs

Funding Agencies : J.U. (Under Innovative Research Support from J.U.)

Project Titles : Response of Pile Group under lateral load in layered soil

Grants Received :Rs 0.5 Lakhs

Funding Agencies : Jadavpur University Research Grant

Project Titles : Decentralised Management of Urban Solid Waste: R. R. Plot Kolkata as a Case Study

Grants Received :Rs 0.5 Lakhs

Funding Agencies :DRS-I , DST

Project Titles :Special assistance programme

Grants Received :RS 73 Lakhs

Funding Agencies :DST –PURSE

Project Titles : A land use cum stochastic transportation model for a better kolkata

Grants Received : Rs 41 Lakhs

Funding Agencies :DST –PURSE

Project Titles :Numerical and experimental study on active control of coupled structural acoustic (csa) problems involving laminated composite structures

Grants Received :Rs 21 Lakhs

## Inter-Institutional Collaborative Projects and Associated Grants Received

- a) National collaboration :  
LAFARGE AGGREGATES & CONCRETE INDIA PVT. LTD, Mumbai , 2012
- b) International collaboration :  
BASF Construction Chemicals Ltd., Italy , 2012.

## Publications:

### A . International Journals

1. S.N.Ghosh "Workability and Setting Time of Alkali Activated Blast Furnace Slag Paste", *ASTM International Journal, Advances in Civil Engineering Materials*, 2013; 2(1), pp 1-17.
2. S.N Ghosh "Effect of Fineness on Engineering Properties of Alkali-activated GGBFS paste", *International Journal of Applied Engineering Research*, 2013; 8 (2), 131-146.
3. S.N Ghosh "Effect of alkali content on strength and microstructure of GGBFS paste", *Global Journal of Researches in Engineering*, 2013; 13(1), pp. 11-19.
4. S.N Ghosh "Effect of curing conditions on the compressive strength and microstructure of alkali-activated GGBS paste", *International Journal of Engineering Science Invention*, 2013; 2(2), pp. 24-31.
5. S.N Ghosh "Strength and Microstructure of Alkali-activated blast furnace slag paste", *International Journal of Pure and Applied Research in Engineering and Technology*, 2013; Vol 1 (8), pp. 12-22.
6. S.N Ghosh Microstructure Study on Fly ash based Geopolymer blended with Blast furnace slag, *Journal of Material science* , Springer, 2013
7. S.N Ghosh Evaluation of Geopolymer properties with temperature imposed on activator prior mixing with Fly Ash, *International Journal Of Civil And Structural Engineering* ,Vol 3, No 1, 2012
8. S.N Ghosh Comparative Study of Geopolymer Paste prepared from different activators, *Recent Trends in Civil Engineering & Technology* Volume 2, Issue 3, Pages 1-10, December 2012.
9. S.N Ghosh Effect of Lime Stone Dust on Geopolymerisation and Geopolymeric Structure, *International Journal of Emerging Technology and Advanced Engineering* ISSN 2250-2459, Volume 2, Issue 11, November 2012.
10. Mandal.S .et all Study on the physical and mechanical property of ordinary Portland cement and flyash paste – *International journal of Civil and Structural Engineering* , Vol 2 no 3 Feb 2012
11. Mandal.S .et all Use of Bacterial Protein Powder in Commercial Fly Ash Pozzolana Cements for High Performance Construction Materials *Open Journal of Civil Engineering*, October 2012, 2, 218-228
12. Mandal.S .et all Study on the autogenic Healing Property of high volume Fly ash Concrete published in the *International Journal 3R'S (Repair, Restoration Renewal of Built Environment)* Vol.3 no.4 Oct- Dec, 2012
13. S.N. Mukherjee, Jaydeep Mukherjee: " Heterotrophic nitrification by *Achromobacter* Xyloxidans S18 isolated from a Small Scale Slaughter house waste water ", *Bioprocess and Bio System Engg.*, Springer, Vol.35,Page-721-728,(2012).

14. Sanjoy Das Neogi D. Chakravorty A.Karmakar; An investigation of impact induced response of a multilayered composite hypar shell roofs - A finite element approach, International Journal of Material Research, Electronics and Electrical System; 2012,5(1),974-978.
15. Sanjoy Das Neogi D. Chakravorty A.Karmakar, Finite element analysis of corner supported composite skewed hyper shell roof Impacted by a solid striker; International Journal of Engineering Research and Technology, 2012 November , 1(9).
16. K.Bakshi ,D. Chakravorty; Delamination and first ply failure study of composite conoidal shells; Bonfring International Journal of Industrial Engineering and Management Science, 2012 December , 4 (21-26).
17. Sanjoy Das Neogi D. Chakravorty A.Karmakar, Behaviour of clamped composite hypar shell roof impacted by a solid striker - A finite element approach; ACMFMS(IIT Delhi) , ISBN 978-81-8487-248-4 , Narosa Publishing House , 2012, 787-790 , 2012.
18. Sanjoy Das Neogi D. Chakravorty A.Karmakar; Behaviour of multilayered simply supported composite hypar shell roof impacted by a solid striker - A finite element approach, Journal of Structural Engineering. Impact factor = 0.8902; In press.
19. Sanjoy Das Neogi D. Chakravorty A.Karmakar, Study of dynamic behaviour of multilayered clamped composite skewed hyparshell roofs under impact load; Journal of Engineering. In press.
20. Arghya Ghosh K.Bakshi,D. Chakravorty, Failure of laminated composite plates and shells - a review; International Journal of Advance in Civil Engineering. 2013,3(1),27-35.
21. K.Bakshi ,D. Chakravorty, First ply failure study of composite conoidal shells used as roffing units in civil engineering; Journal of Failure Analysis and Prevention. In press.
22. K.Bakshi ,D. Chakravorty, Relative static and dynamic performances of composite conoidal shell roofs, Steel and Composite Structures , An International Journal Impact factor = 0.47; In press.
23. A. Sahu, T. Banerjee, A. Guha Niyogi and P. Bhattacharya, Active Control of Radiated Sound from Stiffened Plates using IDE-PFC Actuators, International Journal of Acoustics and Vibration; Accepted (In press).
24. S. Goswami and P. Bhattacharya, A Scalable Neural-Network Modular-Array Architecture For Real-Time Multi-Parameter Damage Detection In Plate Structures Using Single Sensor Output Pattern Recognition for damage detection in aerospace vehicle structures; International Journal of Computational Intelligence and Applications. Vol. 11, No. 4, 2012.
25. S. K. Biswas, Prof. S. P. Mukherjee, Prof. S. Chakrabarti, Moyukh De, Soil Interaction of Laterally Loaded Free Head Long Pile Embedded in Layered Sand Medium ; International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, Vol. 2 Issue 7, July – 2013, pp-1055- 1061.
26. S. K. Biswas, Prof. S. P. Mukherjee, Prof. S. Chakrabarti, Moyukh De, Soil Interaction of Laterally Loaded Free Head Long Pile Embedded in Layered Sand Medium , International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, Vol. 2 Issue 7, July – 2013, pp-1055- 1061
27. T. Hazra, S.Goel, B. Maitra, Willingness-to-Pay for Solid Waste Management Service Attributes: Kolkata Municipal Corporation Area, India, as a Case Study, International Journal of Environment and Waste Management; 2013, 12(4), 406-421

## **B. National Journals**

1. S. Roy, B. C. Chattopadhyay and R. B. Sahu (2013) "Pile Behavior under Inclined Compressive Loads- A Model Study", *Electronic Journal of Geotechnical Engineering*, Vol. 18[2013].
2. K. Dan and R. B. Sahu(2012) "A theoretical study on ground movement prediction for braced excavation in soft clay", *International Journal of Geotechnical Engineering*, volume 6, issue 1.
3. N. Roy and R. B. Sahu(2012) "Site specific ground motion simulation and seismic response analysis for microzonation of Kolkata", *Geomechanics and Engineering- An International Journal*, Vol. 4, No. 1.
4. M. Paul and R.B. Sahu(2012) "One Dimensional Consolidation of Cohesive Soil under Cyclic Loading", *International Journal of Geotechnical Engineering*, Vol. 3, Issue 3.
5. Goswami, B., and Bhandari, G., Convective Cloud Detection and Tracking from Series of Infrared Images, *Journal of the Indian Society of Remote Sensing, India*, Published by Springer Publication;2013, Volume 41, Issue 2, pp 291-299.
6. S.K. Biswas and M. Halder Biswas, Vegetative Cover as Erosion Protector: A Future Prospect, *Journal "Indian Science Cruiser [Vol. 26(6)]"* in November 2012; 2012, Vol. 26(6)
7. Prof. Shibapriya Mukherjee, S.K. Biswas, Moyukh De, Study of Soil Stiffness Parameter in Case of Laterally Loaded Free Head Long Pile, *Journal of "Indian Science Cruiser [Vol. 27(1)]"* in January 2013,pp- 10-19. 2013, 27 (1), 10-19
8. Prof. Shibapriya Mukherjee, S.K. Biswas, Moyukh De, Study of Soil Stiffness Parameter in Case of Laterally Loaded Free Head Long Pile, *Journal of "Indian Science Cruiser [Vol. 27(1)]"* in January 2013,pp- 10-19. 2013, 27 (1), 10-19.

## **C. International Seminar/Conference Publications**

1. Prof S.N Ghosh, Durability study of Geopolymer paste blended with Blast furnace slag, *International Conference on Global Trends In Engineering and Management, Nagpur, ICJTM,22<sup>nd</sup> March,2013*
2. Mandal.S ,Microwave Thermal Activation Effect On Fly Ash Based Geopolymer Concrete *International conferences for International conference on Recent Advances on Concrete Technology and Sustainability Issues to be held at Prag , Czech Republic on 31 October - 2 November 2012*
3. S.Das Noegi ,D.Chakravorty A.Karmakar , Behavioral study of multilayered clamped composite hypar shell roof impacted by solid striker ; *19 th International Congress on Sound and Vibration (ICSV19). Vilnius , Lithuania between 8-12 July , 2012.*
4. K.Bakshi,P.Saha,D.Chakravorty; Firsr ply failure analysis of laminated composite cylindrical shells; *2 nd International Conference on Advanced Composite Materials and Technologies for Aersoave Applications. Wrexham , North Wales UK , 11-13 June , 2012.*
5. K.Bakshi , D.Chakravorty; Delamination and firsr ply failure study of composite conoidal shells using the finite element method, *International Conference on Advances in Architecture and Civil Engineering. M.S.Ramaiah Institute of Technology , Bangalore , 21-23 June , 2012.*
6. S.DasNoegi,D.Chakravorty, A.Karmakar ; Behaviour of clamped composite hypar shell roof impacted by a solid striker - A finite element approach, *Third Asian Conference on Mechanics of Functional Materials and Structures. IIT Delhi , 5-8 December 2012.*

7. S.Roy Chowdhury, D.Chakravorty , Finite element first ply failure analysis of laminated composite cylindrical shells under uniformly distributed load, Third Asian Conference on Mechanics of Functional Materials and Structures, IIT Delhi , 5-8 December 2012.
8. K.Bakshi, D.Chakravorty; First ply failure study of laminated conoidal shells; Fourth International Congress on Computational Mechanics and Simulation. IIT Hyderabad , 9-12 December 2012.
9. S. Das Noegi,D.Chakravorty A.Karmakar; Behaviour of multi layered simply supported composite hypar shell roof impacted by a solid striker - A finite element approach, Fourth International Congress on Computational Mechanics and Simulation IIT Hyderabad , 9-12 December 2012.
10. Arghya Ghosh,D.Chakravorty; Review on failure study of laminated composite plates and shells, International Conference on Frontiers of Mechanical Engineering , Materials and Energy (ICFMEME 2012) . Beijing , China , 20-21 December 2012
11. K.Bakshi, D.Chakravorty; First ply failure study of point supported cross ply laminated composite conoidal shells, 2012 International Conference on Manufacturing Engineering and Technology for Manufacturing Growth. San Diego , USA November 1-2 ,2012
12. S. Das Noegi,D.Chakravorty A.Karmakar, Analysis of point supported hypar shell roofs under impact load- A selection guideline, 2013 International Conference on Materials Science and Chemical Engineering (MSCE 2013). Singapore February 20-21 ,2013.
13. S Das Noegi,D.Chakravorty A.Karmakar , Vibration characteristics of point supported composite skewed hypar shell roofs under impact load- A selection guideline, 20th International Congress on Sound and Vibration (ICSV20), Bangkok, Thailand 7-11 July ,2013.
14. K.Bakshi , D.Chakravorty; First ply failure study of laminated composite conoidal shell roofs considering geometric nonlinearity. 17th International Conference on Composite Structures(ICCS17). FEUP,Porto,Portugal June 17-21 ,2013.
15. S. Das Noegi, D.Chakravorty A.Karmakar; Dynamic analysis of simply supported laminated composite hypar shell roof subjected to oblique impact by finite element, 17th International Conference on Composite Structures(ICCS17), FEUP,Porto,Portugal June 17-21 ,2013
16. S.DasNoegi, D.Chakravorty A.Karmakar, Dynamic behaviour of point supported composite skewed hypar shell roof under oblique impact, 9th International Conference on Fracture and Strength of Solids (FEOFS 2013). Jeju , South Korea June 9-13 ,2013
17. A.Ghosh K.Bakshi, D.Chakravorty; Progressive failure of laminated composite skewed hypar shells, 9th International Conference on Fracture and Strength of Solids (FEOFS 2013), Jeju , South Korea June 9-13 ,2013.
18. K.Bakshi , D.Chakravorty; A geometric nonlinear approach to study first ply failure of laminated composite conoidal shell roofs, 9th International Conference on Fracture and Strength of Solids (FEOFS 2013), Jeju , South Korea June 9-13 ,2013.
19. K.Bakshi , D.Chakravorty; First ply failure loads of stiffened composite conoidal shells - A finite element approach, Composites 2013, University of Azores , Portugal , September 25-28 ,2013.
20. A.Ghosh K.Bakshi , D.Chakravorty; A finite element approach to study progressive failure of laminated composite hypar shells, Composites 2013, University of Azores , Portugal , September 25-28 ,2013.
21. Bhattacharya Partha, Sahu Atanu, Niyogi Guha Arup, Rose Michael, A Novel FE-BE Approach for Free Field Vibro-Acoustic Problem, ACOUSTICS 2013. NPL, New Delhi, Nov. 10 – 15, 2013.

22. Partha Bhattacharya, Oliver Unruh, Michael Rose; Noise Transmission Analysis through a Mechanically Coupled Finite Double Wall Panel, ACOUSTICS 2013, NPL, New Delhi, Nov. 10 – 15, 2013
23. Goswami, B., and Bhandari, G., Development of Irregular Cloud Cluster Encapsulating Structure from Satellite Infrared Images, 33<sup>rd</sup> Asian Conference on Remote Sensing (ACRS 2012). Held during November 26-30, 2012, at Pattaya, Thailand.
24. Goswami, B., Bhandari, G., and Goswami, S., Fuzzy Min-Max Neural Network for Satellite Infrared Image Clustering, Third International Conference on “Emerging Applications of Information Technology” (EAIT 2012), held during November 30 - December 01, 2012, at Indian Statistical Institute, Kolkata, India, Vol. I, pp 239-242 [DOI:10.1109/EAIT.2012.6407913]
25. Prof. Shibapriya Mukherjee, S.K. Biswas, Moyukh De, Comparative Study Between The Behavior of Long and Short Laterally Loaded Single Pile, Proceedings of International Conference “Pile 2013”, June 2-4th , 2013, Bandung, Indonesia. 2013
27. Prof. Shibapriya Mukherjee, Prof. R. B. Sahoo, S.K. Biswas, Comparative Study Between The Behavior of Long and Short Laterally Loaded Single Pile; Proceedings of International Conference “Pile 2013”, June 2-4th , 2013, Bandung, Indonesia.
28. P. Maity, T. Hazra, A. Dutta, A. Gangopadhyay, Decentralised Management of Municipal Solid Waste by Aerobic and Vermicomposting: Refugee Rehabilitation (R.R.) Plot, Kolkata, India as a Case Study. 2011. Mysore, Karnataka, July30- August 01, 2012.
29. A. Majumdar, T. Hazra, A. Dutta, Landfill Site Suitability Checking Using Site Sensitivity Index Method and Analytical Hierarchy Process: Kolkata Municipal Corporation, India as a Case Study; 6<sup>th</sup> International Congress of Environmental Research. Aurangabad, December 19-21, 2013.
30. Sreyashi Das, Arup Guha Niyogi, Coupled structural acoustic analysis inside laminated composite enclosure- subjected to hygral loading, ACOUSTICS 2013; NPL, New Delhi, Nov. 10-15,2013.
31. Abhijit Sarkar, Sreyashi Das (nee pal), Arup Guha Niyogi, Free and forced vibration analysis of a stiffened laminated composite plate with a square cut-out, 4th international congress on computational mechanics and simulation (ICCMS2012). 9-12 December 2012, Indian Institute of Technology Hyderabad (IIT H).
32. Arun Mukherjee, Sreyashi Das (nee pal), Arup Guha Niyogi, Non-linear vibration and dynamic response of epoxy-based laminated composite plate with square cut-out at elevated temperature; International Conference on Structural Engineering and Mechanics (ICSEM-2013). December 20-22, 2013, NIT Rourkela.

#### **National Seminar/Conference Publications**

1. S.N. Mukherjee : “Waste management in Green Building Project”, National Conference on Challenges for Civil Engineering due to Environmental Degradation (CCEED)- 2012, Birbhum Institute of Engineering and Technology, Suri, 18-19<sup>th</sup> February, 2012.
2. S.N. Mukherjee : “Performance evaluation of a laboratory scale anaerobic filter for treatment of meat packing plant”, National Conference on Challenges for Civil Engineering due to Environmental Degradation (CCEED)- 2012, Birbhum Institute of Engineering and Technology, Suri, 18-19<sup>th</sup> February, 2012.
3. S.N. Mukherjee, S K Biswas: “ Vegetative cover as bio-technical erosion Controller towards sustainable development and biodiversity conservation”, National Seminar on “Advancement of



Biological science towards Sustainable Development". Berhampore Girls' College in Association with WBBDB. 29-30th March, 2012.

4. S.N. Mukherjee: "Reed Bed Phytoremediation technology for sustainable development". National Seminar on "Advancement of Biological science towards Sustainable Development". Berhampore Girls' College in Association with WBBDB. 29-30th March, 2012.
5. K. Dan and R. B. Sahu(2012) "A laboratory study on the effect of strain rate on shear strength parameters of cohesive soil", Indian Geotechnical conference, New Delhi, INDIA (IGC2012) pp.179-182.
6. Anirban Kundu Chowdhury, Anupam Debsarkar Prof.S.N.Chakraborty; Monitoring and Assessment of Temporal Variation of Day Time Road Traffic Noise near a Road Side Urban Environment of Kolkata City, India. Journal of the Institution of Public Health Engineer , India , Vol. 2012-13, No-2.
7. Tuhin Subhra Konar Prof.S.N.Chakraborty; Applicability of CALINE4 Model for PM2.5 in a Kolkata Roadway, Journal of the Institution of Public Health Engineer , India , Vol. 2012-13, No-2.
8. Anirban Kundu Chowdhury, Anupam Debsarkar Prof.S.N.Chakraborty; Analysis of day time traffic noise level: A case study of Kolkata, India. International Journal of the Institution of Public Health Engineer , India , Vol. 2012-13, No-2.

#### **SEMINARS/CONFERENCES/WORKSHOPS ORGANIZED :**

The department has conducted a 5-day training program for the teachers of the "West Bengal State Council of Vocational Education and Training " .

#### **OTHERS**

- Dr. Partha Bhattacharya has visited Germany under the following Program : DAAD Reinvitation Program, Oct – Nov 2012, Germany.
- Dr G Bhandari received the Erasmus Mundus Mobility Scholarship Award to visit the University of Nice Sophia Antipolis (UNS), Nice, France, in the Academic Staff Mobility, for one month during September 04 to October 05, 2012, in the frame of the Erasmus Mundus EMMA-West, as visiting Faculty.
- Dr. Dipankar Chakravorty is acting as reviewer in a number International Journals including ASCE - E.Mech.He is also the Co-Editor in Chief of " International Journal of Management Science and Engineering Management " .He chaired the Session on "Composite Structures" on 7th December , 2012 in the Third Asian Conference on Mechanics of Functional Materials and Structures held at Department of Applied Mechanics , IIT Delhi , India .

### **COMPUTER SCIENCE & ENGINEERING**

Phone : +91-33-2413-1766  
Int. : 2457-2214  
H.O.D : Professor Sivaji Bandyopadhyay  
E-mail : hod@cse.jdvu.ac.in

**1 A. Courses Offered :** Bachelor of Computer Science and Engineering (BCSE)  
Master of Computer Science and Engineering (MCSE) Master of  
Technology

Master of Computer Applications(MCA)Ph.D.(Engg.)

**B. Number of Faculty Members :** 29

**2 A. Area of Research Activities :** (Broad Areas)

VLSI Testing, Logic Synthesis, Quantum Computing, Mobile Computing, Security, Computational Intelligence, Bioinformatics, Combinatorial Optimization, Pattern Recognition, Data Mining, Image, Video and Audio Processing, Distributed Computing, Grid Computing, Cloud Computing, Wireless Sensor Network, Parallel Computing, Soft Computing, Video and Image Analysis, Optical Character Recognition, Medical Image Analysis, Natural Language Processing, Corpus & Language Resource Development, Comparable Corpora, Named Entity Recognition (NER) and Transliteration, Information Retrieval, Question Answering and Generation System, Cross Lingual Information Access, Text Summarization, Language Generation, Word Sense Disambiguation, Machine Translation, Textual Entailment, Sentiment Analysis, Emotion Analysis, Opinion Mining, Blog Mining, Event Tracking, Plagiarism Detection, Muliword Expression, Author Profiling and Author identification.

**B. Major Research Project**

: (Departmental/Individual, Name of the Project/Funding Agency)

**Sivaji Bandyopadhyay :**

1. IL-ILMT (Indian Language to Indian Language Machine Translation System) May 2010 to April 2014, Funded by Department of Electronics and Information Technology, Government of India.
2. EILMT (English to Indian Languages Machine Translation) July 2010 to June 2014, Funded by Department of Electronics and Information Technology, Government of India.
3. CLIA Phase II (Cross Lingual Information Access) September 2010 to June 2014, Funded by Department of Electronics and Information Technology, Government of India.
4. Sentiment Analysis where AI meets psychology, Jointly with Tokyo Institute of Technology, Japan, funded by DST Government of India.
5. An advanced platform for question answering system, jointly with IRIT, Toulouse, France, funded by DST, Government of India.
6. Answer Validation through Textual Entailment, jointly with National Polytechnic Institute, Mexico, funded by DST Government of India.

**Debesh Kumar Das:**

7. Project on Quantum Computing: Rs. 12 Lakhs: CSIR
8. Project on Boolean Functions: Rs. 10 Lakhs: UGC

**Sarmistha Neogy:**

9. STUDY AND DESIGN OF DEPENDABLE MOBILE COMPUTING SYSTEMS, funded by UGC.
10. Design of a Secure and Trusted Wireless Sensor Network for border and perimeter tracking, funded by UGC UPE Phase II.

**Ujjwal Maulik:**

11. Investigator, under the project "Mobile Computing and Innovative Applications" under UPE - Phase II, 2012-2015.
12. Indian joint Co-ordinator, Erasmus Mundus Mobility with Asia (EMMA) (European-Asian mobility program), 2011-2015.

**Sanjoy Kumar Saha:**

13. Threat and Attack Modeling of Heterogeneous Enterprise Networks, Funded by SAG, DRDO.
14. Content Based Video Indexing and Retrieval Using Visual and Temporal Features (Phase II), Funded by Indian Statistical Institute, Kolkata.
15. Identification of Damage Initiation mechanisms in Advanced High Strength Steels (AHSS) Using in-situ Tensile Testing under Scanning Electron Microscope, Funded by Tata Steel Limited.
16. Qt-based Graphical User Interface Server, Funded by ASL, DRDO.

**J. K. Sing**

17. Intensity Inhomogeneity Correction in Magnetic Resonance Images, AICTE, 2009-12, Rs. 4 lakh.
18. Development of Robust Face Recognition Systems for Video, UGC, 2010-13, Rs. 7,28,261/-

**Nandini Mukherjee & Sarbani Roy:**

19. Monitoring Air Pollution Using GIS and Sensor Technology" funded by UGC. P.I.: Nandini Mukherjee
20. Performance based Resource Management and Load balancing in Cloud Environment, under the project "Mobile Computing and Innovative Applications" under UPE - Phase II, 2012-2015, P.I.: Sarbani Roy
21. Development of an Integrated Web Portal for Healthcare Management based on Sensor-grid Technologies, NRDMs, P.I.: Nandini Mukherjee, Co-P.I.: Sarbani Roy

**Debotosh Bhattacharjee:**

22. Design and Development of Facial Thermogram technology for Biometric Security System (Principal Investigator along with Prof. M. Nasipuri as Co-investigator) UGC, Govt. of India, 2010-2013, 3 years, Rs. 10,76,834/-
23. Development of 3D Face Recognition Techniques Based on Range Images (Principal Investigator along with Prof. M. Nasipuri as Co-investigator) DIT, MCIT, Govt. of India, 2012-2015, 3 years, Rs. 66,21,250/-
24. Erasmus Mundus Mobility with Asia, Coordinator: Universidade de Evora, Portugal (Principal Investigator along with other Co-investigators) European Commission, Brussels, 2012-2015, 3 years, Rs. 2,80,000/- (approx)

**Susmita Ghosh:**

25. Collaborative Program: India-Trento Program for Advanced Research (ITPAR) Project entitled "Advanced Techniques for Remote Sensing Image Processing & Recognition". Indian Institute of Technology (Bombay), Indian Statistical Institute (Kolkata), Jadavpur University (Kolkata) and University of Trento (Italy) are the collaborators of this joint research project. Duration: Phase I: Three years (start: 21.01.2004). Phase 2: Three years (start: 14.03.2008) Own designation (Principal/Co-investigator/Co-ordinator): Principal Investigator of JU Component Funding Authority: Department of Science & Technology (Government of India) and Ministry of Foreign Affairs and Autonomous Province of Trento (Government of Italy). The project cost, borne by the DST on behalf of Indian side is Rs. 90,79,400/- (for phase I) and Rs. 1,39,11,000/- (for phase II) for the three Indian Components.

**Chandreyee Chowdhury:**

26. FOSS-based Technology for smart handhelds; funded by UGC UPE Phase II.

**Subhadip Basu:**

27. "Segmentation of the carotid vasculature in human CT angiography", Funded by- DST FAST-TRACK, Govt. of India, Duration- 3 years, 2013-2016, Rs. 8,58,000/-, Role: P.I.
28. "Design of Multimodal Biometric Systems" under the UGC Sponsored UPE-II Program under Mobile Computing and Innovative Applications. Duration- 2 years, 2012-2014, Rs. 13,63,200/- (Departmental/ Individual, Name of the Project/Funding Agency), Role: P.I.

**Kamal Sarkar**

29. "Design and Development of a System for Querying, clustering and Summarization for Bengali", SERB(DST). Duration-4years, 2013-2017, Rs. 31,71,600 (Sanctioned amount)

**3. A. Invited Lectures Delivered/Sessions Chaired :**

: (Name of the

**Sivaji Bandyopadhyay :**

1. Area Chair, Summarization, International Conference on Computational Linguistics (COLING), Mumbai, India, December, 2012.

**Debesh Kumar Das:**

2. Chairing a session in VLSI Design and Test Symposium, July 2012.
3. Lecture on "Design for Testability Technique for Quantum Reversible Circuits," Bremen University, Bremen, Germany, September, 2012.
4. Lecture on "Core-Based Test Time Optimization for 3-D Integrated Circuits" at Nara Institute of Science and Technology, Nara, Japan, November 2012.
5. Chairing a session in *IEEE International Symposium on Electronic Design (ISED 2012)*.

**Ujjwal Maulik:**

6. "Multiobjective Approach to Fuzzy Clustering", University of Evora, Portugal, May 29, 2012.
7. "Single and Multiobjective Optimization Clustering: Challenges and Issues", IEEE CIS Seminar on "Computational Intelligence in Information System, Imaging and Security" Kolkata, 3rd August, 2012.

**Sanjoy Kumar Saha:**

8. Shot Boundary Detection: A Model Based Approach — Invited talk in the International Conference on Emerging Application of Information Technology held at ISI Kolkata, 2012
9. Content Based Video Copy Detection: Issues and Practices – Preconference tutorial lecture in International Conference on Information Systems Security held at IIT Guwahati, 2012
10. Introduction to Image Processing – Lecture delivered in the UGC sponsored refresher course held at Burdwan University, 2012
11. Image Processing: An Overview – Invited Lecture delivered at Vidyasagar University, 2012
12. Techniques and Practices in CBIR – Invited Lecture delivered in the TEQIP sponsored faculty development program held at NERIST, Itanagar, 2012.

**Sarbani Roy:**

13. "Internet of Things", in winter School on "Recent Advances in Wireless and Mobile Computing and Communications", organized by the School of Mobile Computing and Communications, Jadavpur University, 15 January 2013.
14. "Wireless Sensor Networks", in a one day seminar organized by CSE dept. in association with CSI Student Chapter of MCKV Institute of Engineering, Howrah.

**Debotosh Bhattacharjee:**

15. "Image Fusion Techniques" organized by RCC Institute of Information Technology, Kolkata on 24<sup>th</sup> July 2012.

**Susmita Ghosh:**

16. Delivered Lecture in a National Workshop on "Soft Computing And Numerical Optimization", Gandhi Institute of Excellent Technocrats, Bhubaneswar, March 17-18, 2012

**Nandini Mukherjee:**

17. Invited lecture in the National Conference on High Performance Computing and Simulation held from January 18-19, 2013 at Berhampur, Odisha.

**Chandreyee Chowdhury:**

18. "MANET Reliability" in winter School on "Recent Advances in Wireless and Mobile Computing and Communications", organized by the School of Mobile Computing and Communications, Jadavpur University, January 2013.
19. "Introduction to Web Application" in the Refresher Course entitled ""Free Software Technologies" held at Jadavpur University.

**Subhadip Basu:**

20. Delivered invited lecture on Multi-scale opening of conjoined structures in shared intensity space at The Interdisciplinary Centre for Computational and Mathematical Modelling (ICM), University of Warsaw, Poland, 2012.
21. Delivered invited lecture on Multi-scale opening of conjoined structures in shared intensity space at CMATER, Jadavpur University, Date- 22.02.2013.

**B. Seminar/Workshop/Conference/Symposium Attended:**

(Name of the)

**Sivaji Bandyopadhyay :**

1. International Conference on Computational Linguistics (COLING), Mumbai, India, December, 2012.
2. Second International Workshop on Sentiment Analysis where AI meets Psychology, International Conference on Computational Linguistics (COLING), Mumbai, India, December, 2012.

**Debesh Kumar Das:**

3. Presentation of the paper titled "A Design for Testability Technique for Quantum Reversible Circuits," in *the IEEE Transactions on Computers*, 2012.
4. Presentation of the paper titled "Constraint Don't cares for Optimizing Designs for Concurrent Checking by 1-out-of-3 Codes," in *the 10<sup>th</sup> International Workshops on Boolean Problems*, Freiberg, Germany, September, 2012.

**Sarmistha Neogy:**

5. 14<sup>th</sup> International Conference on Distributed Computing and Networking, January 3 – 6, 2013, Mumbai, India.

**Debotosh Bhattacharjee:**

6. IS & T/SPIE Symposium on Electronic Imaging, 3-7 February 2013, San Francisco, USA.

**Susmita Ghosh:**

7. Symposium on "Future of STEM (Science, Technology, Engineering, and Mathematics)", Indian Statistical Institute, Kolkata, March 22, 2013.

**C. Seminar/Workshop/Conference/Symposium Organized:**

: (Name of the)

**Sivaji Bandyopadhyay :**

1. Second International Workshop on Sentiment Analysis where AI meets Psychology, International Conference on Computational Linguistics (COLING), Mumbai, India, December, 2012.

- D. Orientation Courses/Refresher Courses Attended:** (Name of the Teacher, Title of the Course, Duration, Place)
- E. Orientation Courses/Refresher Courses Organized :** (Name of the Teacher, Title of the course, if any, Duration, Place)

**Nandini Mukherjee & Debesh Kumar Das:**

1. Organized a refresher course on “Free Software Technologies” during 26<sup>th</sup> November to 15<sup>th</sup> December, 2012 at Jadavpur University.

**4 A. Books/Monographs etc. Published :** (Name of the Teacher, Name of the Book, Name of the Publisher)

1. S. Bhattacharyya and **U. Maulik**, Soft Computing - Application to Image and Multimedia Data, Springer, Heidelberg, Germany (in press).
2. **Subhadip Basu, Mahantapas Kundu, and Mita Nasipuri.** “Development of OCR Techniques for Handwritten Bangla Text: OCR Techniques for Bangla Text.”, LAP Lambert Academic Publishing, Germany©2012, ISBN-10: 3848430800, ISBN-13: 9783848430802

**4. B. Articles Published in Journals ;**Name of the Teacher, Name of the Articles, Name of the Journal, Date of Publication, Volume)

**Sivaji Bandyopadhyay :**

1. Pinaki Bhaskar and Sivaji Bandyopadhyay. Answer Extraction of Comparative and Evaluative Question in Tourism Domain In: International Journal of Computer Science and Information Technologies (IJCSIT), ISSN: 0975-9646, Vol. 3, Issue 4, 2012, pp. 4610 – 4616.
2. Pinaki Bhaskar and Sivaji Bandyopadhyay. Cross Lingual Query Dependent Snippet Generation In:International Journal of Computer Science and Information Technologies (IJCSIT), ISSN: 0975-9646, Vol. 3, Issue 4, 2012, pp. 4603 – 4609.
3. S. Poria, A. Gelbukh, D. Das, S. Bandopadhyay. *EmoSenticNet: Merging SenticNet and Wordnet Affect Lists.* Journal IEEE Intelligent Systems, 2012.
4. Kishorjit, N., Nonglenjao, L., Nirmal L., and Sivaji B., “Reduplicated MWE (RMWE) Helps In Improving The CRF Based Manipuri POS Tagger”, International Journal of Information Technology and Computer Science (IJITCS) Vol 2, No 1, ISSN: 2231-1939, DOI: 10.5121/ijitcs.2012.2106, pp. 45-59, Feb 2012.
5. D.Das and S.Bandyopadhyay. 2012. “Emotion Coreferencing - Emotional Expression, Holder and Topic”. In the International Journal of Computational Linguistics and Chinese Language Processing (IJCLCLP), ISSN No. 1027-376X.

**Debesh Kumar Das:**

6. Dipak K. Kole, Hafizur Rahaman, Debesh K. Das, Bhargab B. Bhattacharya: Derivation of test set for detecting multiple missing-gate faults in reversible circuits. Computers & Electrical Engineering 39(2): 225-236, February 2013.

**Sarmistha Neogy:**

7. S. Biswas, S. Neogy, P. Dey, “Mobility Based Checkpointing and Trust Based Recovery in MANET”, *International Journal of Wireless and Mobile Networks (IJWMN)*, ISSN: 0975-3834[Online]; 0975- 4679 [Print], DOI : 10.5121/ijwmn.2012.4404, Vol. 4, No.4., August 2012, pp. 53 – 69

### **Ujjwal Maulik:**

8. A. Sarkar and U. Maulik, "Searching Remote Homology with Spectral Clustering with Symmetry in Neighborhood Cluster Kernels", *PLoS One* (accepted).
9. B. K. Sriwastava, S. Basu, U. Maulik and D. Plewczynski, "PPICons: identification of protein-protein interaction sites in selected organism", *Journal of Molecular Modeling* (accepted) .
10. S. Bandyopadhyay, D. Sengupta and U. Maulik, "GRF: A greedy rank fusion algorithm for combining microRNA target orderings", *Molecular Informatics* (accepted).
11. U. Maulik, A. Mukhopadhyay, D. Chakraborty, "Gene-expression Based Cancer Subtypes Prediction through Feature Selection and Transductive SVM", *IEEE Transaction on Biomedical Engineering* (accepted).
12. D. Sengupta, A. Pyne, U. Maulik, and S. Bandyopadhyay Reformulated Kemeny Optimal Aggregation with Application in Consensus Ranking of microRNA Targets, *IEEE/ACM Transaction on Computational Biology and Bioinformatics* (accepted).
13. U. Maulik, A. Mukhopadhyay, M. Bhattacharyya, L. Kaderali, B. Brors, S. Bandyopadhyay, and R. Eils, "Mining Quasi-Bicliques from HIV-1-Human Protein Interaction Network: A Multiobjective Biclustering Approach", *IEEE/ACM Transaction on Computational Biology and Bioinformatics* (accepted).
14. A. Mukhopadhyay, U. Maulik and S. Bandyopadhyay, "An Interactive Approach to Multiobjective Clustering of Gene Expression Patterns", *IEEE Transaction on Biomedical Engineering*, vol. 60, no. 1, pp. 35-41, 2013.
15. D. Sengupta, S. Bandyopadhyay and U. Maulik, "Weighted Markov Chain Based Aggregation of Bio-molecule Orderings", *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, vol. 9, no. 3, pp. 924-933, 2012.
16. A. Bhar, M. Haubrock, A. Mukhopadhyay, U. Maulik, S. Bandyopadhyay, and E. Wingender, "Coexpression and Coregulation Analysis of Time-Series Gene Expression Data in Estrogen-Induced Breast Cancer Cell", *Algorithms for Molecular Biology*, Vol. 8, No. 9, 2013.

### **Sanjoy Kumar Saha:**

17. Arijit Ghosal, Rudrasis Chakraborty, Bibhas Chandra Dhara and Sanjoy Kumar Saha, Music Classification based on MFCC Variants and Amplitude Variation Pattern: A Hierarchical Approach, *IJSIP*, Vol.5, No.1, 2012
18. Partha Pratim Mahanta, Sanjoy Kumar Saha and Bhabatosh Chanda, A novel Technique for size Constrained Video Storyboard Generation Using Statistical Run Test and Spanning tree, *Intl. J. on Image and Graphics*, Vol. 13, No. 1, world Scientific
19. Debabrata Dutta, Sanjoy Kumar Saha, Bhabatosh Chanda, An Attack Invariant Scheme for Content-based Video copy Detection Signal, *Image and Video Processing*, Vol. 7(4), pp. 665-677, Springer, 2013
20. Siddhartha Banerjee, Swarup K Ghosh, Subhabrata Datta, Sanjoy Kumar Saha, Segmentation of Dual Phase Steel Micrograph: An Automated Approach, *Measurement*, Vol. 46, pp. 2435-2440, Elsevier, 2013

### **J. K. Sing**

21. A. K. Das, S. Chatterjee, J. K. Sing, "A novel efficient access control scheme for large-scale distributed wireless sensor networks", *International Journal of Foundations of Computer Science*, Elsevier Publisher, Accepted for publication, 2013.
22. S. Chatterjee, A. K. Das, J. K. Sing, "An enhanced access control scheme in wireless sensor networks", *Ad Hoc & Sensor Wireless Networks*, Old City Publisher, vol. 0, pp. 1–29, 2012.
23. A. Basu, I. Sengupta, J. K. Sing, "Secured hierarchical secret sharing using ECC based signcryption", *Security and Communication Networks*, Wiley Publisher, vol. 5, pp. 752-763, 2012.
24. S. S. Thakur, J. K. Sing, "Prediction of Online Vehicle Insurance System using Bayes Classifier– A proposed Approach", *International Journal of Computer Applications (0975-8887)*, vol. 49, no. 16, pp. 38-42, 2012.
25. J. K. Sing, S. Chowdhury, D. K. Basu, M. Nasipuri, "An Improved Hybrid Approach to Face Recognition by Fusing Local and Global Discriminant Features", *Int'l Journal of Biometrics*, Inderscience Publisher, vol. 4, no. 2, pp. 144-164, 2012.

**Nandini Mukherjee & Sarbani Roy:**

26. Sarbani Roy and Nandini Mukherjee, "Dynamic topology construction of wireless sensor network using computational geometric approach", *Intl. Journal of Sensor Network, InderScience*, vol.12 no. 4, pp. 210-222, 2012.
27. Madhulina Sarkar, Triparna Mondal, Sarbani Roy, Nandini Mukherjee, "Resource requirement prediction using clone detection technique", *Future Generation Comp. Syst., Elsevier*, vol. 29, no. 4, pp.936-952, 2013.
28. Subrata Dutta, Nandini Mukherjee, Monideepa Roy, Sarmistha Neogy, "Efficient Path Selection to Propagate Data Message for Optimizing the Energy Dissipation in WSN", accepted for publication by *International Journal of Sensor Networks (IJSNet)* (Inderscience Publishers).

**Debotosh Bhattacharjee:**

29. Ayan Seal, Suranjan Ganguly, Debotosh Bhattacharjee, Mita Nasipuri, Dipak Kr. Basu, "Automated Thermal Face recognition based on Minutiae Extraction", *International Journal of Computational Intelligence Studies*, ISSN online: 1755-4985 ISSN print: 1755-4977 InderScience Publication, 2013.
30. Parama Bagchi, Debotosh Bhattacharjee, Mita Nasipuri, Dipak Kr. Basu, "A novel Approach for nose-tip detection on 3D face images across pose", *International Journal of Computational Intelligence and Informatics*, ISSN: 2231-0258, vol. 2 no. 1, April-June,2012.
31. Rajib Saha, Debotosh Bhattacharjee, ShombhuNath Ghosh, Prasenjit Das, Dona Ghosh, "Comparision and Error Finding of 2D Frontal Facial Images Between Twins", *International Journal of Advanced Research in Computer Science and Software Engineering*, vol. 2, issue 4, April 2012.
32. Mrinal Kanti Bhowmik, Debotosh Bhattacharjee, Dipak Kumar Basu, Mita Nasipuri, "Eye Region Based Fusion Technique of Thermal and Optical images for Human Face Recognition in Dark", *Optical Engineering Journal of SPIE*, vol. 51, No. 7, 2012.
33. Santunu Halder, Debotosh Bhattacharjee, Mita Nasipuri, Dipak Kr. Basu, "A Low Space Bit-Plane Slicing Based Image Storage Method using Extended JPEG Format", *International Journal of Emerging Technology and Advanced Engineering*, vol. 2, issue 4, April 2012, pp. 694-699.



34. Arindam Kar, Debotosh Bhattacharjee, Dipak Kumar Basu, Mita Nasipuri, and Mahantapas Kundu, "High Performance Human Face Recognition using Gabor based Pseudo Hidden Markov Model", *International Journal of Applied Evolutionary Computation (Taiwan) IGI Global*, July 2012.
35. Debotosh Bhattacharjee, Ayan Seal, Suranjan Ganguly, Mita Nasipuri, and Dipak Kumar Basu, "A Comparative Study of Human Thermal Face Recognition Based on HaarWavelet Transform and Local Binary Pattern", *International Computational Intelligence and Neuroscience*, 2012.
11. Arindam Kar, Debotosh Bhattacharjee, Dipak Kumar Basu, Mita Nasipuri, and Mahantapas Kundu, "A Gabor block based Kernel Discriminative Common Vector (KDCV) approach using cosine kernels for Human Face Recognition", *International Computational Intelligence and Neuroscience*, 2012.
12. Satyabrata Maity, Amlan Chakrabarti, Debotosh Bhattacharjee, "Feature based Information Extraction for Generic Video Summarization", *International Journal of Computer Applications*, iRAFIT - Number 4, 2012.
38. Mridul Ghosh, Debotosh Bhattacharjee, "Human Identification by Gait Using Corner Points", *International Journal of Image, Graphics and Signal Processing*, 2012, 2, pp. 30-36.

**S. Basu, N. Das, R. Sarkar:**

39. Ankush Acharyya, Sandip Rakshit, Ram Sarkar, Subhadip Basu, and Mita Nasipuri. "Handwritten Word Recognition Using MLP based Classifier: A Holistic Approach.", *IJCSI International Journal of Computer Science Issues*, Vol. 10, Issue 2, No 2, pp. 422-427, (2013).
40. Brijesh K. Sriwastava, Subhadip Basu, Ujjwal Maulik, and Dariusz Plewczynski. "PPIcons: identification of protein-protein interaction sites in selected organisms." *Journal of molecular modeling* (2013): 1-12.
41. Ayatullah Faruk Mollah, Subhadip Basu, and Mita Nasipuri. "A Novel Approach towards Computation and Memory Efficient Implementation of Convolution-based Binarization Techniques." *International Journal of Information Processing* 6(3), pp. 67-79 (2012).
42. Ayatullah Faruk Mollah, Subhadip Basu, Mita Nasipuri, and Dipak Kumar Basu. "Handheld Mobile Device Based Text Region Extraction and Binarization of Image Embedded Text Documents." *Journal of Intelligent Systems* 22, no. 1 (2013): 25-47.
43. Samir Malakar, Dheeraj Mohanta, Ram Sarkar, Nibaran Das, and D. K. Basu. "A New Global Thresholding Approach for Document Image Binarization." *International Journal of Information Processing*, 6(2), pp. 48 - 59 (2012).
44. Nibaran Das, Ram Sarkar, Subhadip Basu, Mahantapas Kundu, Mita Nasipuri, and Dipak Kumar Basu. "A genetic algorithm based region sampling for selection of local features in handwritten digit recognition application." *Applied Soft Computing*, vol. 12, no. 5 (2012): 1592-1606.
45. Dariusz Plewczynski, Subhadip Basu, and Indrajit Saha. "AMS 4.0: consensus prediction of post-translational modifications in protein sequences." *Amino acids*, 43, no. 2 (2012): 573-582.
46. Nibaran Das, Jagan Mohan Reddy, Ram Sarkar, Subhadip Basu, Mahantapas Kundu, Mita Nasipuri, and Dipak Kumar Basu. "A statistical-topological feature combination for recognition of handwritten numerals." *Applied Soft Computing*, vol. 12, no. 8 (2012): 2486-2495.

**Susmita Ghosh**

47. M. Roy, S. Ghosh, and A. Ghosh, "Change detection in remotely sensed images using semi-supervised clustering algorithms", *International Journal of Knowledge Engineering and Soft Data Paradigms*, (accepted).
48. M. Roy, D. Routray, S. Ghosh, and A. Ghosh, Ensemble of multilayer perceptrons for change detection in remotely sensed images", *IEEE Geosciences and Remote Sensing Letters*, (in press).
49. A. Halder, S. Ghosh, and A. Ghosh, "Aggregation Pheromone Metaphor for Semi-supervised Classification," *Pattern Recognition*, vol. 46, pp. 2239-2248, 2013.
50. B. N. Subudhi, S. Ghosh, and A. Ghosh, "Change Detection for Moving Object Segmentation with Robust Background Construction under Wronskian Framework", *Machine Vision and Applications*, vol. 24, no. 4, pp. 795-809, 2013.
51. A. Ghosh, A. Datta, and S. Ghosh, "Self-adaptive Differential Evolution for Feature Selection in Hyperspectral Image Data", *Applied Soft Computing*, vol. 13, pp. 1969-1977, 2013.
52. **A. Ghosh**, B. N. Subudhi, and S. Ghosh, "Object Detection from Videos Captured by Moving Camera by Fuzzy Edge Incorporated Markov Random Field and Local Histogram Matching", *IEEE Transactions on Circuits and Systems for Video Technology*, vol. 22, pp. 1127- 1135, 2012
53. N. S. Mishra, S. Ghosh, and A. Ghosh, "Fuzzy Clustering Algorithms Incorporating Local Information for Change Detection in Remotely Sensed Images", *Applied Soft Computing*, vol. 12, pp. 2683–2692, 2012.

#### **Kamal Sarkar:**

54. Sarkar, Kamal. "A Hybrid Approach to Extract Keyphrases from Medical Documents." *International Journal of Computer Applications*, (2013).
55. Sarkar, Kamal, Mita Nasipuri, and Suranjan Ghose. "Machine Learning Based Keyphrase Extraction: Comparing Decision Trees, Naive Bayes, and Artificial Neural Networks." *JIPS* 8, no. 4 (2012): 693-712.

#### **C. Articles Published in Conferences :**

##### **Debesh Kumar Das:**

1. Debesh K. Das, Subhrajit Sinha Roy, A. Dmitiriev, A. Morozov, and M. Gössel, "Constraint Don't cares for Optimizing Designs for Concurrent Checking by 1-out-of-3 Codes," in Proceedings of the 10th International Workshops on Boolean Problems, Freiberg, Germany, September, 2012, pp. 33-40.
2. Joyati Mondal, Debesh K. Das, Dipak K. Koley, and Hafizur Rahaman, "A Design for Testability Technique for Quantum Reversible Circuits," in Proceedings of the IEEE East-West Design & Test Symposium (EWDTS), Ukraine, September, 2012, pp. 249-252.
3. M. Pradhan, C. Giri, H. Rahaman, and D. K. Das, "An Algorithm for Core-Based Test Time Optimization for 3-D Integrated Circuits", The Thirteenth IEEE Workshop on RTL and High-Level Testing, 22-23 November, 2012, Niigata, Japan.
4. Papiya Manna, Dipak Kumar Koley, Hafizur Rahaman, Debesh K. Das and Bhargab B. Bhattacharya, "Reversible Logic Circuits Synthesis using Genetic Algorithm and Particle Swarm Optimization," Proceedings of IEEE International Symposium on Electronic Design (ISED 2012), December 2012,

5. Joyati Mondal, Debesh K. Das, Dipak K. Koley, and Hafizur Rahaman,, "Design for Testability Techniques for Quantum Reversible Circuits," 4th IEEE International Workshop on Reliability Aware System Design and Test, Pune, January, 2013.

**Sarmistha Neogy & Chandreyee Chowdhury:**

6. S. Biswas, S. Neogy, "Checkpointing and recovery using node mobility among clusters in mobile ad hoc network", Proceedings of the Fourth International conference on Networks and Communicatins, NECOM, (2012), AISC 176, pp. 447-456, 2012.
7. Subrata Dutta, Nandini Mukherjee, Monideepa Roy and Sarmistha Neogy, "Efficient Path Selection to Propagate Data Message for Optimizing the Energy Dissipation in WSN" in the Proceedings of WiMone-2012, AISC 176, pp. 671 – 683, 2012.
8. S. Biswas, P. Dey, S. Neogy, "Trusted Checkpointing Based on Ant Colony Optimization in MANET", in the Proceedings of 3rd IEEE International Conference on Emerging Applications of Information Technology (EAIT 2012), India, pp. 433-439, ISBN: 978-1-4673-1825-9.
9. Arijita Banerjee, Sarmistha Neogy, Chandreyee Chowdhury, "Reputation based Trust Management System for MANET", in the Proceedings of Third International Conference on Emerging Applications of Information Technology (EAIT 2012), India, pp. 376-381.
10. Munshi Navid Anjum, Chandreyee Chowdhury, Sarmistha Neogy, "Securing Network using Mobile Agents", in the Proceedings of International Conference on Communications, Devices and Intelligent Systems (CODIS) 2012, India, pp. 274-277.
11. Chandreyee Chowdhury, Sarmistha Neogy, "Reputation Model of k-terminal Reliable MANET using Reliable Mobile Agents", in the Proceedings of Second International Workshop on Computing and Networking for Internet of Things (ComNet-lot 2013), ICDCN 2013, India, pp. 21-26.

**Ujjwal Maulik:**

12. M. Mandal, A. Mukhopadhyay and U. Maulik, "Fuzzy Rule-based Classifier for Microarray Gene Expression Data by using a Multiobjective PSO-based Approach", FUZZ-IEEE, 2013 (accepted).
13. S. Ray, S. Bandyopadhyay, A. Mukhopadhyay and U. Maulik, "Incorporating Fuzzy Semantic Similarity Measure in Detecting Human Protein Complexes in PPI Network: A Multiobjective Approach", FUZZ-IEEE, 2013 (accepted).
14. A. Mukhopadhyay, U. Maulik and S. Bandyopadhyay, "Hybrid Evolutionary Multiobjective Fuzzy C-Medoids Clustering of Categorical Data", In Proc. IEEE Symposium Series on Computational Intelligence - SSCI 2013, Singapore, 2013 (accepted).
15. S. Mallik, A. Mukhopadhyay, U. Maulik and S. Bandyopadhyay, "Integrated Analysis of Gene Expression and Genome-wide DNA Methylation for Tumor Prediction: An Association Rule Mining-based Approach", In Proc. IEEE Symposium Series on Computational Intelligence - SSCI 2013, Singapore, 2013 (accepted).

**Sanjoy Kumar Saha:**

16. Synthesizing Cloud image for Weather Nowcasting Application using Local Linear Embedding in Active Membrane International Conference on Signal, Image and Video Processing, IIT Patna, 2012

17. Siddhartha Banerjee, Subhabrata Datta, Biplab Paul, Sanjoy Kumar Saha, Segmentation of three phase micrograph: an automated approach, CUBE-2012, Pune, India
18. Arijit Ghosal, Rudrasis Chakraborty, Bibhas Chandra Dhara, Sanjoy Kumar Saha, Song/instrumental classification using spectrogram based contextual features, CUBE- 2012, Pune, India
19. Jayanta Das, Arindam Biswas, Sanjoy saha, Depth from Images of External Outdoor Scenes, ICVGIP, IIT Mumbai, India, 2012
20. Arijit Ghosal, Rudrasis Chakraborty, Bibhas Chandra Dhara, Sanjoy Kumar Saha, Genre Based Classification of Song Using Perceptual features, International Conference on Advanced Computing, Networking and Informatics (ICACNI), Mysore, India, 2013 (springer)

#### **J. K. Sing**

21. J. K. Sing, D. Roy, D. K. Basu, M. Nasipuri, "Generalized Diagonal 2D FLDA for Efficient Face Recognition", Proc. of CODIS 2012, pp. 656-659.
22. S. K. Adhikari, J. K. Sing, D. K. Basu, M. Nasipuri, P. K. Saha, "Segmentation of MRI Brain Images by Incorporating Intensity Inhomogeneity and Spatial Information Using Probabilistic Fuzzy C-Means Clustering Algorithm", Proc. of CODIS 2012, pp. 133-136.
23. S. Chowdhury, J. K. Sing, D. K. Basu, M. Nasipuri, "Weighted Multi-Class Support Vector Machine for Robust Face Recognition", Proc. of CODIS 2012, pp. 334-337.
24. Atanu Basu, Indranil Sengupta, J. K. Sing, "Formal Security Verification of Secured ECC Based Signcryption Scheme", Proc. of CSIA 2012, pp. 713-725.

#### **Nandini Mukherjee & Sarbani Roy:**

25. Madhulina Sarkar, S. Chaudamani, Sarbani Roy, Nandini Mukherjee, "A Hybrid Clone Detection Technique for Estimation of Resource Requirements of a Job", in the proceedings of Third International Conference on Advanced Computing and Communication Technologies (ACCT), pp. 174-181, 6-7 April 2013.
26. Susmita Singh, Madhulina Sarkar, Sarbani Roy, Nandini Mukherjee, "A survey on Application of Machine Learning to Resource Management in Grid Environment". Lecture Notes on Software Engineering, vol. 1, no.2, pages: 173-177, 2013.
27. Suman Sankar Bhunia, Soumen Das, Sarbani Roy, Nandini Mukherjee, 'Mobility management in IP based Wireless Sensor Network using TinyOS', in the proceedings of IEEE 6th International Conference on Sensing Technology (ICST), 18-21 December 2012, Kolkata, India.
28. Suman Sankar Bhunia, Sarbani Roy, Nandini Mukherjee 'On efficient health-care delivery using Sensor-Grid', in the proceedings of CSI/IEEE International Conference on Emerging Applications of Information Technology (EAIT), 30 November -1 December 2012 Kolkata, India
29. Suman Sankar Bhunia, Dilip Sikder, Sarbani Roy, Nandini Mukherjee, "A Comparative Study on Routing schemes of IP based Wireless Sensor Network", in the proceedings of IEEE 9th International Conference on Wireless and Optical Communications Networks (WOCN), 20-22 September 2012, Indore, India.

30. Avishek Mukherjee, Sarbani Roy, Nandini Mukherjee, "An approach of Beacon Placement and Beacon based Routing towards Mobile Sink in WSN", in the proceedings of CUBE 2012, Pune, India, 3-5 September 2012.
31. Siba Mitra, Ajanta De Sarkar, Sarbani Roy, "A Review of Fault Management System in Wireless Sensor Network", in the proceedings of CUBE 2012, Pune, India, 3-5 September 2012.
32. Pallavi Sanyal, Somasri Das, Suman Sankar Bhunia, Sarbani Roy, Nandini Mukherjee "An Experience of Implementing IPv6 based Data Retrieval System for Wireless Sensor Networks", in the proceedings of IEEE International Conference on Recent Advances in Computing and Software Systems (RACSS), April 25-27, 2012 Chennai, India.
33. Pallavi Sanyal, Somasri Das, Sarbani Roy and Nandini Mukherjee, "A Study on Multiple Sink Routing", in the proceedings of IEEE 4th International Conference on Electronics Computer Technology (ICECT), Kanyakumari, India ISBN: 978-1-4673-1849-5, April 6-8, 2012
34. Sushan Chakraborty, Madhulina Sarkar, Nandini Mukherjee, "Implementation of execution history in non-relational databases for feedback-guided job modeling", in Proceedings of the CUBE International Information Technology Conference, ACM, Pages 476-482, Pune, India, September 2012.
35. Monideepa Roy, Pushpendu Kar, Nandini Mukherjee, "A Jini Based Implementation for Best Leader Node Selection in MANETs", Fourth International Conference on Networks and Communications, (NETCOM 2012), 22nd -23rd December, 2012, Chennai, LNEE
36. Debasree Das, Zeenat Rehena, Sarbani Roy, Nandini Mukherjee, "Multiple-sink placement strategies in wireless sensor networks", in the proceedings of fifth International Conference on Communication Systems and Networks (COMSNETS), January 7-10, 2013, pp.1-7. Available from IEEE Xplore digital library.
37. Zeenat Rehena, Sarbani Roy, Nandini Mukherjee, "Efficient Data Forwarding Techniques in Wireless Sensor Networks", In the Proceedings of 3rd IEEE International Advance Computing Conference (IACC-2013), February 22-23, 2013, Ghaziabad, India, Page 449-457, ISBN: 978-1-4673-4527-9
38. Zeenat Rehena, Debasree Das, Sarbani Roy, Nandini Mukherjee, "Handling Area Fault in Multiple-Sink Wireless Sensor Networks", In the Proceedings of 3rd IEEE International Advance Computing Conference (IACC-2013), February 22-23, 2013, Ghaziabad, India, Pages 458-464, ISBN: 978-1-4673-4527-9.

**Debotosh Bhattacharjee:**

39. Priya Saha, Mrinal Kanti Bhowmik, Debotosh Bhattacharjee, Barin kumar De, Mita Nasipuri, "Gradient based Fusion of Infrared and Visual Face Images using Support Vector Machine for Human Face Identification", Multimedia on Mobile Devices 2013 organized by the Society for Imaging Science and Technology (IS&T) and SPIE, San Francisco, Burlingame, California, Feb. 3-7, 2013.
40. Kankan Saha, Priya Saha, Mrinal Kanti Bhowmik, Debotosh Bhattacharjee, and Mita Nasipuri, "North-East Indian Face Database: Capturing, Performance Evaluation and Application", Sensors, Cameras, and Systems for Industrial/Scientific Applications XIV (Conference EI115) of

Electronic Imaging (EI) 2013, organized by the Society for Imaging Science and Technology (IS&T) and SPIE, San Francisco, Burlingame, California, Feb. 3-7, 2013.

41. Priya Saha, Mrinal Kanti Bhowmik, Debotosh Bhattacharjee, Mita Nasipuri, Dipak Kumar Basu, "Performance Evaluation through KICA and Feature level Fusion for Human Face Recognition", International Conference on Artificial Intelligence and Soft Computing (AISC 2012), Organized by Department of Computer Engineering, IIT (BHU) Varanasi, To be Published by Narosa Publishing House, New Delhi, Dec. 7-9, 2012.
42. Goutam Majumder, Rajib Debnath, Mrinal Kanti Bhowmik, Debotosh Bhattacharjee and Mita Nasipuri, "Image Registration of North-Eastern Indian (NEI) Face Database", 1st International Conference on Intelligent Infrastructure, organized by Computer Society of India Kolkata Chapter (CSI 2012), Science City, Kolkata, India, published by Tata McGraw Hill, pp. 286-290, Dec 1-2, 2012, ISBN-13: 978-1-25-906170-7, ISBN-10: 1-25-906170-1.
43. Kankan Saha, Rajib Debnath, Mrinal Kanti Bhowmik, Debotosh Bhattacharjee, and Mita Nasipuri, "North-East Indian Face Database: Its Design and Aspects", 4th International Conference on Advances in Recent Technologies in Communication and Computing (ARTCom 2012), organized by the Association of Computer Electronics and Electrical Engineers (ACEEE), Bangalore, India, published by Springer, LNEE, pp. 450-456, Oct. 19-20, 2012, ISSN: 1876-1100.
44. Priya Saha, Mrinal Kanti Bhowmik, Debotosh Bhattacharjee, Barin Kumar De, Mita Nasipuri, "Fusion of Wavelet Coefficients for Classification of Human Face Images using Kernel Independent Component Analysis and Different SVM Kernels", In Press 2nd International Conference on Rough sets, Fuzzy sets and Soft Computing (ICRFSC '12), organized by Dept. of Mathematics, Tripura University, Tripura, India, Jan. 17-19, 2013.
45. Mrinal Kanti Bhowmik, Debotosh Bhattacharjee, Dipak Kumar Basu, Mita Nasipuri, "Human Face Recognition using Wavelet Fusion and SVM", 6th International Workshop on Multimedia and Signal Processing (IWSSIP '12), Redzur 2012, organized by Slovak University of Technology, European Association for Signal Processing and Association for Telecommunications Users in Slovakia, Vienna, Austria, pp:5-9, Apr. 11, 2012, ISBN 978-80-227-3686-2.
46. Mrinal Kanti Bhowmik, Barin Kumar De, Debotosh Bhattacharjee, Dipak Kumar Basu, Mita Nasipuri, "Multisensor Fusion of Visual and Thermal Images for Human Face Identification using Different SVM Kernels", 8th Annual Conference on IEEE Long Island Systems, Applications and Technology (LISAT 2012), Farmingdale, NY, USA, pp. 1-7, May 4, 2012, Print ISBN 978-1-4577-1342-2
47. Ayan Seal, Suranjan Ganguly, Debotosh Bhattacharjee, Mita Nasipuri and Dipak Kumar Basu, "Thermal Human face recognition based on Haar wavelet transform and series matching technique," Proceedings of the Springer International Conference on Multimedia Processing, Communication and Computing Applications, PES Institute of Technology, India, December 13-15, 2012.
48. Parama Bagchi, Debotosh Bhattacharjee, Mita Nasipuri, Dipak Kumar Basu, "A Novel Approach in detecting pose orientation of a 3D face required for face registration", International Conference on Intelligent Infrastructure, 47th Annual National Convention of CSI – 2012.
49. Mrinal Kanti Bhowmik, Debotosh Bhattacharjee, Dipak Kumar Basu, Mita Nasipuri, " Human face Recognition Using Multisource Fusion", Track of Multi Sensor, Multisource Information Fusion:

Architecture Algorithms, and Applications 2012 (DS223) SPIE. Defense, Security and Sensing 2012, 23-27 April 2012, Maryland, USA, Published by SPIE and SPIE Digital Library.

50. Parama Bagchi, Debotosh Bhattacharjee, Mita Nasipuri, Dipak Kumar Basu, "A novel approach to nose-tip and eye corners detection using H-K curvature analysis in case of 3D images," EAIT 2012.

**S. Basu, N. Das, R. Sarkar:**

51. Suchandra Payal, Piyali Chatterjee, Subhadip Basu, Mahantapas Kundu, and Mita Nasipuri. "Comparisons of Different Feature Sets for Predicting Carbohydrate-Binding Proteins From Amino Acid Sequences Using Support Vector Machine." In Proceedings of Seventh International Conference on Bio-Inspired Computing: Theories and Applications (BIC-TA 2012), pp. 519-529. Springer India, 2013.
52. Jhuma Dutta, Subhadip Basu, Debotosh Bhattacharjee, and Mita Nasipuri. "A Neural Network Based Image Watermarking Technique Using Spiral Encoding of DCT Coefficients." In Proceedings of the International Conference on Frontiers of Intelligent Computing: Theory and Applications (FICTA), pp. 11-18. Springer Berlin Heidelberg, 2013.
53. Anupam Banerjee, Sumana Basu, Orachorm Mekkerdchoo, Georges Srzednicki, Mita Nasipuri, and Subhadip Basu. "Automatic classification of *A. paeoniifolius* species from DNA fingerprints of *Amorphophalus* Genus." In Communications, Devices and Intelligent Systems (CODIS), 2012 International Conference on, pp. 580-583. IEEE, 2012.
54. Abhinaba Roy, Navonil Mazumder, Nibaran Das, Ram Sarkar, Subhadip Basu, and Mita Nasipuri. "A new quad tree based feature set for recognition of handwritten bangla numerals." In Engineering Education: Innovative Practices and Future Trends (AICERA), 2012 IEEE International Conference on, pp. 1-6. IEEE, 2012.
55. Sovan Saha, Piyali Chatterjee, Subhadip Basu, Mahantapas Kundu, and Mita Nasipuri. "Improving prediction of protein function from protein interaction network using intelligent neighborhood approach." In Communications, Devices and Intelligent Systems (CODIS), 2012 International Conference on, pp. 584-587. IEEE, 2012.
56. Samir Malakar, Bhagesh Seraogi, Ram Sarkar, Nibaran Das, Subhadip Basu, and Mita Nasipuri. "Two-stage skew correction of handwritten Bangla document images." In Emerging Applications of Information Technology (EAIT), 2012 Third International Conference on, pp. 303-306. IEEE, 2012.
57. Tania Chatterjee, Piyali Chatterjee, Subhadip Basu, Mahantapas Kundu, and Mita Nasipuri. "Protein function by minimum distance classifier from protein interaction network." In Communications, Devices and Intelligent Systems (CODIS), 2012 International Conference on, pp. 588-591. IEEE, 2012.
58. Abhinaba Roy, Nibaran Das, Ram Sarkar, Subhadip Basu, Mahantapas Kundu, and Mita Nasipuri. "Region selection in handwritten character recognition using Artificial Bee Colony Optimization." In Emerging Applications of Information Technology (EAIT), 2012 Third International Conference on, pp. 183-186. IEEE, 2012.
59. Brijesh Kumar Sriwastava, Subhadip Basu, Ujjwal Maulik, and Dariusz Plewczynski. "Prediction of *E. coli* Protein-Protein Interaction Sites Using Inter-Residue Distances and High-Quality-Index

- Features." In Proceedings of the International Conference on Information Systems Design and Intelligent Applications 2012 (INDIA 2012) held in Visakhapatnam, India, January 2012, pp. 837-844. Springer Berlin Heidelberg, 2012.
60. Ayatullah Faruk Mollah, Subhadip Basu, and Mita Nasipuri. "Text detection from camera captured images using a novel fuzzy-based technique." In Emerging Applications of Information Technology (EAIT), 2012 Third International Conference on, pp. 291-294. IEEE, 2012.
  61. Samir Malakar, Sougata Halder, Ram Sarkar, Nibaran Das, Subhadip Basu, and Mita Nasipuri. "Text line extraction from handwritten document pages using spiral run length smearing algorithm." In Communications, Devices and Intelligent Systems (CODIS), 2012 International Conference on, pp. 616-619. IEEE, 2012.
  62. Satadal Saha, Subhadip Basu, and Mita Nasipuri. "License Plate Localization Using Vertical Edge Map and Hough Transform Based Technique." In Proceedings of the International Conference on Information Systems Design and Intelligent Applications 2012 (INDIA 2012) held in Visakhapatnam, India, January 2012, pp. 649-656. Springer Berlin Heidelberg, 2012.
  63. Ankita Banerjee, Sudipta Dey, Shubhankar Parui, Mita Nasipuri and Subhadip Basu, "Design of 3-D Phantoms for Human Carotid Vasculature" accepted for publication at the third ICACC, Kochi, 2013.
  64. Ankita Banerjee, Sudipta Dey, Shubhankar Parui, Mita Nasipuri and Subhadip Basu, "Synthetic reconstruction of human carotid vasculature using a 2-D/3-D interface" accepted for publication at the second ICACCI, Mysore, 2013.

#### **Susmita Ghosh:**

65. B. N. Subudhi, S. Ghosh, and A. Ghosh, "Spatial constraint Hopfield-type neural networks for detecting changes in remotely sensed multitemporal images", International Conference on Image Processing (ICIP), Melbourne, Australia, September 15-18, 2013 (accepted).
66. B. N. Subudhi, S. Ghosh, and A. Ghosh, "Moving object detection using Gaussian background model and Wronskian framework", International Symposium on Pattern Recognition and Image Processing (PRIP 2013), at Second International Conference on Advances in Computing, Communications and Informatics (ICACCI-2013), Mysore, India, August 22-25, 2013 (accepted).
67. A. Mondal, S. Ghosh, and A. Ghosh, "Efficient silhouette based contour tracking", International Symposium on Pattern Recognition and Image Processing (PRIP-2013), at Second International Conference on Advances in Computing, Communications and Informatics (ICACCI-2013), Mysore, India, August 22-25, 2013 (accepted).
68. A. Datta, S. Ghosh and A. Ghosh, "Band elimination of hyperspectral imagery using correlation of partitioned band images," at Second International Conference on Advances in Computing, Communications and Informatics (ICACCI-2013), Mysore, India, August 22-25, 2013 (accepted).
69. A. Mondal, B. N. Subudhi, M. Roy, S. Ghosh, and A. Ghosh, "A study on non-linear classifier based moving object tracking", International Conference on Signal, Image Processing and Pattern Recognition (SPPR-2013), New Delhi, India, May 24-26, 2013.
70. A. Datta, S. Ghosh, and A. Ghosh, "Clustering based Band Selection for Hyperspectral Images", International Conference on Communications, Devices and Intelligent Systems (CODIS), Kolkata, India, pp. 105-108, December 28-29, 2012.



71. A. Halder, A. Dasgupta, and S. Ghosh, "Image Segmentation using Rough-Fuzzy K-medoid Algorithm, International Conference on Communications, Devices and Intelligent Systems (CODIS), Kolkata, India, pp. 109-112, December 28-29, 2012.
72. M. Roy, D. Routaray, and S. Ghosh, "Change Detection in Remotely Sensed Images using an Ensemble of Multilayer Perceptrons, International Conference on Communications, Devices and Intelligent Systems (CODIS), Kolkata, India, pp. 286-289, December 28-29, 2012.
73. M. Roy, S. Ghosh, and A. Ghosh, "Semi-supervised Change Detection for Remotely Sensed Images using Ensemble Classifier", 4th International Conference on Intelligent Human Computer Interaction, Kharagpur, India, pp. 545-549, December 27-29, 2012
74. M. Roy, S. Ghosh, and A. Ghosh, "Search-based Semi-supervised Clustering Algorithms for Change Detection in Remotely Sensed Images", IEEE INDICON 2012, Kochi, India, December 07-09, 2012.
75. N. S. Mishra, S. Ghosh, A. Ghosh, "Combination of Fuzzy Clustering Algorithms for Change Detection in Remote Sensing Images", Third International Conference on Emerging Applications of Information Technology, Kolkata, India, LNCS Vol. No. 7143, November 29- December 01, 2012
76. B. N. Subudhi, S. Ghosh and A. Ghosh, "Object and Shadow separation using Fuzzy Markov Random Field and Local Gray Level Co-occurrence Matrix based Textural Features", 12th International Conference on Intelligent Systems Design and Applications (ISDA 2012), Kochi, India, November 27-29, 2012.
77. M. Roy, S. Das, S. Ghosh, and A. Ghosh, "Semi-supervised Hopfield-Type Neural Network for Change Detection in Remotely Sensed Images", 1st International Conference on Recent Advances in Information Technology, Dhanbad, India, pp. 379-384, March 15-17, 2012.
78. N. S. Mishra, S. Ghosh, and A. Ghosh, "Semi-supervised Fuzzy Clustering Algorithms for Change Detection in Remote Sensing Images", 1st Indo-Japan Conference on Perception and Machine Intelligence (PerMI 2012), Kolkata, India, pp. 269-276, January 12-13, 2012.

#### **D. Book Chapters**

- Sarbani Roy, Ajanta De Sarkar, Nandini Mukherjee, "An Agent based E-learning Framework for Grid", accepted for publication in the Book: e-Learning Paradigms and Applications, Springer, 2013.
- Satadal Saha, Subhadip Basu, and Mita Nasipuri, "Development of a Stop-Line Violation Detection System for Indian Vehicles" In Handbook of Research on Computational Intelligence for Engineering, Science, and Business, IGI Global (2012).
- Sujoy Mistry, Dibyanshu Jaiswal, Sagar Virani, Arijit Mukherjee, Nandini Mukherjee, "An Architecture for Dynamic Web Service Provisioning Using Peer-to-Peer Networks". In Distributed Computing and Internet Technology, Hota, Chittaranjan and Srimani, Pradip K. (Eds.), Lecture Notes in Computer Science (Springer Berlin/Heidelberg), Vol. 7753/2913, 290-301, ISBN 978-3-642-36070-1.
- Suman Sankar Bhunia, Soumen Das, Sarbani Roy, Nandini Mukherjee, "An approach to manage mobility of sensor nodes in Sensor-Grid infrastructure", Elsevier Procedia Technology, Vol. 6, 2012, Pages 754-762, ISSN 2212-0173.

- **Sarbani Roy** and Nandini Mukherjee (2012). "Topology Construction of 3D Wireless Sensor Network". In Meghanathan, Natarajan and Nagamalai, Dhinakaran and Chaki, Nabendu (Eds.), Advances in Computing and Information Technology (pp. 533-542), Advances in Intelligent Systems and Computing series, vol 176, Springer Berlin Heidelberg. ISBN 978-3-642-31512-1.
- Subrata Dutta, Nandini Mukherjee, Monideepa Roy, Sarmistha Neogy (2012). "Efficient Path Selection to Propagate Data Message for Optimizing the Energy Dissipation in WSN". In Meghanathan, Natarajan and Nagamalai, Dhinakaran and Chaki, Nabendu (Eds.), Advances in Computing and Information Technology (pp. 533-542), Advances in Intelligent Systems and Computing series, vol 176, Springer Berlin Heidelberg. ISBN 978-3-642-31512-1.
- Saumini Kar, Ajanta De Sarkar, and Nandini Mukherjee (2012), "An Integrated Framework in Geographic Information System using Wireless Sensor Network", IJCA Proceedings on International Conference on Recent Advances and Future Trends in Information Technology (iRAFIT 2012) pages 13-18, April 2012. Published by Foundation of Computer Science, New York, USA.

#### 5. Collaborative Programmes : Ujjwal Maulik:

Visited German Cancer Research Centre (DKFZ), Germany in 2012 as a Humboldt Fellow.

#### Susmita Ghosh:

1. Acting as local coordinator on behalf of Jadavpur University for Erasmus Mundus Action 2 Project India for EU II selected under EACEA 42/11 Lot 11 (URL: [www.india4eu.eu](http://www.india4eu.eu)) Funding agency: European Union Duration: 15.07.2012 – 14.07.2016 Amount: 2,999,025 Euro
2. Acting as local coordinator on behalf of Jadavpur University for Erasmus Mundus Project India for EU selected under EACEA/ 35/08 Lot (URL: [www.india4eu.eu](http://www.india4eu.eu)) Funding agency: European Union Duration: 15.07.2009 – 14.07.2013 Amount: 4,680,000 Euro

#### Subhadip Basu:

A collaborative project with University of New South Wales (Australia) and Chulalongkorn University (Thailand) as partners working on "Image Analytic Approaches to DNA Fingerprint based species classification".

#### Sivaji Bandyopadhyay:

Dean, Faculty of Engineering and Technology, Jadavpur University

#### Ujjwal Maulik:

Awarded Senior Associate, The Abdus Salam International Centre for Theoretical Physics (ICTP (<http://assoc.ictp.it/associateship-scheme/list-associates/>), Italy, since 2012.

#### Nandini Mukherjee:

Recipient of NSF/IEEE-TCPP Early Adopter Awards for Curriculum Initiative on Parallel and Distributed Computing in Spring 2012.

#### Sarbani Roy:

1. Awarded Fulbright-Nehru Senior Research Fellowship 2013-2014.
2. Awarded UGC RAMAN Postdoctoral Fellowship 2013-2014.
3. Awarded cLink (with the support of Erasmus Mundus Programme of the European Union) Postdoctoral Fellowship 2012-2013

**Subhadip Basu:**

1. Received EMMA West Post-Doctoral fellowship awarded by European Union, at University of Warsaw, Poland, from Oct 2012 to Dec 2012.
2. US Patent:  
Satadal Saha, Subhadip Basu, Mita Nasipuri, and Dipak Kumar Basu. "Image binarization based on grey membership parameters of pixels." U.S. Patent 8,406,554, issued March 26, 2013.

**CONSTRUCTION ENGINEERING  
(SALT LAKE)**

Phone : +91-33-2335-5211  
 Int. : 6116  
 H.O.D. : Prof. Subhajit Saraswati  
 E-Mail : hod@const\_jusl.ac.in/ssaraswati@const.jusl.ac.in

**1. A. Course Offered:**

Name of the course	:	Bachelor of Construction Engineering
Duration of course	:	4 Years
No of students enrolled	:	38
Name of the course	:	M.E (Structural Repair & Retrofit Engineering)
Duration of course	:	3 Years
No of students enrolled	:	18

**1. B. Number of Faculty Members (Permanent) : 08**

**2. A. Area of Research Activities (Board Areas):**

Structural Health Monitoring  
 Non-destructive Evaluation and Restoration of Structures  
 Concrete Technology – High Performance Concrete  
 Highway Engineering – Pavement Design  
 Geo-Environmental Engineering – Phytoremediation of Heavy Metals

**2. B. Major Research Project :**

Coordinator	:	Prof. P.P. Biswas & Prof. S. Saraswati
Name of the Project	:	High Performance Concrete with Blended Cement
Funding Agency	:	AERB
Coordinator	:	Dr. K. Bandyopadhyay

Name of the Project	:	Study on the Feasibility of Removal Inorganic Toxic contaminants from water and waste water using coagulation –Flocculation method.
Funding Agency	:	Department of Environment, Govt of WB

Coordinator : Dr. D. Bandyopadhyay

Name of the Project : Comparative Study on Risk & Vulnerability of Earthquake in Different Cities / Countries

Funding Agency : Tata Steel Company Limited

3. A. **Invited Lectures Delivered / Sessions Chaired:**

Name of the Teacher /Type of Participants / Name of the Seminar/Conference Place/ Duration :

**Dr. S. Saraswati** co-chaired Technical Session – IV on Concrete Corrosion in Sixteenth National Congress on “**Corrosion Control**”, organized by National Corrosion Council of India at Kolkata, August 2012.

**Dr. S. Saraswati** delivered an invited lecture on ‘Concrete Durability and Related issues’ during Concrete Day Celebration at Indian Concrete Institute, Manipur Centre in September 2012.

**Dr. S. Saraswati** delivered an invited lecture to engineers of McNally Bharat Engg. Co. Ltd. On Repair and Rehabilitation of Structures in August 2012.

**Dr. Debasish Bandyopadhyay** delivered an invited talk on “Modern Concrete – An Engineered Material” in the Workshop on “Recent Trends in Engineering Materials (RTEM-2013) at Satyasai Engineering College, Balasore, Odisha on 14<sup>th</sup> September, 2013.

**Dr. Debasish Bandyopadhyay** delivered an invited talk on “Structural Engineering for Infrastructural Development” in the National Seminar on “Infrastructure Development in West Bengal”, organized by Alliah University, Kolkata on 1<sup>st</sup> June, 2013.

**Dr. Debasish Bandyopadhyay** delivered an invited lecture on “Seismic Design: Earthquake Resistant Structure” at the ‘Centre of Excellence’ program in Patna on 16<sup>th</sup> March 2013.

**Dr. Debasish Bandyopadhyay** delivered an invited lecture on “Structures in the New Millennium” at Brainware Engineering College, Sabita Devi Educational Trust, Barasat on 5<sup>th</sup> February, 2013.

**Dr. Debasish Bandyopadhyay** delivered invited lecture series on “Basic Concrete Technology, Corrosion Damage Management of Concrete, Quality Control and Seismic Resistant Design and Construction”, to the Engineers at “Three Weeks Training on Harbour Engineering & Equipment Management” December 07 - 27, 2012 at Andaman Lakshadweep Harbour Works, Port Blair

**Dr. Debasish Bandyopadhyay** delivered an invited lecture on “Structural Health Monitoring by Statistical System Identification Technique using Limited Static & Dynamic Data”, Workshop on Structural Health Monitoring and Rehabilitation, to be held at BITS Pilani, from 19 – 20 September, 2012.

**Prof.P.P.Biswas** : Delivered two Special lectures in orientation course organized by Academic Staff College –Jadavpur University on ‘Technology Adaptation and Sustainable Development’

**Dr. K.Bandyopadhyay** ,delivered special lectures on ‘Construction safety” in a Short Term Certificate Course on Safety Management, Jadavpur University

**B. Seminar/Workshop/Conference/Symposium Attended :**

**Dr. D. Bandyopadhyay** participated in Sixteenth National Congress on “**Corrosion Control**”, organized by National Corrosion Council of India at Kolkata, August 2012.

**Prof. S. Saraswati** participated in Sixteenth National Congress on “**Corrosion Control**”, organized by National Corrosion Council of India at Kolkata, August 2012.

**C. Seminar/Workshop/Conference/Symposium Organized :**

Technical Seminar (National) on Corrosion in Civil Engineering Structures-Awareness and Mitigation of corrosion in association with Indian Concrete Institute (2012)

Collaborative Training program for skill development of technical personnel with Indian Concrete Institute (2012)

**4. A Books/Monographs etc. Published:**

8<sup>th</sup> reprint of Book Construction Technology, by **SARKAR and SARASWATI** published by Oxford & IBH

**B. Articles Published in Journals/ Conference proceedings in the Year 2012-13**

**Debasish Bandyopadhyay, J. S. Ali & S. Sengupta** (2012), “Repair & Retrofitting of an Age Old Historical Masonry Structure affected by Sikkim Earthquake 2011” International Conference on Earthquake Resistance Construction Practices (ICERCP), 2012, Dr. M.G.R. University, Chennai, 27-28 July, 2012.

**Debasish Bandyopadhyay, J. S. Ali, S. Sengupta & S. Gupta** (2012), “Seismic Evaluation of Masonry Structure damaged by Recent Sikkim Earthquake 2011” International Conference on Earthquake Resistance Construction Practices (ICERCP), 2012, Dr. M.G.R. University, Chennai, 27-28 July, 2012.

**Debasish Bandyopadhyay (2012)**, “Corrosion Problem of Reinforced Concrete Structure at Sundarban Delta Region of West Bengal”, 16<sup>th</sup> National Conference on Corrosion Control, SNCE, Saltlake, Kolkata, 23-25 August, 2012.

**Debasish Bandyopadhyay & Swarnava Ghosh** (2012) “Parameter Identification of Plate Structures using Sensitivity Analysis and Inverse Static Approach incorporating Displacement Matrix Error Function”, accepted in 3<sup>rd</sup> Asian Conference on Mechanics of Functional Materials & Structures (ACMFMS), IIT Delhi, 5-12 December, 2012.

**Debasish Bandyopadhyay, J. S. Ali, S. Sengupta & S. Gupta** (2012), “Computational Study of Damaged Real-life Stone Masonry Structure under Earthquake Load for effective Retrofit”, accepted in International Conference on Computational Mechanics and Simulation (ICCMS), to be held at IIT Hyderabad, 10-12 December, 2012.

**Debasish Bandyopadhyay & Swarnava Ghosh** (2012) “Parameter Identification of Plate Structures from Incomplete Noisy Static Test Data” “, accepted in International Conference on Computational Mechanics and Simulation (ICCMS), to be held at IIT Hyderabad, 10-12 December, 2012.

**Debasish Bandyopadhyay & Suprateek Roy** (2012) “Damage Identification of Truss from Limited Static Data”, accepted in International Conference on Computational Mechanics and Simulation (ICCMS), to be held at IIT Hyderabad, 10-12 December, 2012.

**Debasish Bandyopadhyay, Ahana Mukherjee & N. P. Banerjee** (2012), “Numerical study on Shape Optimisation of Super Adobe Structure against wind load due to Cyclone”, accepted in

International Conference on Computational Mechanics and Simulation (ICCMS), to be held at IIT Hyderabad, 10-12 December, 2012.

**H.Guha, B.Thakur, P.P.Biswas (2013)**, : 'Construction Safety Management Climate in Kolkata'. Journal of International Business Research (Accepted for publication)

**H.Guha, P.P.Biswas (2013)** : 'Measuring Construction Site Safety in Kolkata'. International Journal of Scientific and Engineering Research, V-4, No-5, 2013

**D.Majumdar, S.Saraswati, P.P.Biswas, S.Choudhury (2013)** : 'Relationship of Strength, cementitious material and water for proportioning Portland slag cement based concrete'. Indian Concrete Journal , March2013, Vol-87, No-3, pp 35-41.

**D. Majumdar, S. Saraswati, P. P. Biswas and S. Chowdhury (2013)** : "Revalidating Strength – Cementitious material – Water relationship for proportioning portland pozzalana cement concrete", The Indian Concrete Journal, , Vol.87, No. 7, pp. 50-53.

**Sunanda Bhattacharjee, Swarnava Ghosh Kaushik Bandyopadhyay** Computational Study on the effects of tannery wastewaters on highway flyash embankment", 2012.,. Proc. Indian Geotech Conf., New Delhi, Volume II, pp 723-726.

**P. Ghosh & K. Ghosh** "Effect of synthesizing parameters on compressive strength of flyash based geopolymer paste" . International Journal of Structural and Civil Engineering. ISSN : 2277-7032 Volume 1 Issue 8 (August 2012).

**P. Ghosh & K. Ghosh**, "Effect of %Na<sub>2</sub>O and %SiO<sub>2</sub> on Apperent Porosity And Sorptivity of Flyash Based Geopolymer" JOSR (Journal of Engineering JEN). ISSN 2250-3021, Volume -2, issue 8(August 2012), pp96-101

**S Thokchom, P. Ghosh and S. Ghosh** "Sorptivity of Fly ash Based Geopolymer Pastes and Mortars" WULFENIA JORNAL, Klagenfunt, Austria ,ISSN:1561-882X. Vol.19.No.10.Oct.2012.

5. **Collaborative Programmes:**

"Comparative Study on Risk & Vulnerability of Earthquake in Different Cities / Countries" funded by Tata Steel Company Limited, 2012.

Association of Corrosion Engineers , for research and training of industrial peoples, at Dept of Construction Engineering, Jadavpur University.

MoU with Irrigation & Waterway Department of the Government of West Bengal and Jadavpur University for carrying out the evaluation study on flood related scheme of the "Raising & strengthening of Sundraban Embankment. **Collaborative Programmes:** "Comparative Study on Risk & Vulnerability of Earthquake in Different Cities / Countries" by **Dr. D. Bandyopadhyay** funded by **Tata Steel Company Limited, 2012.**

Collaborated with 'Association of Corrosion Engineers', for research and training of industrial peoples, Dept of Construction Engineering, Jadavpur University.

Collaborated with Indian Concrete Institute & ACC Limited for Training of Masson on "Good Construction Practices", Dept of Construction Engineering, Jadavpur University, August, 2012.

6. **Major Achievements:**

In collaboration with Indian Concrete Institute , the Students Chapter of ICI (Eastern zone ) has been opened at Dept of Construction Engineering.

**Prof.P.P.Biswas** is acting as Coordinator- State Technical Agency(STA) for Murshidabad and North 24 pgs to look after the PMGSY Road network plan under West Bengal State Rural Development Agency(WBSRDA) & National Rural Road Development Agency(NRRDA)

Dr. S. Saraswati has been elected as honorary Vice President of Indian Concrete Institute.

## **ELECTRICAL ENGINEERING**

Phone : + 91-33-2414-6163  
Fax : + 91-33-2414-6168  
Int. : 2457-2539  
H.O.D. : Prof.Nirmal Kr. Deb  
E-mail : hod@ee.jdvu.ac.in

### **1. A. Courses Offered:**

Course Name	Duration	No. of Students Enrolled
1. B.E.E.	4 Yrs.	112
2. B. E. E. (Evening)	5 Yrs.	48
3. M. E. E.	2 Yrs.	30
4. M. C. S. E.	2 Yrs.	16
5. M.E. Illumination Engg.	2 Yrs.	20
6. Ph.D.		

## **CONTROL SYSTEM SECTION**

### **1. B. Number of Faculty Members: 05 (Five)**

### **2. A. Areas of Research Activities:**

- Design and research in the areas of Real Time Computer Control Systems and Safety Critical and High Consequence software
- Estimation and filtering techniques
- Design review and audit of aero engine control system, aircraft stabilization, railway signaling and interlocking systems.

### **B. Major Research Projects :**

Name of the Project: "Devices and Systems" subgroup under University with Potential for Excellence (UPE) – Phase II Programme, Jadavpur University, Kolkata, India

Funding Agency / Sponsor: UGC, India

Faculty Members involved: **Dr. Madhubanti Maitra** "Devices and Systems" subgroup

Project Status: On-going

Name of the Project: Fault Detection and Identification for Nonlinear Hybrid Plants

Funding Agency / Sponsor: Advanced System Laboratory, DRDO, Hyderabad

Faculty Members involved: **Dr. Smita Sadhu**

Project Status: On-going

### **4. A. Books/Monographs etc. Published:**

1. **S. Rudra, R. K. Barai, M. Maitra**, "Stabilization of TORA System: A Backstepping Based Hierarchical Sliding Mode Approach with Disturbance Estimation", *in the proc. ICECIT 2012*, Publisher: Elsevier Science Technology (ISBN: 9789351070504), pp. 141-150, 2012.
2. **S. Rudra, R. K. Barai, M. Maitra**, "Design of Nonlinear State Feedback Control Law for Rotating Pendulum System: A Block Backstepping Approach", *in the proc. ICECIT 2012*, Publisher: Elsevier Science Technology (ISBN : 9789351070504), pp. 133-140, 2012.

**B. Articles Published/Accepted in Journals (April, 2012 – March, 2013):**

1. Paul, M.Maitra, S. Mandal, S. K. Sadhukhan, D.Saha, , "A Sustainable and Collaborative Strategy for Dynamic Spectrum Management in Next Generation Wireless Networks", *International Scientific Journal of Engineering Applications of Artificial Intelligence*, Elsevier, vol. 26, pp1620-1630, 2013.
2. S. Rudra, R.K.Barai, M.Maitra,S.Ghosh, S.Dam, P.Bhattacharya, A.Dutta, "Guaranteed Anti-Sway Operation of an Overhead Crane: A Cascaded Backstepping Approach", *Journal of Control Engineering and Technology*, vol. 3, issue 1, pp. 8-11, 2012.
3. S.Rudra, R.K.Barai, M.Maitra, R.K.Dewan, P.Mandal, D.Mandal, K.K.Kowdiki, "Robust Synchronization of Duffing System Using Integral Action in Backstepping Design", *IEM International Journal of Management and Technology*, vol. 2, no. 2, pp 58-61, 2012.
4. S.Rudra, R.K.Barai, M.Maitra, R.K.Dewan, P.Mandal, D.Mandal, K.K.Kowdiki, "Robust Synchronization of Duffing System Using Integral Action in Backstepping Design", *IEM International Journal of Management and Technology*, vol. 2, no. 2, pp 58-61, 2012.
5. P. Mandal, R. K. Barai, M. Maitra, "VORONOI Coverage in Swarm Robot Position Control: A New Approach", *IEM International Journal of Management and Technology*, vol.2, no.1, pp. 29-32, 2012.

**5. Interaction With Other Institutions/Organizations**

- Prof.Smita Sadhu is a Member of the Expert Committee for the review of existing programs under SAP, UGC and attended a review meeting at UGC, New Delhi on 24 September, 2012.
- Prof. Smita Sadhu was a member of the International Liaison Committee for the 15<sup>th</sup> International Conference on Information Fusion (Fusion 2012) held at Singapore during 9-12 July 2012.
- Prof. Smita Sadhu was a member of the Technical Program Committee for the 15<sup>th</sup> International Conference on Information Fusion (Fusion 2012) held at Singapore during 9-12 July 2012.
- Prof Smita Sadhu acted as External Examiner for evaluation of M.E. thesis at the Department of Electrical Engineering, BESU, Howrah in April, 2012.
- Prof Smita Sadhu is an External expert for the Ph.D. Committee of two candidates enrolled at the Department of Electrical Engineering, BESU, Howrah.
- Prof.T.K. Ghoshal has chaired meetings at DRDL/RCI/ASL Hyderabad.
- Prof.T.K. Ghoshal attended DRDO review meetings at Bangalore.
- Prof.T.K. Ghoshal is Member, Academic Committee of Jagadish Bose National Science Talent Search.



- Prof. Smita Sadhu acted as reviewer for IEEE Transactions on Aerospace and Electronic Systems, IEEE Transactions on Control Systems Technology, Elsevier Aerospace Science and Technology and many IEEE conferences.
- Prof.Smita Sadhu has attended a Project Review meeting at DRDL Hyderabad on 28 August, 2012.

**6. Major Achievements:**

- Prof. Tapan Kumar Ghoshal (Hon. Emeritus Professor, EE Deptt.) has been awarded the prestigious DRDO Academy Excellence Award, 2012 for evolving processes for independent verification and validation of control laws for the Indian Light Combat Aircraft (LCA) and his contributions to the field of control and guidance of Indian missiles and combat aircrafts.
- Best paper award at ICECIT 2012 conference (S. Rudra, R.K. Barai, M.Maitra, "Design of Nonlinear State Feedback Control Law for Rotating Pendulum System: A Block Backstepping Approach", ICECIT 2012).

***ELECTRICAL MACHINES AND DRIVES SECTION***

**1. B. Number of Faculty Members:** 09 (Nine)

**2. A. Area of Research Activities:**

- Design , Analysis & Modeling of Electric Motors & Drives
- Ferro-resonance
- Electromagnetic Fields
- Power Electronics

**B. Major Research Projects:**

Name of the Teacher asCoordinator/Principal Investigator-Title of theProject -Durationofthe Project-Funding Agency-Sanction Date-Amountand otherparticulars

Debashis Chatterjee-Reduction of Torque Ripple for Sensorless Controlof BLDC Motors suitable for Electric Vehicular Application-3 years-UGC, Major Research Project Scheme-12.01.2010-Rs.10,79,300/

**4. B. Articles Published/Accepted in Journals (April, 2012 – March, 2013):**

**International Journals, National Journals:**

1. A. Banerjee, S. K. Biswas and B. Singh, "DSTATCOM application for mitigation of voltage sag caused by dynamic loads in autonomous systems", International Journal of Power Electronics and Drive Systems, vol 2, no. 2, pp 232-240, June 2012.
2. A. Banerjee, S. K. Biswas and B. Singh, "DSTATCOM control algorithms : a review", International Journal of Power Electronics and Drive Systems, vol 2, no. 3, pp 285-296, Sept 2012.
3. S. Mukhopadhyay, S. K. Biswas and N. K. Deb, "A simple sector independent Space Vector modulation using DSP processor", International Journal of Power Electronics and Drive Systems, vol 2, no. 3, pp 297-304, Sept 2012.

4. S. Dutta, D. Maiti, A. K. Sil and S. K. Biswas, "A soft-switched flyback converter with recovery of stored energy in leakage inductance", Proceedings of India International Conference on Power Electronics 2012, N. Delhi, India, Dec. 2012, paper no. 16, available in IEEE Xplore.
5. D. Maiti and S. K. Biswas, "A simple and generalized design procedure for inductors in power electronics", Proceedings of the IEEE PEDES 2012, Bangalore, India, Dec 2012, Paper ID 254, available in IEEE Xplore.
6. **D. Chatterjee**, "A Magnetization Curve Based Stator Resistance and Fuzzy Rotor Resistance Adaptation Technique Suitable for Speed Sensorless Field-oriented Control of Induction Machine" Electric Power Components and Systems 40 (16), 1789-1807, Nov. 2012.
7. **D. Chatterjee**, "A Simple Leakage Inductance Identification Technique for Three-Phase Induction Machines Under Variable Flux Condition", Industrial Electronics, IEEE Transactions on 59 (11), 4041-4048, Nov. 2012.

### **MEASUREMENTS AND INSTRUMENTATION SECTION**

**1. B. Number of Faculty Members:** 07 (Seven)

**2. A. Areas of Research Activities:**

- Sensors and Transducers
- Process Instrumentation
- Intelligent Instrumentation and Control
- Signal Processing
- Image Processing
- Robotics and Artificial Intelligence
- Embedded Systems
- Condition Monitoring

**2. B. Major Research Projects:**

Name of the Project : "Devices and Systems" subgroup under University with Potential for Excellence (UPE) – Phase II Programme, Jadavpur University, Kolkata, India

Funding Agency / Sponsor: UGC, India

Faculty Members involved: **Dr. Amitava Chatterjee** as Joint-Coordinator, "Devices and Systems" subgroup

Project Status: On-going

Name of the Project : "Devices and Systems" subgroup under University with Potential for Excellence (UPE) – Phase II Programme, Jadavpur University, Kolkata, India

Funding Agency / Sponsor: UGC, India

Faculty Members involved: **Dr. Debangshu Dey** as Member Investigator, "Devices and Systems" subgroup

Project Status: On-going

Name of the Project : Development of an Insulation Diagnostic System based on Arbitrary Waveform Dielectric Response Analysis

Funding Agency / Sponsor:DST, GOI  
Faculty Members involved:**Dr. D.Dey** as Co- Investigator  
Project Status:On-going

Name of the Project : Development of an Expert System integrated in novel PDC-RV Measurement Apparatus for Insulation Condition Monitoring of Transformer  
Funding Agency / Sponsor: NTPC Ltd  
Faculty Members involved: **Dr. D.Dey** as Co- Investigator  
Project Status: Completed

Name of the Project : Condition Monitoring of Biomedical Systems  
Funding Agency / Sponsor: Prof. A.K. Chatterjee Distinguished Research Grant, JU  
Faculty Members involved: **Dr. D. Dey** as Principal Investigator  
Project Status: On-going

**3. A. Invited lectures delivered/Session Chaired:**

- **Prof. Sugata Munshi** delivered an invited lecture on “Programmable Logic Controllers” organized by IEEE Kolkata Section, Power & Energy Chapter, at Netaji Subhas Engg. College, Kolkata, in October 2012.
- **Dr. Amitava Chatterjee** delivered an invited lecture on “Vision Based Autonomous Robot Navigation” in **National Conference on “Control, Sensor, Transducer and Signal Processing” (CSTS-2012)** organized by B.P. Poddar Institute of Management & Technology, Kolkata, India in April, 2012.
- **Dr. Debangshu Dey** delivered an invited lecture on “Transducer Technology: from basics towards frugal research” **organized by Institute of Engineering and Management under TEQIP Phase II Faculty Development Programme, Kolaghat, 02 Feb, 2013.**

**C. Seminar/Workshop/Conference/Symposium Organized:**

1. **Dr. Debangshu Dey** has organized a Lecture Meeting on “**Distributed Camera Networks – The Integration of Computer Vision and Control Theory**” on Dec. 2012 at Electrical Engineering Department Jadavpur University, Kolkata 700032.

**4. A. Books/Monographs etc. Published:( Sl. No. Book Title Publisher Year of Publication)**

1. Amitava Chatterjee and Patrick Siarry (Eds.), *Computational Intelligence in Image Processing* ISBN: 978-3-642-30620-4 (Print) 978-3-642-30621-1 (Online) Springer-Verlag GmbH Heidelberg, Germany, Publishers 2013
2. Amitava Chatterjee, Anjan Rakshit, and N. Nirmal Singh, *Vision Based Autonomous Robot Navigation: Algorithms And Implementations*, ISBN: 978-3-642-33964-6 (Print) 978-3-642-33965-3 (Online) Springer-Verlag GmbH Heidelberg, Germany, Publishers 2013

**B. Articles Published/Accepted in Journals (April, 2012 – March, 2013):**

**International Journals:**

1. Soma Biswas, **Amitava Chatterjee**, and Swapan Kumar Goswami, “An artificial bee colony-least square algorithm for solving harmonic estimation problems,” Accepted for publication in *Applied Soft Computing*, (Impact Factor: 2.612), Elsevier publishers.

2. Ankush Chakrabarty, Suvadeep Banerjee, Sayan Maity, and **Amitava Chatterjee**, "Fuzzy model predictive control of non-linear processes using convolution models and foraging algorithms," Accepted for publication in *Measurement*, (Impact Factor: 0.836), Elsevier publishers.
3. Ankush Chakrabarty, Harsh Jain, and **Amitava Chatterjee**, "Volterra kernel based face recognition using artificial bee colony optimization," *Engineering Applications of Artificial Intelligence*, (Impact Factor: 1.665), Elsevier publishers, vol. 26, issue 3, pp. 1107-1114, March 2013.
4. Th. Suka Deba Singh and **Amitava Chatterjee**, "MMSE design of nonlinear Volterra equalizers using artificial bee colony algorithm," *Measurement*, (Impact Factor: 0.836), Elsevier publishers, vol. 46, issue 1, pp. 210-219, January 2013.
5. Ilhem Boussaïd, **Amitava Chatterjee**, Patrick Siarry, and Mohamed Ahmed-Nacer, "Biogeography based optimization for constrained optimization problems," *Computers & Operations Research*, (Impact Factor: 1.720), Elsevier publishers, vol. 39, issue 12, pp. 3293-3304, December 2012.
6. **Amitava Chatterjee**, Patrick Siarry, Amir Nakib, and Raphael Blanc, "An improved biogeography based optimization approach for segmentation of human head ct-scan images employing fuzzy entropy," *Engineering Applications of Artificial Intelligence*, (Impact Factor: 1.665), Elsevier publishers, vol. 25, pp. 1698-1709, December 2012.
7. Kaushik Das Sharma, **Amitava Chatterjee**, and Anjan Rakshit, "A PSO-Lyapunov hybrid stable adaptive fuzzy tracking control approach for vision based robot navigation," *IEEE Transactions on Instrumentation and Measurement*, (Impact Factor: 1.214), vol. 61, no. 7, pp. 1908-1914, July 2012.
8. Kaushik Das Sharma, **Amitava Chatterjee**, and Anjan Rakshit, "A random spatial lbest PSO-based hybrid strategy for designing adaptive fuzzy controllers for a class of nonlinear systems," *IEEE Transactions on Instrumentation and Measurement*, (Impact Factor: 1.214), vol. 61, no. 6, pp. 1605-1612, June 2012.
9. S. Dalai, B. Chatterjee, **D. Dey**, S. Chakravorti and K. Bhattacharya, "Rough Set Based Feature Selection and Classification for Power Quality Sensing Device Employing Correlation Techniques," *IEEE Sensors Journal* (Impact Factor 1.52), Vol. 13, Issue 2, pp. 563 – 573 , 2013.
10. B. Koley, **D. Dey**, "An Ensemble System for Automatic Sleep Stage Classification using Single Channel EEG Signal," *Computers in Biology and Medicine- Elsevier* (Impact Factor 1.089), Vol. 42, Issue 12, pp. 1186–1195, 2012.
11. S. Biswas, B. Chatterjee, **D. Dey** and S. Chakravorti, "An Approach Based on Rough Set Theory for Identification of Single and Multiple Partial Discharge Source", *International Journal of Electrical Power and Energy Systems- Elsevier* (Impact Factor 2.247), Vol. 46, pp. 163-174, 2013.
12. B. Koley, **D. Dey**, "Automatic detection of Sleep Apnea and Hypopnea Events from Single Channel Measurement of Respiration Signal Employing Ensemble Binary SVM Classifiers," Accepted in *Measurement*, ELSEVIER (Impact Factor 0.84) Paper No. MEAS-D-12-00342R1.
13. B. Koley, **D. Dey**, "On-line Detection of Apnea/Hypopnea Events Using SpO2 Signal: A Rule-based Approach Employing Binary Classifier Models," Accepted in *IEEE Journal of Biomedical and Health Informatics*, Manuscript No. TITB-00057-2013.R1, 2013.
14. S. Sarkar, T. Sharma, A. Baral, B. Chatterjee, **D. Dey**, S. Chakravorti, "A new approach for determination of moisture in paper insulation of in-situ power transformers by combining

Polarization-Depolarization Current and Return Voltage Measurement results" Accepted in IEEE Transactions on Dielectrics and Electrical Insulation, Paper No. 3614, 2013.

#### Book Chapters:

1. Ilhem Boussaid, **Amitava Chatterjee**, Patrick Siarry, and Mohamed Ahmed-Nacer, "Hybrid BBO-DE algorithms for fuzzy entropy-based thresholding," in the book Amitava Chatterjee, Patrick Siarry (Eds.), *Computational Intelligence in Image Processing*, Springer-Verlag Berlin Heidelberg Publishers, pp. 37-69, 2013, DOI: 10.1007/978-3-642-30621-1\_3.
2. Nandita Sanyal, **Amitava Chatterjee**, and **Sugata Munshi**, "Modified bacterial foraging optimization technique for vector quantization-based image compression," in the book Amitava Chatterjee, Patrick Siarry (Eds.), *Computational Intelligence in Image Processing*, Springer-Verlag Berlin Heidelberg Publishers, pp. 131-152, 2013, DOI: 10.1007/978-3-642-30621-1\_7.

#### Conference Papers:

1. "A comparative study on tea samples classification by E-Tongue using Crosscorrelation based PCA , PCA and Shamon's Nonlinear mapping method ", **Palash Kundu** & Madhusree Kundu, 7th International Conference on Electrical & Computer Engineering , (ICECE 2012), sponsored by IEEE, Dhaka, Bangladesh, December 20-22
2. S. Sarkar, T. Sharma, A. Baral, B. Chatterjee, **D. Dey**, S. Chakravorti, "Condition Assessment of in-situ Generator Transformers by Frequency Domain Analysis using Time Domain data", Proc. Of IEEE ICPADM 2012, Bangalore, Paper No. 33, July 24-28, 2012.
3. B.Koley, **D.Dey**, "Detection of Characteristic Waves of Sleep EEG by Continuous Wavelet Transform", Proc. Of National Conf. on Computing and Communication systems, Paper no. 203, NCCCS-2012, Durgapur, WB, Nov. 2012.
4. B.Koley, **D.Dey**, "Automated Apnea and Hypopnea Event Detection System", Proc. Of Third International Conference on Emerging Applications of Information Technology (EAIT 2012), ISI, Kolkata, pp. 85-88, Nov.-Dec. 2012.
5. S. Mitra, **D.Dey**, "Frequency Response Analyzer for SISO Systems Employing PC Soundcard Interface", Proc. Of National Conf. on Computing and Communication systems, Paper no. 203, NCCCS-2012, Durgapur, WB, Nov. 2012.
6. B. Koley and **D. Dey**, "Selection of features for detection of obstructive sleep apnea events," IEEE Conf. INDICON 2012, India, pp. 991-996, 2012.
7. B.Koley, **D.Dey**, "Adaptive classification system for real-time detection of apnea and hypopnea events", Proc. Of Point-of-Care Healthcare Technologies (PHT), 2013 (IEEE PHT 2013), Bangalore, pp. 42-45, Jan. 2013.

#### 6. Major Achievements:

- **Dr. Amitava Chatterjee** received Certificate of Appreciation from IEEE Vehicular Technology Society as Top Associate Editor "for outstanding contributions in 2012 to IEEE Transactions on Vehicular Technology".
- **Dr. Amitava Chatterjee** was newly appointed as an *Associate Editor of IEEE Transactions on Instrumentation and Measurement* in January 2013.
- **Dr. Amitava Chatterjee** was newly appointed as an *Associate Editor of IEEE Sensors Journal* in February 2013.

- **Dr. Amitava Chatterjee** was newly appointed as an *Associate Editor of Control Engineering Practice* Journal, Elsevier Publishers, in September 2012.
- **Dr. Amitava Chatterjee** continues to serve as an *Editor of IEEE Transactions on Vehicular Technology*.
- **Dr. Debangshu Dey** has got one US Patent Granted, Titled "Remote Monitoring System" **US Patent Application No. 12/568,000, Grant No. 8339279 on Dec 2012.**

### **HIGH VOLTAGE ENGINEERING SECTION**

**1. B. Number of Faculty Members** : 06 (Six)

**2. A. Area of Research Activities:**

- a) Condition monitoring of large electrical equipments
- b) Computer aided design and optimization of insulation systems
- c) Numerical field computations
- d) Signal conditioning in high voltage systems
- e) Partial discharge measurements and instrumentation
- f) Identification of transformer insulation failure

**B. Major Research Projects:**

1. Name of the Project: Development of an Insulation Diagnostic System based on Arbitrary Wave form Dielectric Response Analysis  
Funding Agency: DST, GOI  
Principal Investigator : Prof. Sivaji Chakravorti
2. Name of the Project: Development of an Expert System integrated in novel PDC-RV Measurement Apparatus for Insulation Condition Monitoring of Transformer  
Funding Agency: NTPC Ltd  
Principal Investigator : Prof. Sivaji Chakravorti

**3. A. Invited Lectures Delivered/Session Chaired:**

1. Name of the Teacher: Prof. Sivaji Chakravorti  
Type of Participants: Academicians, Researchers and Graduate Students  
Name of the Seminar/ Conference/Topic : Gas Insulated Transmission Lines  
Date and Venue : 30.04.2013VNR Vignana Jyothi Institute of Engineering & Technology, Hyderabad
2. Name of the Teacher: Prof. Sivaji Chakravorti  
Type of Participants: Practicing Engineers, Academicians, Researchers and Graduate Students  
Name of the Seminar/ Conference/Topic : Keynote address in the 1st National Conference on Power Electronics Systems and Applications (PESA 2013) on "A New Educational Perspective based on Power Quality Research"

Date and Venue : 16.03.2013National Institute of Technology, Rourkela

3. Name of the Teacher:Prof. Sivaji Chakravorti  
Type of Participants: Session Chaired  
Name of the Seminar/ Conference/Topic :1st National Conference on Power Electronics Systems and Applications (PESA 2013)  
Date and Venue : 16.03.2013National Institute of Technology, Rourkela
4. Name of the Teacher:Prof. Sivaji Chakravorti  
Type of Participants: Academicians, Researchers and Graduate Students  
Name of the Seminar/ Conference/Topic :Plenary Talk in the 1st International Conference on Power & Energy (ICPEN2012) on "Gas Insulated Transmission Lines"  
Date and Venue : 29.12.2012North-Eastern Regional Institute of Science & Technology, Arunachal Pradesh
5. Name of the Teacher:Prof. Sivaji Chakravorti  
Type of Participants: Session Chaired  
Name of the Seminar/ Conference/Topic :1st Int. Conf on Power & Energy (ICPEN 2012)  
Date and Venue :28.12.2012North-Eastern Regional Institute of Science & Technology, Arunachal Pradesh
6. Name of the Teacher:Prof. Sivaji Chakravorti  
Type of Participants: Academicians, Researchers and Graduate Students  
Name of the Seminar/ Conference/Topic :Application of Artificial Neural Network in High Voltage Systems  
Date and Venue : 03.12.2012Sutra Harbour Resort Hotel, Kota Kinabalu, Sabah, Malaysia
7. Name of the Teacher:Prof. Sivaji Chakravorti  
Type of Participants: Academicians, Researchers and Graduate Students  
Name of the Seminar/ Conference/Topic :Frequency Response Analysis for Transformer Condition Monitoring  
Date and Venue : 02.12.2012Sutra Harbour Resort Hotel, Kota Kinabalu, Sabah, Malaysia
8. Name of the Teacher:Prof. Sivaji Chakravorti  
Type of Participants: Practicing Engineers and Academicians  
Name of the Seminar/ Conference/Topic :A New Perspective of Energy Education based on Power Quality Research  
Date and Venue : 29.11.2012Hotel Peerless Inn, Kolkata
9. Name of the Teacher:Prof. Sivaji Chakravorti  
Type of Participants: Scientists and Researchers  
Name of the Seminar/ Conference/Topic :Gas Insulated Lines – New Age Technology for Bulk Power Transmission  
Date and Venue : 24.11.2012APC Roy Seminar Hall, CGCRI, Kolkata
10. Name of the Teacher:Prof. Sivaji Chakravorti  
Type of Participants: Academicians, Researchers and Graduate Students  
Name of the Seminar/ Conference/Topic :Keynote address in the International Conference on Power and Energy Systems (ICPES'12) on "Condition monitoring of power transformers using dielectric response measurement"  
Date and Venue : 13.11.2012Kalasalingam University, Madurai

11. Name of the Teacher: Prof. Sivaji Chakravorti  
 Type of Participants: Academicians, Researchers and Graduate Students  
 Name of the Seminar/ Conference/Topic : High Voltage Fields  
 Date and Venue : 20.09.2012 North Eastern Regional Institute of Technology, Arunachal Pradesh
12. Name of the Teacher: Prof. Sivaji Chakravorti  
 Type of Participants: Academicians, Researchers and Graduate Students  
 Name of the Seminar/ Conference/Topic : Power System Over-voltages  
 Date and Venue : 25.08.2012 Budge Budge Institute of Technology
13. Name of the Teacher: Prof. Sivaji Chakravorti  
 Type of Participants: Academicians, Researchers and Graduate Students  
 Name of the Seminar/ Conference/Topic : Gas Insulated Transmission Lines  
 Date and Venue : 18.08.2012 Academy of Technology, Adisaptagram
14. Name of the Teacher: Prof. Sivaji Chakravorti  
 Type of Participants: Academicians, Researchers and Graduate Students  
 Name of the Seminar/ Conference/Topic : Gas Insulated Systems  
 Date and Venue : 11.08.2012 Pailan College of Management and Technology
15. Name of the Teacher: Prof. Sivaji Chakravorti  
 Type of Participants: Practicing Engineers, Researchers and Academicians  
 Name of the Seminar/ Conference/Topic : Plenary talk in IEEE 10th International Conference on Properties and Applications of Dielectric Materials (ICPADM 2012) on "Charge Modified Field Computation in High Voltage Engineering"  
 Date and Venue : 26.07.2012 Central Power Research Institute (CPRI) Bangalore
16. Name of the Teacher: Prof. Sivaji Chakravorti  
 Type of Participants: Practicing Engineers and Academicians  
 Name of the Seminar/ Conference/Topic : Major Issues Relating to Maintenance of Electrical Power Equipment to Enhance Performance and Reduce Operational Cost  
 Date and Venue : 19.06.2012 HR Dept, CESC Ltd
17. Name of the Teacher: Prof. Sivaji Chakravorti  
 Type of Participants: Academicians, Researchers and Graduate students  
 Name of the Seminar/ Conference/Topic : Over-voltages in Power System and Insulation Coordination  
 Date and Venue : 31.05.2012 Asia Institute of Power Management
18. Name of the Teacher: Prof. Sivaji Chakravorti  
 Type of Participants: Academicians, Researchers and Graduate students  
 Name of the Seminar/ Conference/Topic : Condition Monitoring of Transformers  
 Date and Venue : 14.04.2012 ICSR Hall, Indian Institute of Technology Madras, Chennai.
19. Name of the Teacher: Prof. Sivaji Chakravorti  
 Type of Participants: Practicing Engineers and Researchers  
 Name of the Seminar/ Conference/Topic : Partial Discharge, Oil Analysis and Travelling waves for Condition Monitoring Practices  
 Date and Venue : 04.04.2012 Asia Institute of Power Management

**C. Seminar/Workshop/Conference/Symposium Organized:**



- Prof. Sivaji Chakravorti has organized IEEE R10 Technical Conference on “Green Technology” at Kolkata in 2012.

#### 4. A. Books/Monographs etc. Published:

- Prof. Sivaji Chakravorti, Dr. Debangshu Dey and Dr. Biswendu Chatterjee has authored the book on “Recent Trends in the Condition Monitoring of Transformers” (ISBN 978-1-4471-5549-2) to be published by Springer

#### B. Articles Published/Accepted in Journals (April, 2012 – March, 2013):

##### International Journals, National Journals:

1. A. Baral and S.Chakravorti, “Assessment of Non-Uniform Aging of Solid Dielectric using System Poles of a Modified Debye Model for Oil-paper Insulation of transformers” **IEEE Trans. on Dielectrics and Electric Insulation.**, Paper No. 3570, Accepted for Publication, 2013.
2. A.Baral and S. Chakravorti, “A Modified Maxwell Model for Characterization of Relaxation Processes within Insulation System having Non-uniform Aging due to Temperature Gradient” **IEEE Trans. on Dielectrics and Electric Insulation.**, Vol. 20, No. 2, pp. 524-534, 2013.
3. S.Biswas, B.Chatterjee, D.Dey and S.Chakravorti, ‘An Approach Based on Rough Set Theory for Identification of Single and Multiple Partial Discharge Source”, **International Journal of Electrical Power and Energy Systems, Elsevier**, Vol.46, 163-174, 2013
4. P.K.Roy, B.Mondal and K. Bhattacharya, “Gravitational search algorithm based optimal reactive power dispatch for voltage stability enhancement”, **Electric Power Components and Systems**, Vol.40, No.9 , pp. 956-976, 2012.
5. S.Dalai, B.Chatterjee, D.Dey, S.Chakravorti and K.Bhattacharya, “Rough set based feature selection and classification for power quality sensing device employing correlation techniques”, **IEEE Sensors Journal**, Vol. 13, No. 2, pp. 563-573, 2012.
6. S. Saha Chowdhury, A. Lahiri and S. Chakravorti, “Surface Resistance Modified Electric Field Computation in Asymmetric Configuration using Surface Charge Simulation Method: A New Approach”, **IEEE Trans. on Dielectrics and Electric Insulation.**, Vol. 19, No. 3, pp. 1068-1075, 2012.
7. A.Pradhan, A.Baral, S.Dalai, B.Chatterjee and S.Chakravorti, “Correlation of dielectric model parameters with experimental results based on PDC, RV and loss factor measurements for high voltage capacitors”, **Int. Journal of Power and Energy Conversion, Inderscience Pub**, Accepted for Publication, 2012.
8. S. Saha Chowdhury, A. Lahiri and S. Chakravorti, “Modeling of Self Consistent Field Due to Volume Charge Using Charge Simulation Method and Method of Characteristics Line”, **IEEE Trans. on Dielectrics and Electric Insulation.**, Vol.19, No. 2, pp.591-599, 2012.
9. P. Rajamani and S.Chakravorti, “Identification of simultaneously occurring dynamic disc-to-disc insulation failures in transformer winding under impulse excitation”, **IEEE Trans. on Dielectrics and Electric Insulation.**, Vol. 19, No. 2, pp.443-453, 2012
10. P.Rajamani and S.Chakravorti, “Studies on three feature extraction methods for the location and classification of dynamic fault patterns during impulse testing of transformer winding”, **Int. Journal of Power and Energy Conversion, Inderscience Pub**, Vol.3, Nos. 3/4, pp 265-286, 2012.
11. S.Biswas, B.Chatterjee, C.Koley and S.Chakravorti, “A Methodology for Identification and Localization of Partial Discharge Sources using Optical Sensors”, **IEEE Trans. on Dielectrics and Electric Insulation.**, Vol. 19, No. 1, pp.18-28, 2012

12. S.Das, P.Purkait, D.Dey and S.Chakravorti, "Monitoring of Inter-turn Insulation Failure in Induction Motor using Advanced Signal and Data Processing Tools", **IEEE Trans. on Dielectrics and Electric Insulation.**, Vol.18, No. 8, pp.1599 - 1608, 2011.

#### **Conference Paper:**

1. A.K.Pradhan, B.Chatterjee, S.Chakravorti and C. Koley, "Frequency Domain Dielectric Spectroscopy using Triangular Waveform", **Proc. of Annual IEEE India Conference (INDICON)**, pp. 931-935, Kochi, Kerala, India, 2012.
  2. B.Mondal, P.K.Roy and K. Bhattacharya, "Hybridization of particle swarm optimization with biogeography based optimization to solve economic load dispatch considering spinning reserve and other non-linearities", *IEEE-International Conference on Advances in Engineering, Science and Management, ICAESM-2012*, art. no. 6216149, pp. 403-408, Nagapattinam, Tamil Nadu, India, 2012.
  3. A.K.Pradhan, B.Chatterjee and S.Chakravorti, "Comparative Study on the Effect of Temperature on Frequency Domain Spectroscopy Results under Sinusoidal and Triangular Excitation" **1st IEEE International Conference on Power and Energy in NERIST (ICPEN)** at Nirjuli, Itanagar, 2012.
  4. S. Sarkar, T.Sharma, A. Baral, B.Chatterjee, P.Rajamani, D.Dey and S.Chakravorti, "A novel methodology for on-site validation of RV measurement data" **1st IEEE International Conference on Power and Energy in NERIST (ICPEN)** at Nirjuli, Itanagar, 2012.
  5. S.K.Ojha, P.Purkait and S.Chakravorti, "Understanding the effects of moisture equilibrium process on dielectric response measurements for transformer oil-paper insulation systems" **1st IEEE International Conference on Power and Energy in NERIST (ICPEN)** at Nirjuli, Itanagar, 2012.
  6. S.Das, P.Purkait and S.Chakravorti, "Separating induction Motor Current Signature for stator winding faults from that due to supply voltage unbalances" **1st IEEE International Conference on Power and Energy in NERIST (ICPEN)** at Nirjuli, Itanagar, 2012.
  7. S.Sarkar, S.Das, P.Purkait and S.Chakravorti, "Application of wavelet transform to discriminate induction motor stator winding short circuit faults from incipient insulation failures" **1st IEEE International Conference on Power and Energy in NERIST (ICPEN)** at Nirjuli, Itanagar, 2012
5. **Collaborative Programmes:**
1. Student exchange with university of Applied Sciences, Augsburg, Germany.
6. **Major Achievements:**
- Prof. Sivaji Chakravorti is serving as the **Member of Subject Expert Committee on Engineering Sciences for Fund for Infrastructure in Science & Technology (FIST)** program of Department of Science & Technology (DST), Govt. of India
  - Prof. Sivaji Chakravorti is the **Fellow of The Indian National Academy of Engineering (INAE)**.
  - Prof. Sivaji Chakravorti is the **Fellow of The National Academy of Sciences, India (NASI)**.
  - Prof. Sivaji Chakravorti is the Fellow of **The West Bengal Academy of Science & Technology (WAST)**.
  - Prof. Sivaji Chakravorti, Dr. Biswendu Chatterjee and Dr. Debangshu Dey has filed the patent on "An instrument for Insulation Condition Assessment" Application No.998/KOL/2012 dated 30.08.2012
  - Dr. Biswendu Chatterjee is serving as Treasurer of Dielectrics and Electrical Insulation Society Chapter of IEEE Kolkata Section since 2012

- Sri P Rajamani is serving as the Secretary of Power & Energy Chapter of IEEE Kolkata Section since 2012 onwards.

### ***ELECTRICAL POWER SYSTEM SECTION***

**1. B. Number of Faculty Members: 4 (Four)**

**4. B. Articles Published/Accepted in Journals (April, 2012 – March, 2013):**

**International Journals:**

1. Sudipta Nath, Pampa Sinha, Swapan Kumar Goswami, 'A wavelet based novel method for the detection of harmonic sources in power systems' International Journal of Electrical Power & Energy Systems Volume 40, Issue 1, September 2012, Pages 54–61
2. Soma Biswas, Amitava Chatterjee, Swapan Kumar Goswami, 'An artificial bee colony-least square algorithm for solving harmonic estimation problems' Applied Soft Computing Volume 13, Issue 5, May 2013, Pages 2343–2355
3. Nalin B. Dev Choudhury, Mala De, Swapan K. Goswami, 'Transmission loss allocation in a power market using artificial neural network' ,Springer, Electrical Engineering June 2013, Volume 95, Issue 2, pp 87-98
4. P. Acharjee, S. K. Goswami, 'Power flow analysis under critical conditions by the linear perturbation-based simple algorithm' Springer Electrical Engineering December 2012, Volume 94, Issue 4, pp 187-196
5. Nalin B. Dev Choudhury, Swapan K. Goswami 'Transmission loss allocation using combined game theory and artificial neural network' International Journal of Electrical Power & Energy Systems Volume 43, Issue 1, December 2012, Pages 554–561
6. Sachin Singh, T Ghose, SK Goswami ' Optimal Feeder Routing Based on the Bacterial Foraging Technique', IEEE Transactions on Power Delivery Issue : 99, Publication date :2012
7. Priyanath Das, Sunita Halder nee Dey, Abhijit Chakrabarti and Madhumita Mandal, 'A unique method of study on power and loss allocation of a multibus power system employing FACTS controllers', International Journal of Emerging Technology & Advanced Engg., ISSN 2250-2459, Volume 2, Issue 6, June 2012, pp.36-45.
8. Prasenjit Basak, S. Chowdhury, S. Halder nee Dey and S.P. Chowdhury. 'A Literature Review on Integration of Distributed Energy Resources in the Perspective of Control, Protection and Stability of Microgrid', The International Journal of Renewable & Sustainable Energy Reviews, Elsevier, vol.16, issue 8, pp. 5545-5556, October'2012.
9. S. Mondal, A. Bhattacharya, Sunita Halder nee Dey, "Multi-Objective Economic Emission Load Dispatch Solution using Gravitational Search Algorithm and Considering Wind Power Penetration" International Journal of Electrical Power & Energy System, International Journal of Electrical Power and Energy Systems, vol. 44, 2013, pp. 282–292.

**International Conferences:**

1. B Bhattacharyya, SK Goswami, 'Optimal Planning for the Placement of FACTS Devices by Differential Evolution Technique for the Increased Loadability of a Power System' Power and Energy Engineering Conference (APPEEC), 2012 Asia-Pacific, pg: 1-4 , 2012/3/27

### ***ILLUMINATION ENGINEERING***

**COURSES OFFERED:**

- 4 – Semester (Day) **M.E Illumination Engineering** has been started from 2004 – 2005. Total intake 18 students per semester. Course fee @ Rs.12,000/- per student and Rs.18,000/- per sponsored student per semester.

#### **Thrust Area of Research**

- Road lighting design in Indian context
- Ballast- Igniter -Lamp characteristics
- Lamp-life estimation
- Energy efficient low-cost lighting control system,
- Human powered Battery charger
- Rural lighting system design & development
- Daylight integrated energy efficient artificial lighting
- Energy efficient “Road Lighting”, “Museum Lighting” & “Flood Lighting”

#### **ARTICLES PUBLISHED IN JOURNALS**

- i) D. Banerjee, S. Mazumdar, A. Sur, “Design & Performance Analysis of a Power-Factor-Corrected Constant Light Output Electronic Ballast” proceedings of 2012 1<sup>st</sup> international conference on Power & Energy Merist(ICPEM) 28-29 December IEEE Conference, ISBN 978-1-4673-1667-5 pages 126
- ii) P. Das, M. Ghosh and S. Mazumdar, “Modified single energy meter for rural domestic energy management supplied from solar panel based small grid system” proceedings of an International Journal Electrical and Electronics Engineering(ELELIJ) Volume 2, No 1, February 2013.
- iii) M.Ghosh, S.Ghosh, Avik Chakraborty, S. Mazumdar, “Automated micro-controller based room lighting energy management using dimmable CFL ballast considering day-light penetration” proceedings of IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) e-ISSN:2278-1676 Volum-5, Issue 1 (Mar-Apr. 2013), pp 23-17.
- iv) S. Chakraborty, S. Mazumdar, “Road Lighting in Kolkata – A Review” proceedings of The Association of Engineers, Journal of India ISSN 0368-1106, Volume 83 No. 1, pp-17-27, January-March 2013.
- v) M.Ghosh, S. Mazumdar, “Development of a Computer Based Low cost Lighting System Controller” proceedings of The Association of Engineers, Journal of India ISSN 0368-1106, Volume 83 No. 1, pp-36-42, January- March 2013.

### **ELECTRONICS & TELECOMMUNICATION ENGINEERING**

Phone : + 91-33-2414-6002  
 Fax : + 91-33-2414 -6217  
 Int. : 2457-2404

H.O.D. : Prof. Subir Kr. Sarkar  
E-mail : hod@etce.jdvu.ac.in

**1. A. Courses Offered:**

- **B.E. Tel.E.** : 4 years (66 x 4 + 12 x 3 (for lateral entry) = 300)
- **M.E. Tel.E.** : 2 years ( 30 (including 5 Q.I.P) x 2 = 60)
- **Evening M.Tech.** : 1. VLSI and Microelectronics, 3 years (18 x 3 = 54)  
2. Intelligent Automation and Robotics. 3 years (18 x 3 = 54)

**1. B. Number of Faculty Members : 18**

**2. A. Area(s) of Research Activities:**

1. Adaptive antennas
2. Ad hoc wireless networks
3. Analog and Digital Signal Processing
4. Antennas and Microwaves
5. Artificial Intelligence
6. Bio-informatics and Computational Biology
7. Biomedical Image Processing
8. Broadband Wireless Communications
9. Brain Computer Interface
10. Call admission control in cellular and WiMAX Networks
11. CMOS MEMS integration and signal conditioning of gas sensor
12. Coding Theory
13. Cognitive Radios
14. Computer Networking
15. Computer Vision.
16. Control Engineering
17. Cybernetics
18. Data Security and Data Hiding
19. Digital Communication
20. Digital Signal Processing
21. Development of embedded systems for medical diagnostic applications
22. Electronic Devices
23. Embedded Systems
24. EMI/EMC
25. Fiber Optic Communication
26. High Frequency VLSI design
27. Microwave Passive Device
28. Mobility management for 3G/WLAN Integrated Architecture
29. Mobile and Wireless Communication

30. Mobility Management for Integrated Architecture
31. Multi-agent Robotics
32. Optimization techniques
33. Optical Sensor Network
34. Packet Scheduling in WiMAX, VoLP over WiFi and WiMAX
35. Pattern Recognition
36. Photonics
37. Porous Silicon formation by Alumina template
38. RFID and its Applications
39. RF MEMS
40. Robotics
41. Semiconductor device
42. Signal and Image Processing
43. Simulations of nanodevice models
44. Single electron & spintronics devices and their applications in VLSI circuits
45. Soft Computing
46. Swarm and Evolutionary Algorithms
47. VLSI Circuit Design
48. WiMAX handoff and Call Admission
49. VLSI Circuit Design
50. Wearable Antennas
51. Dielectric Resonator Antennas
52. Reconfigurable Smart Antennas
53. Biological and Agricultural Effects of Radiation
54. MEMS based metal oxide gas sensors
55. Design and Simulation of RF MEMS based capacitive switch
56. CMOS MEMS integration and signal conditioning of gas sensor
57. Embedded systems
58. MEMS based Pressure Sensors
59. Power Optimisation of VLSI Circuits
60. Study of Nanocrystalline Silicon, Zinc Oxide and its application on Solar Cells and Gas Sensors
61. Porous Silicon Low Pressure Sensors
62. Porous silicon formation by Alumina template

**2 B. Major Research Project(s) as PI or Co-PI Completed or Ongoing During 2012-2013:**

Name of the Faculty : **Prof. Amit Konar**

Title of the Project: Perception Engineering (A national project jointly undertaken by IIT Delhi, IIT Bombay, IIIT Hyderabad and Jadavpur University) This project is aimed at developing shape perception from tactile images.

Funding Agency: Department of Information Technology (DIT)

Amount (Rs.): 3.3 Crores

Duration: X  
Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty :**Prof. Amit Konar**  
Title of the Project:UGC-UPE-II Excellence Program in Cognitive Science  
Funding Agency:UGC  
Amount (Rs.): 1.87 crores  
Duration:X  
Status (Project completed on...../ ongoing): Ongoing

Name of the Faculty :**Prof. B. Gupta**  
Title of the Project: Study and Optimization of Microstrip Antenna System to Receive Satellite Link from Moving Trains  
Funding Agency:ISRO  
Amount (Rs.): 10.93 lakhs  
Duration: 3 Years  
Status (Project completed on...../ ongoing): Ongoing

Name of the Faculty :**Prof. B. Gupta**  
Title of the Project: Development of RF MEMS Capacitive Shunt Switch in Application as Phase Shifters for Satellite Communication Systems(in collaboration with IIT KGP)  
Funding Agency:ISRO  
Amount (Rs.): 4.7975 lakhs  
Duration: 2 Years  
Status (Project completed on...../ ongoing): Completed

Name of the Faculty :**Prof. B. Gupta(PI)Dr. Sudhabindu Ray(Co-Principal Investigator)**  
Title of the Project: Establishment of New National MEMS Design Centers  
Funding Agency:National Program on Micro and Smart Sensors(Aeronautical Development Agency)  
Amount (Rs.): 11.16 lakhs  
Duration: 4 Years  
Status (Project completed on...../ ongoing): Ongoing

Name of the Faculty :**Prof. B. Gupta**  
Title of the Project: Design and Fabrication of Two Movable Plate Miniaturized RF MEMS Switched Capacitor and Phase Shifter  
Funding Agency:National Program on Micro and Smart Sensors(Aeronautical Development Agency)  
Amount (Rs.):(Rs.): 33.88 lakhs  
Duration: 2 Years  
Status (Project completed on...../ ongoing): Completed

Name of the Faculty :**Prof. B. Gupta(PI)Dr. Sudhabindu Ray(Co-Investigator)**  
Title of the Project: Design and Development of High Speed Miniaturized RF MEMS Switched Capacitor(in collaboration with IIT KGP)  
Funding Agency: ISRO  
Amount (Rs.):(Rs.): 19.70 lakhs  
Duration: 3 Years

Status (Project completed on...../ ongoing): Completed

Name of the Faculty :**Prof. B. Gupta**

Title of the Project: Development of Nanocrystalline MEMS Pressure Sensor for Vacuum AND Low Pressure Application

Funding Agency: Department of Information Technology, Govt. of India

Amount (Rs.): (Rs.): 60.32 lakhs

Duration: 5 Years

Status (Project completed on...../ ongoing): Ongoing

Name of the Faculty :**Prof. B. Gupta**

Title of the Project: Fabrication of High Speed RF MEMS Based Miniaturized Switched Capacitor Based Phase Shifting Unit Cell

Funding Agency: INUP

Amount (Rs.): (Rs.): 2.0 Lakhs

Duration: 6 Months

Status (Project completed on...../ ongoing): Completed

Name of the Faculty :**Prof. B. Gupta(PI) Dr. Sudhabindu Ray(Co-Principal Investigator)**

Title of the Project: Development of Wearable Antenna for Body Centric Application and Studies on their Physiological Effects (Collaborative Research Project with Govt of Tunisia)

Funding Agency: DST, Govt. of India.

Amount (Rs.): (Rs.): 14.49 Lakhs

Duration: 3 Years

Status (Project completed on...../ ongoing): Ongoing

Name of the Faculty :**Prof. B. Gupta(PI) Dr. Sudhabindu Ray(Co-Principal Investigator)**

Title of the Project: Radio Communication System Design, Fabrication and Measurement Technique

Funding Agency: UGC under Special Assistance Programme (SAP)

Amount (Rs.): (Rs.): 59.0 Lakhs

Duration: 5 Years

Status (Project completed on...../ ongoing): Ongoing

Name of the Faculty :**Prof. B. Gupta**

Title of the Project: Development of Antennas for Wearable Application and Ubiquitous Computing

Funding Agency: UGC under UPE Phase II Program

Amount (Rs.): (Rs.): 5.31 Lakhs

Duration: 2 Years

Status (Project completed on...../ ongoing): Ongoing

Name of the Faculty :**Prof. B. Gupta**

Title of the Project: Fabrication of RF MEMS Metamaterial Based CSRR Tunable Filter

Funding Agency: Indian Nano Users Program (INUP)

Amount (Rs.): (Rs.): 2 Lakhs

Duration: 6 Months

Status (Project completed on...../ ongoing): Ongoing



Name of the Faculty :**Mr. Sayan Chatterjee**

Title of the Project: Special manpower Development Programme in VLSI design (SMDP II)

Funding Agency:Ministry of Communications and Information Technology

Amount (Rs.):59 Lakhs

Duration:5 years +1

Status (Project completed on...../ ongoing):Completed

Name of the Faculty :**Dr. Sudhabindu Ray(Co-Principal Investigator)**

Title of the Project: Design and Development of High-Speed Miniaturized RF MEMS Switched Capacitor Based Unit Cell PhaseShifter

Funding Agency:Indian Nano-electronics Users Program (INUP) under IIT Bombay

Amount (Rs.):

Duration:

Status (Project completed on...../ ongoing):Completed

Name of the Faculty :**Prof. Subir Kumar Sarkar**

Title of the Project: Development of highly secured and authenticated algorithm and it's low power ASIC-VLSI implementation suitable for defense application

Funding Agency:DRDO

Amount (Rs.):14.98Lakhs

Duration:

Status (Project completed on...../ ongoing):Completed

Name of the Faculty :**Prof. Subir Kumar Sarkar**

Title of the Project: Design and simulation of logic circuits with hybrid architectures of Single Electron Transistors and conventional MOS devices

Funding Agency: CSIR

Amount (Rs.):7.25Lakhs

Duration:

Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty :**Prof. Subir Kumar Sarkar**

Title of the Project: Modelling and simulation of Nano scale SON MOSFET suitable for ultra-dense and low power VLSI circuit.

Funding Agency:DRDO

Amount (Rs.):14.88Lakhs

Duration:

Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty :**Prof. Subir Kumar Sarkar**

Title of the Project: Low Power ASIC-VLSI Implementation of Secure And Authentication Algorithms for Defence Application.

Funding Agency:UGC UPEPhase-II

Amount (Rs.):7.82Lakhs

Duration:

Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty :**Prof. Subir Kumar Sarkar**

Title of the Project: RFID in Avian influenza hazards- A Case study for design and implementation of a processor for early bird flu detection and cost effective poultry management.

Funding Agency: CSIR

Amount (Rs.):8.64 Lakhs

Duration:

Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty :**Prof. Subir Kumar Sarkar**

Title of the Project: Nano Single Electron and Spintronic devices as ASIC VLSI chips for medical and space applications.

Funding Agency: UGC UPEPhase-II

Amount (Rs.): 7.32Lakhs

Duration:

Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty :**Prof. S.K.Sanyal**

Title of the Project:

Funding Agency:DST, Govt. of IndiaDST-FIST 2007

Amount (Rs.):89.60 lakhs

Duration: 5 Years

Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty :**Prof. Iti Saha Misra**

Title of the Project:Call Admission Control for the Optimization of Resource Utilization *for Mobile WiMAX and Integrated WiMAX/WiFi networks*

Funding Agency:"Mobile and Innovative Applications Programme" UGC funded "University with Potential for Excellence - Phase II"

Amount (Rs.): 6.0Lakhs

Duration: 2 Years

Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty :**Prof. Iti Saha Misra**

Title of the Project: Designing a SDR based Cognitive Radio Networking test-bed involving multiple WARP boards

Funding Agency:Mobile Computing project, UPE II, UGC

Amount (Rs.): 8.0Lakhs

Duration: 2 Years

Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty : **Prof. C.K. Sarkar**

Title of the Project: Development of Graphene Based Hydrogen Sensor

Funding Agency:Council of Scientific and Industrial Research, Govt. of India

Amount (Rs.): 14.28L

Duration:

Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty : **Prof. C.K. Sarkar**

Title of the Project: RF Performance Trends of Nano-Scale MOS Devices

Funding Agency: AICTE

Amount (Rs.): 8.0L

Duration:  
Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty : **Prof. C.K. Sarkar**  
Title of the Project: UGC Potential of Excellent -II  
Funding Agency: University Grants Commission (UGC), Govt. of India.  
Amount (Rs.): 10.0L  
Duration:  
Status (Project completed on...../ ongoing):Ongoing

Name of the Faculty : **Prof. C.K. Sarkar**  
Title of the Project: Special Manpower Development Project –II (SMDP-II)  
Funding Agency: MIT  
Amount (Rs.): 59.0L  
Duration:  
Status (Project completed on...../ ongoing):Completed

Name of the Faculty : **Prof. C.K. Sarkar**  
Title of the Project: Study of Advanced – Gate MOSFETs for Analog and RF Applications in Nano Regime  
Funding Agency: DST  
Amount (Rs.): 28.38L  
Duration:  
Status (Project completed on...../ ongoing):Completed

Name of the Faculty : **Prof. C.K. Sarkar**  
Title of the Project: Modeling of Quantum Effect Semiconductor Devices for Electronic Applications  
Funding Agency: UGC  
Amount (Rs.): 6.18L  
Duration:  
Status (Project completed on...../ ongoing):Completed

Name of the Faculty : **Prof. C.K. Sarkar**  
Title of the Project: Nano Scale MOSFET's Scalability Issue and Potential of Dielectrics  
Funding Agency:DST (JSPA)  
Amount (Rs.): 3.50L  
Duration:  
Status (Project completed on...../ ongoing):Completed

Name of the Faculty : **Prof. C.K. Sarkar**  
Title of the Project: Study and Modeling of Sub-Micron bulk and thin film SOI CMOS Devices with and without Halo Implantation  
Funding Agency: DST  
Amount (Rs.): 13.5L  
Duration:  
Status (Project completed on...../ ongoing):Completed

Name of the Faculty : **Prof. C.K. Sarkar**

Title of the Project: Scaling of MOSFETs in the Nano Regime

Funding Agency:AICTE

Amount (Rs.): 8.5L(Approx)

Duration:

Status (Project completed on...../ ongoing):Completed

Name of the Faculty : **Prof. C.K. Sarkar**

Title of the Project: UPE (University with Potential for Excellence) - Phase II Scheme

Funding Agency:University Grants Commission (UGC)

Amount (Rs.):

Duration:

Status (Project completed on...../ ongoing):

Name of the Faculty : **Prof. C.K. Sarkar**

Title of the Project: Development of Graphene Based Hydrogen Sensor Council of Scientific- and Industrial Research, Govt. of India.

Funding Agency:Govt. of India.

Amount (Rs.):

Duration:

Status (Project completed on...../ ongoing):

Name of the Faculty : **Prof. C.K. Sarkar**

Title of the Project: Special Manpower Development Programme for VLSI Design and Related Software (SMDP-II)

Funding Agency:Ministry of Communications and Information Technology, Govt. of India

Amount (Rs.):

Duration:

Status (Project completed on...../ ongoing):

Name of the Faculty : **Dr. P. Venkateswaran**

Title of the Project:Spectrum Sensing Technique Implementation for Improved QoS in Cognitive Radio

Funding Agency:AICTE – Research Promotion Scheme (RPS)

Amount (Rs.): 14.7 Lakhs

Duration:

Status (Project completed on...../ ongoing):

### **3. A. Invited Lectures Delivered/ Tutorial/Session Chaired in 2012- 2013:**

1. **Prof. Amit Konar** chaired one session on Type-2 Fuzzy Sets in Fuzz-IEEE, 2013 Conference, held in Hyderabad, India in July,7 2013.
2. **Prof. Amit Konar** delivered a lecture entitled "Brain-Computer Interface for Rehabilitative Applications." in IEEE Computational Intelligence Society and St. Thomas' College of Engineering and Technology sponsored workshop on Information Systems, Imaging and Security, 2013
3. **Prof. Bhaskar Gupta** delivered an invited lecture at a National Workshop on Recent Trends in Electronics and Communication at Mizoram University, Aizawl, Mizoram, India.
4. **Prof. Bhaskar Gupta** delivered an invited lecture at Indian Antenna Week, IEEE, in May 2012 at Sikkim, India.

5. **Prof. Bhaskar Gupta** delivered an invited lecture at Indian Antenna Week, IEEE, in 2013 at Aurangabad, India.
6. **Prof. Bhaskar Gupta** delivered an invited lecture at Asansol Engineering College, Organised by IEEE AP-MTT Kolkata Chapter Section.
7. **Prof. Bhaskar Gupta** delivered an invited lecture in National Conference on Advancement of Science and Technology and Sustainable Development Following the ideals of Swami Vivekananda at Indian Association for Cultivation of Science, Kolkata, India.
8. **Prof. Bhaskar Gupta** delivered an invited talk in URSI 2013, Hiroshima, Japan
9. **Prof. Bhaskar Gupta** delivered an invited talk on " Electromagnetic Field (EMF) and Cellular Telephony " at Bengal Chamber of Commerce in July 2013.
10. **Prof. Bhaskar Gupta** delivered an invited talk at MMS 2013, Beirut, Lebanon.
11. **Prof. Bhaskar Gupta** delivered an invited talk at Frontiers of Research in Speech and Music 2013, Kolkata. India
12. **Prof. Bhaskar Gupta** chaired a session at International Conference on Communication, Devices and Intelligent Systems : CODIS, 2012 at Jadavpur University, Kolkata, India.
13. **Prof. Bhaskar Gupta** chaired a session at URSI 2013, Hiroshima, Japan.
14. **Prof. Bhaskar Gupta** chaired a session at National Conference on Advancement of Science and Technology and Sustainable Development Following the ideals of Swami Vivekananda at Indian Association for Cultivation of Science, Kolkata, India.
15. **Prof. Bhaskar Gupta** chaired a session at Indian Antenna Week 2013, Aurangabad, Maharashtra, India.
16. **Prof. Bhaskar Gupta** chaired a session at "Introduction to MEMS Technology", 2013, Jadavpur University, Jadavpur, Kolkata.
17. **Prof. Bhaskar Gupta** chaired a session at MMS 2013, Beirut, Lebanon.
18. **Prof. C.K. Sarkar** delivered a lecture at the 7<sup>th</sup> International Conference on Materials for Advanced Technologies (*ICMAT2013*), 30 June - 05 July, 2013 in Singapore at the Suntec International Convention & Exhibition Centre.
19. **Prof. C.K. Sarkar** delivered a lecture at National Conference on Recent Developments in Electronics (NCRDE 2013) organized by IEEE EDS Delhi Chapter, Department of Electronic Science, University of Delhi South Campus, New Delhi during Jan 18-20, 2013.
20. **Prof. Iti Saha Misra** delivered an invited lecture on "Cognitive Radio Networks and some related research Challenges", International Conference on Communication, Circuits and Systems (iC3S-2012) October 5, 2012, School of Electronics Engineering, KIIT University, Bhubaneswar, Odisha, India
21. **Prof. Iti Saha Misra** delivered an invited lecture on "Cognitive Radio Networks", Workshop at Institute of Engineering and Management, Saltlake, Kolkata, India, 18 Jan 2013.
22. **Prof. Iti Saha Misra** delivered a Tutorial Talk at the Winter School organized by School of Mobile Computing, Jadavpur University, Salt lake Campus, on "Cognitive Radio Networks and Communications", 14 Jan 2013.
23. **Prof. Iti Saha Misra** delivered an Invited Talk on "OFDM Transmission Technology in Wireless Communications and Some Related Research Issues", National Seminar, Silicon Institute of Technology, Bhubaneswar, 25 Feb 2012.

24. **Prof. Iti Saha Misra** chaired the session in in the International Conference on Communication, Circuits and Systems (IC3S-2012) October 5-7, 2012, School of Electronics Engineering, KIIT University Bhubaneswar, Odisha, India.
25. **Prof. Iti Saha Misra jointly** chaired for short poster paper presentation on IEEE CODEC 2012, 17 Dec.
26. **Prof. Salil Kumar Sanyal** chaired the Session on “VLSI and Embedded Systems” in 3<sup>rd</sup> International Conference on Emerging Applications of Information Technology (EAIT 2012) organized by Computer Society of India, Kolkata Chapter, Kolkata, November 2012.
27. **Prof. Salil Kumar Sanyal** chaired the Session on “Digital System Design and Validation” in 3<sup>rd</sup> International Symposium on Electronic System Design (ISED 2012) organized by Bengal Engineering and Science University, Howrah, December 2012.
28. **Prof. Salil Kumar Sanyal** delivered an Invited Lecture on “FIR Filter Design” in the National Workshop on Simulation Approach towards Signal System (WSA2S) organized by Department of Electronics and Communication Engineering, JIS College of Engineering, Kalyani, February, 2013.
29. **Prof. Subir Kumar Sarkar** Chaired the technical sessions on Emerging Topics on Communication Systems (IEEE ETCOMS 2013), held at Jadavpur University on 2<sup>nd</sup> February, 2013.
30. **Prof. Subir Kumar Sarkar** Chaired the technical session on Emerging Technology and System Design (ETS-4) in International Symposium on Electronic System Design (ISED 2012), held at Bengal Engineering & Science University, Shibpur on December 21, 2012.
31. **Prof. Subir Kumar Sarkar** Chaired the technical session on “Smart Buildings & Manufacturing” at the 47th Annual National Convention of the Computer Society of India at Science City, Kolkata, during December 1-2, 2012.
32. **Prof. Subir Kumar Sarkar** Chaired the technical sessions at First Michael Faraday IET Summit 2012 organized by YPS IET Kolkata, on November-25<sup>th</sup>, 2012.
33. **Prof. Subir Kumar Sarkar** Chaired the technical session on “Devices and Circuits” at the three-day International Conference on Communication, Circuits and Systems at KIIT University, Bhubaneswar, during October 5-7, 2012.
34. **Prof. Subir Kumar Sarkar** Chaired the technical sessions at International conference on computing and control Engineering (IC<sup>3</sup>E 2012), during April 12-13, 2012 organized by Dr.MGR University, Adayalampattu campus-Chennai.
35. **Prof. Subir Kumar Sarkar** Delivered a Invited speech on “**Evolutionary Nano Devices for future direction of VLSI circuits**”, Three-day National Workshop on VLSI Signal Processing: Efficient Design and Implementation at Silicon Institute of Technology, Bhubaneswar, March 15-17, 2013.
36. **Prof. Subir Kumar Sarkar** Delivered a Invited speech on “**Design Issues for Low Power VLSI Design**”, Three-day International Conference on Communication, Circuits and Systems at KIIT University, Bhubaneswar, October 5-7,2012
37. **Prof. Subir Kumar Sarkar** Delivered a lecture sessions during summer school on **Frontiers of nanomaterials, structures and devices (nanoMASTD 12)** held at Department of Radio Physics and Electronics, University of Calcutta on July 4, 2012.
38. **Prof. Subir Kumar Sarkar** Delivered a lecture session on “**Research Methodology**”, in faculty development program under TEQIP at Birbhum Institute of Engineering and Technology, Siuri on May 12, 2012.
39. **Prof. Subir Kumar Sarkar** Delivered a lecture session on “**Digital system design**” and “**Challenges in low power VLSI design**”, in faculty development program under **TEQIP** at Birbhum Institute of Engineering and Technology, Siuri on May 11, 2012.

40. **Prof. Subir Kumar Sarkar** Delivered a keynote address on “**Sensors and Sensor Networks under diversified Scenarios**” at International conference on computing and control engineering (ICCCCE 2012), during April 12-13, 2012 organized by Dr.MGR University, Adayalampattu campus-Chennai.
41. **Prof. Subir Kumar Sarkar** Delivered a Invited speech on “**Design Challenges in low power VLSI circuits**”, one-day Interactive Session for the enhancement of students’ skill in electronics (under UGC Merged Scheme 2011-2012) on April, 2012 organized by the Department of Electronics, Vidyasagar University, Midnapore- 721 102, West Bengal.
42. **Dr.A. S. Chowdhury** delivered an invited lecture on “Contour Tracking using Level Sets, Temporal Information and Shortest Paths”, *International Conference on Frontiers of Mathematical Sciences with Applications (ICFMSA-2012)* organized by **Calcutta Mathematical Society** at Calcutta, India, December 2012.
43. **Dr. A. S.Chowdhury** delivered an invited lecture on “Challenges in Video Summarization” *2<sup>nd</sup> National Conference on Advanced Communication Systems and Design Techniques (NCACD)* organized by Haldia Institute of Technology at Haldia, India, September 2012.
44. **Dr. A. S. Chowdhury** delivered an invited lecture on “Segmentation and Tracking in Biomedical Imaging”, UGC sponsored refresher course on “Recent Trends in Biomedical Engineering”, organized by School of Bio-science and Engineering, Jadavpur University at Calcutta, India, June, 2012.
45. **Dr. A. S. Chowdhury** chaired a session in the *International Conference on Frontiers of Mathematical Sciences with Applications (ICFMSA-2012)* organized by **Calcutta Mathematical Society** at Calcutta, India, December 2012.
46. **Dr. A. S. Chowdhury** chaired a session in the *2nd National Conference on Advanced Communication Systems and Design Techniques (NCACD)* organized by **Haldia Institute of Technology** at Haldia, India, September 2012.
47. **Dr. Sudhabindu Ray** chaired a technical session in International Conference On Engineering Education In The New Century (E2NC-2012) at Sir J.C. Bose School Of Engineering, Hooghly, West Bengal on 4th Feb., 2012.
48. **Dr. Sudhabindu Ray** acted as a member of the board of juries in the technical session of Academic Meet organized by Forum of Scientists, Engineers and Technologists, on 31.03.2012 at CIE&M, Tollygunge, Kolkata.
49. **Dr. Sudhabindu Ray** chaired a technical session in International Symposium on Electronic System Design (*ISED*) 19-22 December 2012,. held at Bengal Engineering and Science University.
50. **Dr. Sudhabindu Ray** chaired a technical session Workshop TECHNOPHIL 2013, (“Workshop on CMOS & Beyond CMOS Circuits & System Design”) held at SMDP Lab, IC Design & Fabrication Center, Jadavpur University on 18th - 21st March 2013.
51. **Dr. Sudhabindu Ray** delivered an invited lecture on “Electromagnetic Radiation and its Environmental Consequences”, organized by Ward Committee of Paschim Banga Vigyan Mancha (PBVM) at 125 No. Ward, Kolkata on 8th April, 2012.
52. **Dr. Sudhabindu Ray** delivered an invited lecture on “Hidden hazards in the ocean of microwaves”, organized by Behala Paschim Zonal Committee, Paschim Banga Vigyan Mancha (PBVM) at Paschim Behala, Kolkata on 22th April, 2012.
53. **Dr. Sudhabindu Ray** delivered an invited lecture on “Hidden hazards in the ocean of microwaves” organized jointly by 2-No. Ward committee and BL Block, at BL Block, Salt Lake, Kolkata on 13th May, 2012.

54. **Dr. Sudhabindu Ray** delivered an invited lecture on “Analog RFIC (HIC/MMIC): Analytical Simulation Techniques” in national Conference On Engineering Education In The New Century (E2NC-2012), at Sir J.C. Bose School Of Engineering, Hooghly, West Bengal, 15th-16th Feb., 2013.

### **3. B. Seminar/ Workshop/Conference/ Symposium Attended:**

1. **Prof. C.K. Sarkar** attended IEEE EDS Mini Colloquium (WIMNACT 33) at NIT Manipur, Imphal.
2. **Prof. Iti Saha Misra** attended IEEE R10 meeting, March 3-4 2012, Swissotel, Kolkata.
3. **Prof. Iti Saha Misra** attended IEEE Milestone program or Sir C.V. Raman held at IACSc on 15 Sep 2012 .
4. **Prof. Subir Kumar Sarkar** attended the summer school on Frontiers of nanomaterials, structures and devices (nanoMASTD 12) held at Department of Radio Physics and Electronics, University of Calcutta on July 4, 2012.
5. **Prof. Subir Kumar Sarkar** attended the lecture session on “Digital system design” and “Challenges in low power VLSI design”, in faculty development program under TEQIP at Birbhum Institute of Engineering and Technology, Siuri during May 11-12, 2012.
6. **Dr. A. S. Chowdhury** presented a paper at the 18<sup>th</sup> IEEE International Conference on Image Processing (ICIP), Brussels, Belgium, September 2011.
7. **Dr. Sudhabindu Ray** attended RF MEMS workshop at 6th International Conference of Institute of Smart Structures and Systems (ISSS), IISc Bangalore, 4th Jan., 2012.
8. **Dr. Sudhabindu Ray**, attended International Conference on Communications, Devices and Intelligent Systems (CODIS 2012) held at Jadavpur University on 28-29th December, 2012.
9. **Dr. Sudhabindu Ray**, attended three day seminar/short course on “Introduction to MEMS Technology” on July 03-05 July, 2013 at Jadavpur University
10. **Dr. Sudhabindu Ray** attended Workshop TECHNOPHIL 2013, (“Workshop on CMOS & Beyond CMOS Circuits & System Design”) held at SMDP Lab, IC Design & Fabrication Center, Jadavpur University on 18th - 21st March 2013.
11. **Dr. Sudhabindu Ray** attended National Conference On Engineering Education In The New Century (E2NC-2012), at Sir J.C. Bose School Of Engineering, Hooghly, West Bengal, 15th-16th Feb., 2013.
12. **Mr. Sayan Chatterjee** attended “workshop on microwave circuits” organized by IEEE AP/MTT joint chapter , Kolkata section from 8-9<sup>th</sup> September, 2012 at NSHM Knowledge Campus , Durgapur.
13. **Mr. Sayan Chatterjee** attended UGC-ASC refresher course on “Free software technologies” from 25<sup>th</sup> November to 15<sup>th</sup> December at Dept. of Computer Science and Engineering, Jadavpur University.
14. **Mrs. Sheli Shena Chaudhuri** attended third International Conference on Computer Science,Engineering & Applications-2013, AIRCC May 24 ~26, 2013,Delhi, India.
15. **Mrs. Sheli Shena Chaudhuri** attended International conference on Informatics,Electronics&Vision (ICIEV12), MAY 18-19, 2012, Dacca

### **3. C. Seminar / Workshop / Symposium Organized:**



1. **Prof. Bhaskar Gupta** Organized International Conference on Communication, Devices and Intelligent Systems : CODIS, 2012 at Jadavpur University, Kolkata, India.
2. **Prof. Bhaskar Gupta** Organized a three day workshop on " Introduction to MEMS Technology", 2013, at Jadavpur University, Kolkata.
3. **Prof. C.K. Sarkar** Organized a workshop on VLSI design using CADENCE tools suite in association with Cadence Design Systems India Pvt. Ltd. From 23<sup>rd</sup> August to 27<sup>th</sup> August 2011.
4. **Prof. C.K. Sarkar** Organized a summer training course on VLSI Design & Microelectronics Technology from June 2011 to July 2011 (Total B.Tech. Students 100).
5. **Prof. C.K. Sarkar** Organized a workshop on "CMOS & beyond CMOS circuits and system design" (SMDP-II)(18<sup>th</sup> – 21<sup>st</sup> March 2013) in association with IEEE EDS chapter Kolkata section and synopsis (India) EDA software Pvt. Ltd.
6. **Prof. Subir Kumar Sarkar** Organized International Conference on Communications, Devices and Intelligent Systems, CODIS 2012 during 28-29<sup>th</sup> December 2012 in Jadavpur University as conference chair.
7. Prof. Subir Kumar Sarkar was a National Advisory Committee member of 5<sup>th</sup> International Conference on Computers and Devices for Communication CODEC-2012, Institute of Radio Physics and Electronics, Calcutta University.
8. Prof. Subir Kumar Sarkar is a National Technical Advisory Committee member of National Conference on Recent development in Electrical, Electronics & Engineering Physics, RDE3P-2013 during 26<sup>th</sup> -27<sup>th</sup> October , 2013, at MCKV Institute of Engineering, Howrah.
9. Prof. Subir Kumar Sarkar is an International Technical committee member of International conference on Control, Instrumentation, Energy and Communication (CIEC-14) at dept. Of Applied Physics, Calcutta University, during January 31- February 2, 2014.
10. Dr. A. S. Chowdhury acted as the Publication Chair for International Conference on Communications, Devices and Intelligent Systems (CODIS) organized by Jadavpur University, India, December, 2012.
11. Prof. Iti Saha Misra served as a member of Technical Committee for International Conference on Communication, Circuits and Systems (iC<sup>3</sup>S-2012) October 5-7, 2012, School of Electronics Engineering, KIIT University Bhubaneswar, Odisha, India.
12. Prof. Iti Saha Misra served as a member of International Conference on Communications, Devices and Intelligent Systems (CODIS), 2012, 28-29 Dec. 2012, Kolkata, India
13. Prof. R. Nandi and Dr. P. Venkateswaran have jointly Organized an One-day Educational Program "Emerging Topics on Communication Systems – (IEEE ETCOMS 2013)" under the aegis of IEEE Communications Society Kolkata Chapter in collaboration with the Dept. of Electronics & Tele-Comm. Engg., Jadavpur University, on Feb. 02, 2013 at Dr. K. P. Basu Memorial Hall, JU
14. Dr. P. Venkateswaran has Organized a Technical Lecture Program "Microwave and Its Applications" on May 12, 2012 at B.I.T.M, Santiniketan in Collaboration with the Department of Electronics & Communication Engg. (ECE), Bengal Institute of Technology and Management (BITM), Santiniketan – 731 236.

15. Dr. Sudhabindu Ray, worked as a member of the organizing committee of International Conference on Communications, Devices and Intelligent Systems (CODIS 2012) held at Jadavpur University on 28-29th December, 2012.
  16. Dr. Sudhabindu Ray, organized three day seminar/short course on "Introduction to MEMS Technology" on July 03-05 July, 2013 at Jadavpur University
  17. Dr. Sudhabindu Ray organized "Workshop – Technophil -2013, a workshop on CMOS and beyond CMOS circuits and system design" from 18<sup>th</sup> to 21<sup>st</sup> March, Dept. of Electronics & Telecommunication Engineering, Jadavpur University.
  18. Dr. Sudhabindu Ray was a committee member of National Conference On Engineering Education In The New Century (E2NC-2012), at Sir J.C. Bose School Of Engineering, Hooghly, West Bengal, 15th-16th Feb., 2013.
  19. Mr. Sayan Chatterjee Organized "National Student Paper and Circuit Design Contest-2012" on October 04, 2012 at Dept. of Electronics & Telecommunication Engineering, Jadavpur University.
  20. Mr. Sayan Chatterjee Organized as Hospitality and Logistic Co-chair in 2012 International Conference on Communications, Device and Intelligent Systems (CODIS) at Jadavpur University, 28-29<sup>th</sup>December,2012.
  21. Mr. Sayan Chatterjee Organized jointly with IEEE EDS Chapter Calcutta section and Synopsys, EDA software private ltd. "Workshop – Technophil -2013, a workshop on CMOS and beyond CMOS circuits and system design" from 18<sup>th</sup> to 21<sup>st</sup> March, 2013 in SMDP LAB , Dept. of Electronics & Telecommunication Engineering, Jadavpur University.
  22. **Dr. Sudipta Chattopadhyay** acted as Organizing Co-Chair for the International Conference on Communication, Devices & Intelligent Systems (CODIS-2012), December 28-29, 2012, organized by the Dept. of Electronics & Telecommunication Engg., Jadavpur University, Kolkata, India.
  23. **Mrs.Sheli Shena Chaudhuri** acted as finance Chair in CODIS 2012,Dec. 28-29, Kolkata.
  24. **Mrs.Sheli Shena Chaudhuri** acted as member of Technical Committee for SPIN2014,Amity, Noida.
- 4. A. Books/ Monographs Published:**
1. **Amit Konar**, and **Aruna Chakraborty**, *Emotion Recognition–A Pattern Analysis Approach*, Wiley-Blackwell, 2013 (to appear).
  2. **Amit Konar**, and Sumantra Chakraborty, *Abduction: Reasoning with Type-1 and Type-2 Fuzzy Sets*, Springer, Heidelberg, 2013 (to appear).
  3. **Amit Konar** and Jaya Sil, *Rough and Fuzzy Pattern Recognition*, Springer, 2013 (to appear).
  4. **Amit Konar** Tibarewala D., Bhattacharyya S., and Khasnobish A., *Non-Invasive Human-Computer Interface for Rehabilitative Applications*, Bio-systems and Bio-robotics Series, Springer, Heidelberg, 2013(to appear).
  5. Amit Konar and Ghosh, S, *Call Admission Control in a Mobile Cellular Network: A Computational Intelligence Approach*, Springer, Heidelberg, 2012.
  6. Prof. Bhaskar Gupta : *Analysis of Electromagnetic Bandgap Structures Formed by Multiple Vertical Posts in Rectangular Waveguides*" (Chapter 1) along with Kiyotoshi Yasumoto, Manidipa Bhattacharya in the book *Advanced Techniques for Microwave Systems* edited by Giuseppe Schettini.
  7. Prof.C.K.Sarkar: "Technology Computer Aided Design: Simulation for VLSI MOSFET" Edited by Prof. CK. Sarkar, accepted for publication by CRC Press, Taylor & Francis Group, LLC, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, Florida 33487, U.S.A

8. Prof. Iti Saha Misra: Revised 2<sup>nd</sup> edition submitted for the book "Wireless Communication and Networks, Mc Graw Hill, India with 4 new chapters, to be published in Dec 2012.
9. Prof. Subir Kumar Sarkar, T.G. Basavaraju, C.Puttamadappa, "Ad Hoc Mobile Wireless Networks: Principles, Protocols, and Application", Second Edition, CRC Press, Taylor & Francis Group (2013).
10. Prof. Subir Kumar Sarkar, "Wireless Sensor and Ad-Hoc Networks under Diversified Network Scenarios", Artech House (2012).
11. Prof. Iti Saha Misra: "Wireless Communication and Networks: 3G and Beyond", Mc.Graw Hill India, Second Edition, June 2013 with 16 Chapters.

#### Peer Reviewed/ Book Chapters:

1. **A.S. Chowdhury**, A. Mukherjee, S.M. Bhandarkar, J.C. Yu: Computer Vision Based Hairline Mandibular Fracture Detection from Computed Tomography Images, in *Advanced Computational Approaches to Biomedical Engineering*, P.K. Saha, U. Maulik, S. Basu (eds.), Springer-Verlag, GmbH, Germany (2013) (to appear).
2. NilanjanDey, AnamitraBardhan Roy, Achintya Das and **SheliSinhaChaudhuri**, "Recent Trends in Computer Networks and Distributed Systems Security", published in SpringerBerlin / Heidelberg in Communications in Computer and Information Science, 2012, ISBN 978-3-642-34134-2, Volume 335, Part 2, Pages 347-357, DOI: 10.1007/978-3-642-34135-9\_35[Springer]
3. NilanjanDey, Bijurika Nandi, AnamitraBardhan Roy, DebalinaBiswas, Achintya Das, **SheliSinhaChaudhuri**, "Analysis of Blood Cell Smears using Stationary Wavelet Transform & Harris Corner Detection", To be published by Recent Advances in Computer Vision and Image Processing: Methodologies and Applications, IGI Global and Francis, ISBN-9781466582422, pp. 450, July 2013.
4. Rituparna Dasgupta, Dipankar Saha, Jagannath Samanta, **Sayan Chatterjee**, **Chandan Kumar Sarakar**, " Implementation of a New Offset Generator Block for the Low-Voltage, Low-Power Self Biased Threshold Voltage Extractor Circuit", Book Title: Progress in VLSI Design and Test, LNCS, vol. 7373, Springer Berlin Heidelberg

#### 4. B. Articles Published in Journal in the Year 2012-2013:

##### Publication List of Prof. Amit Konar

1. Pratyusha Rakshit, **Amit Konar**, Pavel Bhowmik, Indrani Chakraborty, Swagatam Das, Lakhmi C. Jain, and Atulya K. Nagar, "Realization of An Adaptive Memetic Algorithm using Differential Evolution and Q-Learning: A Case Study in Multi-Robot Path-Planning", *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, July, 2013, vol. 43, no. 4, pp. 814-831.
2. Pratyusha Rakshit, **Amit Konar**, Swagatam Das, Lakhmi C. Jain, and Atulya K. Nagar, "Uncertainty Management in Differential Evolution Induced Multi-objective Optimization in Presence of Measurement Noise", *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 2013 (to appear).
3. Anisha Halder, Rajshree Mandal, and **Amit Konar**, "Fuzzy Based Hierarchical Algorithm for Template Matching in Emotional Facial Images," *Journal of Intelligent and Fuzzy Systems*, IOS Press, vol. 24, no. 2, pp. 201- 214, 2013 .
4. Archana Chowdhury, **Amit Konar**, Pratyusha Rakshit, and Atulya K. Nagar, "A Multi-Objective Evolutionary Approach to Evaluate the Designing Perspective of Protein-Protein Interaction Network", *Journal of Network and Innovative Computing (JNIC)*, vol. 1, July 2013.

5. Anisha Halder, **Amit Konar**, Rajshree Mandal, Pavel Bhowmik, **Aruna Chakraborty** and Nikhil R. Pal, "General and Interval Type-2 Fuzzy Face-Space Approach to Emotion Recognition," *IEEE Trans. on Systems, Man and Cybernetics: Systems*, 2013.
6. **Amit Konar**, Sapam Jeetu Singh, Indrani Chakraborty and Lakhmi C. Jain, "A Deterministic Q-learning for Path-Planning of a Mobile Robot," *IEEE Trans. on Systems, Man and Cybernetics: Systems*, 2013 (to appear).
7. Anisha Halder, Rajshree Mandal and **Amit Konar**, "A hierarchical algorithm for fuzzy template matching in emotional facial images," *Journal of Intelligent and Fuzzy Systems*, IOS Press, 2013.
8. **Aruna Chakraborty**, **Amit Konar**, Nikhil R. Pal and Lakhmi C. Jain, "Extending the Contraposition Property of Propositional Logic for Fuzzy Abduction," *IEEE Trans. on Fuzzy Systems*, 2013 (to appear).
9. Anisha Halder, **ArunaChakraborty** and **Amit Konar**, and Srishti Shaw, "A New Approach to Emotion Recognition from the Lip Contour of a Subject," *Int. Journal of Artificial Intelligence and Tools*, 2012.
10. Sumantra Chakraborty, **Amit Konar** and Nikhil R. Pal, "A Fast Algorithm to Compute Precise Type-Centroids for Real-Time Control Applications," *IEEE Trans. on Cybernetics*, 2013 (to appear).
11. Tathagata Chakraborty, Abhronil Sengupta, **Amit Konar** and Nikhil R. Pal, "Robust 3D Face Recognition Using an Expression Generic Representative Face Model," *IEEE Trans. on Systems, Man and Cybernetics: Systems*, 2013 (to appear).
12. Saugat Bhattacharyya, **Amit Konar**, and D. N. Tiberwala, "Decoding of Motor Imagery and Error Related Potential for EEG-Driven Position Control of a Robotic Arm", *IEEE Transactions on Cybernetics*, submitted in July, 2013.
13. Anuradha Saha and **Amit Konar**, "Olfactory Perception by EEG-Analysis Using Differential Evolution Induced Recurrent Neural Network", *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, submitted in July, 2013.
14. Anwesha Banerjee, Shounak Datta, **Amit Konar** and D. N. Tibrewala, "Development strategy of eye movement controlled rehabilitation aid using electrooculogram," *Int. J. of Scientific and Engineering Research*, vol. 3, issue 6, June 2012.
15. Anisha Halder, **Amit Konar**, **Aruna Chakraborty** and Rajshree Mandal, "Emotion Recognition from Facial Expressions Using Type-2 Fuzzy Sets", In *Emotion Recognition-A Pattern Analysis Approach*, Wiley-Blackwell, 2013 (to appear).
16. **Amit Konar**, **Aruna Chakraborty** and Anisha Halder, "A Review of Pattern Recognition Techniques", In *Emotion Recognition-A Pattern Analysis Approach*, Wiley-Blackwell, 2012 (to appear).
17. Anisha Halder, Srishti Shaw, Kanika Orea, Pavel Bhowmik, **Aruna Chakraborty**, and **Amit Konar**, "A Computational Intelligence Approach to Emotion Recognition from the Lip Profile of a Subject," In *Modern Image Processing Algorithms Employing Computational Intelligence Techniques*, Springer Amitava Chatterjee and Patrick Siarry (Eds.), 2012 (to appear).
18. Rajshree Mandal, AnishaHalder, **Amit Konar** and Atulya K. Nagar "A Fuzzy Condition Sensitive Hierarchical Algorithm for Approximate Template Matching in Dynamic Image Sequence", In *Modern Image Processing Algorithms Employing Computational Intelligence Techniques*, Springer Amitava Chatterjee and Patrick Siarry (Eds.), 2012 (to appear).

19. **A. Konar, A. Chakraborty**, P. Bhowmick, Souvick Das and A. Halder, "Emotion Recognition from facial expression, voice and EEG signals," In *Cross-Disciplinary Applications of Artificial Intelligence and Pattern Recognition: Advancing Technologies*, V. K. Mago and N. Bhatia (Eds.), IGI Global, 2012.
20. K. Bakshi, S. Chandra, **A. Konar** and D. N. Tiberawala, "Hand Tremor Prediction and Classification Using Electromyogram Signals to Control Neuro-Motor Instability," In *Cross-Disciplinary Applications of Artificial Intelligence and Pattern Recognition: Advancing Technologies*, V. K. Mago and N. Bhatia (Eds.), IGI Global, 2012.
21. S. Sikdar, A. K. Pal, V. Talukdar and **A. Konar**, "Biclustering of Gene Microarray Data Using Multi-objective Evolutionary Optimization Algorithms," In *Recent Trends in Computational Biology and Computational Statistics Applied in Biotechnology and Bioinformatics*, Ajit K. Roy (Ed.), New India Publishing Agency, New Delhi, 2012.
22. **A. Chakraborty** and **A. Konar**, "Stability and Chaos in Cognitive Reasoning," In *Reasoning in Intelligent Systems, J. Nakamatshu (Ed.)*, World Scientific, 2012.

#### Publication List of Prof. Bhaskar Gupta

1. Sanghamitra Dasgupta and B.Gupta, "Compact Equilateral Triangular Patch Antenna with Slot Loading", *Microwave and Optical Technology Letters*, Wiley Blackwell (accepted)
2. M. Ganguly, P. Mukherjee, S. Dhar and B. Gupta, "Resonant Frequency Optimization of Microstrip Patch Antenna Using Particle Swarm Optimization Algorithm", *IUP Journal of Telecommunications (Accepted)*.
3. S. Dhar, R. Ghatak, **B. Gupta**, D. R. Poddar, "A Wideband Minkowski Fractal Dielectric Resonator Antenna", *IEEE Transactions on Antennas and Propagation*, vol.61, no.6, pp. 2895-2903, June 2013
4. Buddhadev Pradhan and Bhaskar Gupta, "Ku band RF MEMS tunable comb line band reject filter on coplanar transmission line", *International Journal of Electronics and Communication (AEU)*, Elsevier journal, vol.67( June 2013), pp-463-469.
5. R. P. Ghosh, K. Patra, B.Gupta, S.K.Chowdhury, "Novel Design of Broadband Printed Dipole Antennas Loaded With Slots on Arms" , *International Journal of Electronics & Communication Technology (IJECT)- Vol 4. Issue 2, Ver. 2 Apr. to June 2013*.
6. Sudipta Maity and **Bhaskar Gupta**, "Accurate Resonant Frequency of Isosceles Right Angled Triangular Patch Antenna" *Microwave and Optical Technology Letters* Vol. 55, No. 6, June 2013.
7. Sriparna Bhattacharya (Mitra) and Bhaskar Gupta, "A Novel Multifrequency Hybrid Antenna", *Microwave and Optical Technology Letters*, 11<sup>th</sup> May, 2013(Accepted).
8. Sanghamitra Dasgupta and Bhaskar Gupta "Design And Development Of An Integrated Microwave Amplifier System For Wireless Communication At 2.4GHz", *The IUP Journal of Electrical and Electronics Engineering*, vol. 6, No.2, April 2013, pp. 7-22.
9. R. P. Ghosh, K. Patra, B.Gupta, P.P.Sarkar, S.K.Chowdhury, "Printed Dipole Antennas with Shaped Ground Plane Used to Enhance Impedance Bandwidth " , *The IUP Journal of Electrical and Electronics Engineering*.
10. Manidipa Nath and Bhaskar Gupta, "Analysis of EM Scattering of Waveguide Filter using Neural Network", *International Journal of Electronics and Computer Science Engineering ( IJECSE)*, Vol.- 1, Number -2, 2012.

11. L. Lolit Kumar Singh, Bhaskar Gupta, Partha P Sarkar, "A Review on Effects of Finite Ground Plane on Microstrip Antenna", *International Journal of Electronics and Communication Engineering & Technology (IJCET)*, Volume 3, Issue 3, October- December 2012.
12. A. Deb, J. S. Roy and B. Gupta, "Design of Short-circuited Microstrip Antenna Using Differential Evolution Algorithm", *Microwave Review*, 2012, (Accepted).
13. Amrita Chakraborty, Avra Kundu, Sayan Chatterjee and Bhaskar Gupta, "Design of Compact RF MEMS Phase Shifters Based on Space-Filling Curves", *Journal of The Institute of Smart Structures and Systems 2012 (JISSS-2012)*, vol.1, September 2012 .
14. Sudipta Maity and Bhaskar Gupta, "Comments on A Triangular Dielectric Resonator Antenna Excited by a Coaxial Probe" , *Microwave and Optical Technology Letters*, Vol. 54, No. 6, pp. 1548, June 2012.
15. Avra Kundu, Hiranmoy Saha, **Bhaskar Gupta** "Tunable band- stop filter using metamaterial structure and MEMS bridges on silicon substrate", To be published *Journal of Micromechanics and Micro engineering*, 2012.
16. Sankaralingam Subramaniam, **Bhaskar Gupta** "Impedance and Radiation Characteristics of Circular Patch Wearable Antennas at Flat and Bent Positions" To be published in *International Journal of Signal and Imaging Systems Engineering* 2012.
17. S.Dhar, R.Ghatak, **B.Gupta** and D.R. Poddar, "Wideband Rhombic Dielectric Resonator Antenna with CPW Slot Excitation for IEEE 802.11a/ HiperLAN Application", To be published online in *International Journal of Electronics* ,2012.
18. Buddhadev Pradhan and **Bhaskar Gupta** "Comb Line Notch Filter Design on Silicon Coplanar Transmission Line", *International Journal of Scientific and Engineering Research (JSER)*, Volume 3, Issue 6, June-2012.
19. S. Sankaralingam, Sayantan Dhar, **Bhaskar Gupta**, Kais Zeouga, Ali Gharsallah, Lotfi Osman, "Performance of Electro-Textile Wearable Circular Patch Antennas in the Vicinity of Human Body at 2.45 GHz" *Eksevier – Procedia Engineering – Accepted for publication*.

#### Publication List of Prof.C.K.Sarkar

1. S. Roy, N. Banerjee, **C.K. Sarkar**, P. Bhattacharyya, "Development of an ethanol sensor based on CBD grown ZnO nanorods", *Solid State Electronics (Elsevier)*, Volume 87, September 2013, Pages 43–50
2. Srabanti Pandit, **C.K. Sarkar**, "Analytical modeling of flicker noise in DG-FinFETs with multi-layered nitrided high- $\epsilon$  gate dielectric", *Solid State Electronics (Elsevier)*, Volume 85, July 2013, Pages 54–58
3. A. Hazra, S. Das, J. Kanungo, E. Bontempi, **C. K. Sarkar**, P. Bhattacharyya, S. Basu, "Influence of temperature, voltage and hydrogen on the reversible transition of electrical conductivity in sol-gel grown nanocrystalline TiO<sub>2</sub> thin film", *Journal of Materials Science: Materials in Electronics (Springer)*, May 2013, Volume 24, Issue 5, pp 1658-1663.
4. J. Kanungo, **C. K. Sarkar**, S. Basu "Comparative study of Pd modified ZnO/p-Si and ZnO/PS/p-Si hetero structure for hydrogen detection". Accepted in *Sensor Letters (ASP)* (2013).
5. A. Hazra, S. Das, J. Kanungo, **C. K. Sarkar**, P. Bhattacharyya & S. Basu "Fast hydrogen detection by a resistive gas sensor based on sol-gel grown nanocrystalline p-TiO<sub>2</sub> thin film". *Sensors and Actuators B* 1(Elsevier). 83 (2013) 87–95.

6. A. Hazra, S. K. Hazra, D. Dutta, **C. K. Sarkar**, S. Basu, Studies on hydrogen sensing by anodized nanoporous titania thin film using soft drink electrolyte, *Frontiers in Sensors*, Volume 1, Issue 2, April, 2013.
7. D. Dutta, A. Hazra, S. K. Hazra, V. N. Lakshmi, S. Sinha, A. Gianoncholli, **C. K. Sarkar** and S. Basu, "CVD growth of multilayer graphene (MLG) film, characterizations and current- voltage study of Pd/graphene junction", *J. Nanomaterials & Molecular Nanotechnology*, (SciTech publications), (Communicated).
8. A. Hazra, S. Das, J. Kanungo, E. Bontempi, G. Alessandra, P. Bhattacharyya, **C.K. Sarkar**, S. Basu "Studies on Sol-gel Grown Nanocrystalline Titanium Dioxide Thin Films and Pd/p-TiO<sub>2</sub> Junctions: Influence of Hydrogen on the Junction Properties".Communicated in *Journal of Applied Physics* (2012).
9. A. Hazra, S. Das, J. Kanungo, **C.K. Sarkar**, S. Basu, "Studies on a resistive gas sensor based on sol-gel grown nanocrystalline p-TiO<sub>2</sub> thin film for fast hydrogen detection", *Sensors and Actuators B: Chemical (Elsevier)*, Volume 183, 5 July 2013, Pages 87–95.
10. HemantPardeshi, Godwin Raj, SudhansuPati, N. Mohankumar, **Chandan Kumar Sarkar**, "Influence of barrier thickness on AlInN/GaN underlap DG MOSFET device performance", *Superlattices and Microstructures (Elsevier)*, Volume 60, August 2013, Pages 47–59.
11. Hemant M. Pardeshi, Godwin Raj, SudhansuPati, N. Mohankumar, **Chandan Kumar Sarkar**, "Performance assessment of gate material engineered AlInN/GaN underlap DG MOSFET for enhanced carrier transport efficiency", *Superlattices and Microstructures (Elsevier)*, Volume 60, August 2013, Pages 10–22
12. N. Banerjee, S. Roy, **C. K. Sarkar**, P. Bhattacharyya, "High Dynamic Range Methanol Sensor Based on Aligned ZnONanorods," *IEEE Sensors Journal*, vol.13, no.5, pp.1669-1676, May 2013.
13. Sudhansu Kumar Pati, HemantPardeshi, Godwin Raj, N. Mohan Kumar, **Chandan Kumar Sarkar**, "Impact of gate length and barrier thickness on performance of InP/InGaAs based Double Gate Metal-Oxide-Semiconductor Heterostructure Field-Effect Transistor (DG MOS-HFET)", *Superlattices and Microstructures (Elsevier)*, Volume 55, March 2013, Pages 8–15
14. D. Godwinraj, HemantPardeshia, Sudhansu Kumar Pati, N. Mohankumarb, **Chandan Kumar Sarkar**, "Polarization based charge density drain current and small-signal model for nano-scale AlInGaN/AlN/GaN HEMT devices", *Superlattices and Microstructures (Elsevier)*, Volume 54, February 2013, Pages 188–203
15. KalyanKoley,ArkaDutta, BinitSaymal, Samar K. Saha and **Chandan K. Sarkar**, "Subthreshold Analog/RF Performance Enhancement of Underlap DG FETs with High-k Spacer for Low Power Applications", *IEEE Transactions on Electron Devices*, vol. 60, issue 1, pp. 63-69, January 2013
16. SrabantiPandit, BinitSyamal **C. K. Sarkar**, "Modeling of noise for p-channel DG-FinFETs", *Microelectronics Reliability (Elsevier)*, Volume 52, Issue 6, June 2012, Pages 984–988.
17. M. Mukherjee, **C. K. Sarkar**, "A Simple Theoretical Analysis of the Performance of Antenna Array Based on carbon Nanotubes (CNT)", *Journal of Computational and Theoretical Nanoscience (ASP)*, Volume 9, Number 7, November 2012, 942–946.
18. Sudhansu Kumar Pati, HemantPardeshi, Godwin Raj, N Mohankumar and **Chandan Kumar Sarkar**, "Flicker and thermal noise in an n-channel underlap DG FinFET in a weak inversion region", *Journal of Semiconductors (IOP)*, Volume 34 Number 2, pp-024002
19. HemantPardeshi, Sudhansu Kumar Pati, Godwin Raj, N Mohankumar and **Chandan Kumar Sarkar**, "Effect of underlap and gate length on device performance of an AlInN/GaN underlap MOSFET", *Journal of Semiconductors (IOP)*, Volume 33 Number 12, pp-124001

20. HemantPardeshi , Sudhansu Kumar Pati , N. Mohankumar , **Chandan Kumar Sarkar**, "Investigation of Asymmetric Effects Due to Gate Misalignment, Gate Bias and Underlap Length in III-V Heterostructure Underlap DG MOSFET" , *Physica E (Elsevier)*, vol. 46, September 2012, Pages 61–67.
21. HemantPardeshi , Godwin Raj, Sudhansu Kumar Pati , N. Mohankumar , **Chandan Kumar Sarkar**, "Comparative assessment of III-V heterostructure and silicon underlap double gate MOSFETs", *Semiconductors (Springer)*, Volume 46, no. 10, pp. 1322-1326, 2012.
22. Kalyan Koley, BinitSyamal, AtanuKundu, N. Mohankumar and **C. K. Sarkar**, "Subthreshold Analog/ RF Performance of Underlap DG FETs with Symmetric and Asymmetric Source/ Drain Extensions", *Microelectronics Reliability (Elsevier)*, Volume 52, November 2012, Pages 2572-2578.
23. AngsumanSarkar, Swapnadip De, AnupDey & **Chandan Kumar Sarkar**, "A new analytical subthreshold model of SRG MOSFET with analogue performance investigation", *International Journal of Electronics (Taylor & Francis)*, Volume 99, Issue 2, February 2012, pages 267-283
24. SrabantiPandit & **C.K. Sarkar**, "Analytical modelling of inverse narrow width effect for narrow channel STI MOSFETs", *International Journal of Electronics (Taylor & Francis)*, Volume 99, Issue 3, March 2012, pages 361-377
25. AmretashisSengupta, **Chandan Kumar Sarkar** and Felix G. Requejo, "Semi-analytical modeling of Ag and Au nanoparticles and fullerene (C60) embedded gate oxide compound semiconductor MOSFET memory devices", *Journal of Computational Electronics (Springer)*, Online First™, 24 May 2012
26. D.Kayal, A. Dandapat, **C.K.Sarkar**, "Design of a High Performance Memory Using a Novel Architecture of Double Bit CAM and SRAM", *International Journal of Electronics (Taylor & Francis)*, First Published: 06 Jun 2012.
27. AngsumanSarkar, Swapnadip De, AnupDey and **Chandan Kumar Sarkar**, "Analog and RF performance investigation of cylindrical surrounding-gate MOSFET with an analytical pseudo-2D model", *Journal of Computational Electronics (Springer)*, 2012, Volume 11, Number 2, Pages 182-195
28. Sengupta, A., **Sarkar, C.K.** "Analytical modeling of si and au nanocrystal embedded multilayer gate dielectric long channel gate all around (GAA) MOSFET nonvolatile memory devices", *Nanoscience and Nanotechnology Letters (ASP)*, Volume 4, Issue 7, July 2012, Pages 667-675
29. Hota, M.K. , **Sarkar, C.K.**, Maiti, C.K. "Frequency-dependent dielectric response of HfTaO<sub>x</sub>-based metalinsulatormetal capacitors", *Semiconductor Science and Technology (IOP)*, Volume 27, Issue 8, August 2012, Article number085002
30. S. Roy, **C. K. Sarkar**, P. Bhattacharyya, "A highly sensitive methane sensor with nickel alloy microheater on micromachined Si substrate" , *Solid-State Electronics(Elsevier)*, Volume 76, October 2012, Pages 84-90
31. Kanungo, J., **Sarkar, C.K.**, Basu, S., "Improved hydrogen sensing characteristics of ZnO/p-Si heterojunction by functionalization of sol-gel grown nanocrystallineZnO films", *Sensor Letters (ASP)*, Volume 10, Issue 1-2, January 2012, Pages 78-85
32. Sengupta, Amretashis; Shah, Pashupati; **Sarkar, Chandan Kumar**; Requejo, Felix G., "Computational Study on Semiconducting and Metallic Nanocrystal Embedded Gate Oxide MOS



Non Volatile Memory Devices" , *Advanced Science Letters (ASP)*, Volume 10, Number 1, May 2012 , pp. 47-54(8)

33. S. Roy, **C. K. Sarkar**, P. Bhattacharyya, "Ultrasensitive Pd–Ag/ZnO/Nickel Alloy-Based Metal–Insulator-Metal Methane Sensor on Micromachined Silicon Substrate", *IEEE Sensors Journal*, vol.12, no.7, pp.2526-2527, July 2012
34. Roy, S.; **Sarkar, C.K.**; Bhattacharyya, P., "Low Temperature Fabrication of a Highly Sensitive Methane Sensor with Embedded Co-Planar Nickel Alloy Microheater on MEMS Platform", *Sensor Letters (ASP)*, Volume 10, Numbers 3-4, March/April 2012 , pp. 760-769(10)
35. S.Roy, N.Banerjee , **C.K.Sarkar**, P.Bhattacharyya. "Low temperature Ethanol Sensor based on CBD grown ZnO nanorods" *Solid-State Electronics (Elsevier)*. *Solid-State Electronics (Elsevier)*. vol. 87, pp. 43-50, 2013.
36. N. Banerjee, B. Bhowmik, S. Roy, **C. K. Sarkar**, P. Bhattacharyya. "Anomalous Recovery Characteristics of Pd Modified ZnO Nanorod Based Acetone Sensor" *Journal of Nanoscience & Nanotechnology (ASP)*, vol. 13, pp. 6826-683, 2013.
37. Z. Darmastuti, P. Bhattacharyya, M. Andersson, J. Kanungo, S. Basu, P.-O. Käll, L. Ojamäe, A. Lloyd Spetz, "SiC-FET methanol sensors for process control and leakage detection". *Sensors and Actuators B 1(Elsevier)*. 178 (2013) 385–394. (<http://dx.doi.org/10.1016/j.snb.2012.12.086>)
38. AngsumanSarkar, Swapnadip De, AnupDey and **Chandan Kumar Sarkar**, "1/f noise and analogue performance study of short-channel cylindrical surrounding gate MOSFET using a new subthreshold analytical pseudo-two-dimensional model", *IET Circuits, Devices & Systems*, vol.6, no.1, pp.28-34, January 2012.
39. AngsumanSarkar, Alope Kumar Das, Swapnadip Deb, **Chandan Kumar Sarkar**, "Effect of gate engineering in double-gate MOSFETs for analog/RF applications", *Microelectronics Journal*, Volume 43, Issue 11, November 2012, Pages 873–882

#### **Publication List of Prof. M.K Naskar**

1. **A. W. Rohankar**, Mrinal Kanti Naskar, **Amitava Mukherjee**, "SWiFiNet: a real field WSN testbe", *IJCNSD 11(2): 157-171 (2013)*.
2. Jishan Mehedi, **Mrinal Kanti Naskar**, "A Fuzzy Based Distributed Algorithm for Maintaining Connected Network Topology in Mobile Ad-Hoc Networks Considering Freeway Mobility Model", *CIT 20(2): 69-84 (2012)*

#### **Publication List of Prof. Iti Saha Misra**

1. Arijit Ukill, **Iti Saha Misra**, "Integrated Predictive Call Admission Control and Resource Reservation for Wireless Networks: An Adaptive Filtering Approach", *Journal of European Transactions on Emerging Telecommunications Technologies, Wiley*, March 2012.
2. Prasun Chowdhury, **Iti Saha Misra**, "Comparative Evaluation of Queue Scheduling Schemes with Heterogeneous Traffic Classes in BWA Networks", *IEEE Journal* under revision, March 2013.
3. Dulal Mandal, **Iti Saha Misra**, " An Inovative DSP Processor Based Heart activity Detection Technique", *International Journal of Advanced computer Engineering and Architecture*, December 2012) ISSN0: 22489452.

#### **Publication List of Prof. Salil Kumar Sanyal**

1. B.K.Upadhyaya and **S.K.Sanyal**, "Novel design of WiMAX multimode Inter leaver for efficient FPGA implementation using Finite State Machine based Address Generator", *International Journal of Communications*, North Atlantic University Union, Vol. 6, Issue 2, pp 27-36, August, 2012.

#### **Publication List of Prof. Iti Saha Misra and Prof. Salil Kumar Sanyal**

1. Budhaditya Bhattacharyya, **Iti Saha Misra and Salil Kumar Sanyal**, Novel Cyclic Prefix Selection to Improve Spectral Efficiency and Signal Strength in OFDM Systems, *International Journal on Recent Trends in Engineering and Technology*, Vol. 8, No. 2, Jan 2013.
2. Budhaditya Bhattacharyya, **Iti Saha Misra and Salil Kumar Sanyal**, "Reduction of Phase Offset in OFDM systems using Unique Adaptive Cyclic Prefix based Sub Block Correlation Strategy", communicated to IEEE Transaction.
3. Anindita Kundu, Prasun Chowdhury, **Iti Saha Misra and Salil K. Sanyal**, "QoS Aware Integrated Call Admission and Cognitive Channel Allocation Scheme for a Macro-Femto BWA Network", published in the *AICIT Journal of Research Notes in Information Science*. (ISSN: 2287-1942), vol. 11, pp. 47-59, Jan 2013.
4. B. Bhattacharyya, **Iti Saha Misra and Salil K. Sanyal**, "Analysis and Optimization of Error Performance of a WiMAX Transceiver using Novel Adaptive Cyclic Prefix Strategy under AWGN and Rayleigh Fading Scenario Academy Publishers, *Journal of Networks*, Vol. 7, No. 12, pp 1952- 1966, December, 2012.
5. B. Bhattacharyya, **Iti Saha Misra and Salil K. Sanyal**, "Design of Simulink-VSA based Novel WiMAX Transceiver Model and its Quantitative Performance under Different Signal Processing Environments", *Advances in Wireless and Mobile Communications*, Vol. 5, No. 1, March 2012, pp. 17-44, ISSN 0973-6972.
6. V. Sharma, B. Bhattacharyya, **Iti Saha Misra and Salil K. Sanyal**, "Development of a Multiplier based QPSK Modulator Test-bed and Integration with Agilent Vector Signal Analyzer (89600) for Performance Evaluation", *International Journal of Computer Applications*, October 2012.
7. T. Chakraborty, **Iti Saha Misra and Salil K. Sanyal**, "Proactive QoS Enhancement Technique for Efficient VoIP Performance over Wireless LAN and Cognitive Radio Network", Academy Publishers, *Journal of Networks*, Vol. 7, No. 12, pp 1925 -1942, December, 2012.
8. Tamal Chakraborty, **Iti Saha Misra and Salil K. Sanyal**, "QoS Enhancement Techniques for Efficient VoIP Performance in Cognitive Radio Network," *International Journal of Computer Information Systems and Industrial Management Applications*, July 2012.
9. Tamal Chakraborty, **Iti Saha Misra and Salil K. Sanyal**, "Simulation Design and Performance Analysis for VoIP in Cognitive Radio Networks," in *International Journal of Computer Applications*, vol. 62, no. 5, pp. 15-23, January 2013, doi: 10.5120/10076-4688.
10. Prasun Chowdhury, Anindita Kundu, **Iti Saha Misra and Salil K. Sanyal**, "Load Balancing with Reduced Unnecessary Handoff in Energy Efficient Macro/Femto-cell based BWA Networks" *International Journal of Wireless & Mobile Networks (IJWMN)*, Springer, Vol. 4, No. 3, pp. 105-118, June 2012.
11. T. Chakraborty, A. Mukhopadhyay, S. Bhunia, **Iti Saha Misra and Salil K. Sanyal**, "An Optimization Technique for Improved VoIP Performance over Wireless LAN", *Journal of Networks*, Academy Publisher, April 2012.

12. Prasun Chowdhury, **Iti Saha Misra and Salil K. Sanyal**, "Cross Layer QoS Support Architecture with Integrated CAC and Scheduling Algorithms for WiMAX BWA Networks", *International Journal of Advanced Computer Science and Applications (IJACSA)*, Vol. 3, No. 1, pp. 76-92, January 2012, Science And Information Organization, New York, USA.
13. A. Mukhopadhyay, T. Chakraborty, **Iti Saha Misra and Salil K. Sanyal**, "Enhancing the QoS of a VoIP Call using an Adaptive Jitter Buffer Playout Algorithm with Variable Window Size", *International Journal of Mobile Network Communications & Telematics (IJMNCT)*, Vol. 2, No.3, pp. 59-77, doi: 10.5121/ijmnct, June, 2012.
14. Anindita Kundu, P. Chowdhury, **Iti Saha Misra and Salil K. Sanyal**, "QoS Aware Integrated Call Admission and Cognitive Channel Allocation Scheme for a Macro-Femto BWA Network", *AICIT Journal of Research Notes in Information Science*, Vol. 11, pp. 47-59, January, 2013.
15. B.B.Mangaraj, **Iti Saha Misra and Salil K. Sanyal**, "Application of Bacteria Foraging Algorithm in Designing Log Periodic Dipole Array for entire UHF TV Spectrum", *International Journal of RF and Microwave Computer-Aided Engineering*, Vol. 23, No. 2, pp 157-171, March, 2013.

#### **Publication List of Prof. Subir Kumar Sarkar**

1. Priyanka Saha, Amit Jain and **Subir Kumar Sarkar**, "A Comparative Study of CMOS & CNTFET Based Inverter at 32nm Technology node", *Asian Journal of Chemistry*, Volume. 25, pp: S424-S426, Supplementary Issue 2013.
2. Amit Jain, Arpita Ghosh and **Subir Kumar Sarkar**, "On Simulation of Single Electron Transistor", *Asian Journal of Chemistry*, Volume. 25, pp: S409-S410, Supplementary Issue 2013.
3. Abhinandan Khan and **Subir Kumar Sarkar**, "A Novel Very Large Scale Integration Routing Based on Particle Swarm Optimization", communicated to *IEEE Transactions on Evolutionary Computation*.
4. Amit Jain, Arpita Ghosh and **Subir Kumar Sarkar**, "A Spice Macro model of Single Electron Transistor using Symmetric Tunnel junction", communicated to *Microelectronics Journal*, Elsevier.
5. Joyashree Bag, Rajanna K.M and **Subir Kumar Sarkar**, "Design and implementation of a Zig-bee enabled processor for RFID reader suitable for power efficient home/office automation", *Euro Journal of Scientific Research*, Accepted.
6. Anindya Jana, N. B. Singh, J.K.Sing and **Subir Kumar Sarkar** "Design and Simulation of Hybrid CMOS-SET circuits", *Microelectronics Reliability (Elsevier)*, Volume 53, Issue 4, Pages 592-599, 2013.
7. Anindya Jana, J.K.Sing and **Subir Kumar Sarkar** "Design and Simulation of Hybrid SET-CMOS based combinational circuits," Communicated to *IJE (Taylor & Francis)*.
8. Anindya Jana, Biswabandhu Jana, J.K.Sing and **Subir Kumar Sarkar** "A comparative performance study of hybrid SET-CMOS based logic circuits for the estimation of robustness," communicated to *IET Circuit, Devices and Systems*.
9. Amit Jain, Arpita Ghosh, **Subir Kumar Sarkar**, "A Novel Approach to Analyse the Stability and Reliability of Hybrid SET-MOS Universal Logic Gates" communicated to *Microelectronics Reliability*.

10. Sourav Naskar and **Subir Kumar Sarkar**, "A quantum analytical model for inversion charge & threshold voltage of Short channel DMDG SON MOSFET", IEEE Transactions on Electron Devices, vol no-60, no.-9, Pp: 2734-2740,2013.
11. Abhishek Basu and **Subir Kumar Sarkar**, "On the Implementation of Robust Copyright protection Scheme Using visual Attention Model," Information Security Journal: A Global Perspective, Taylor & Francis, Vol: 22, pp 10-20, 2013.
12. Joyashree Bag and **Subir Kumar Sarkar**, "Development and VLSI implementation of a data security scheme for RFID system using programmable cellular automata" International Journal Radio Frequency Identification Technology and Applications, Vol. 4, No. 2, Pp: 197-211, 2013 .
13. Anindya Jana, R S Halder, S S Singh, J K Sing and **Subir Kumar Sarkar**. "Design and Simulation of Hybrid SET-CMOS based Hysteresis Circuits: Schmitt Trigger, with their Realization",. International Journal of Computer Application (IJCA), ISBN:973-93-80875-27-5, 2013.
14. Bibhas Manna, Saheli Sarkhel, Ankush Ghosh, S S Singh and **Subir Kumar Sarkar**,"Dual Material Gate Nanoscale SON MOSFET: For Better Performance", International Journal of Computer Application (IJCA), ISBN: 973-93-80875-27-15, 2013.
15. J.Bag,Rashmi Ranjan Sahoo, P.K.Dutta, **Subir Kumar Sarkar**, " Design and VLSI Implementation of Power Efficient Processor for object localization in Large WSN," accepted to Inderscience Journal,Vol x,No. x,200x.
16. S. Majumder, k.J. Devi and Subir Kumar Sarkar, "Singular value decomposition and wavelet-based iris biometric watermarking," IET Biometrics, vol.2, no.1, pp.21-27, March 2013.
17. Abhishek Basu, Souvik Sarkar and **Subir Kumar Sarkar**, "On the Implementation of a Real time Information security architecture in Frequency domain," International Journal of Electronics", Taylor & Francis, accepted,2013.
18. Suman Basu, Samir Kumar Sarkar and **Subir Kumar Sarkar**, "Exploring Novel Characteristics of Strain Compensated SiGeC Nanoscale MOSFET," Indian Journal of Physics, Volume 87, Issue 4, pp 333-338, 2013.
19. Sanjoy Deb, N.B.Singh, Nurul Islam and **Subir Kumar Sarkar**, "Work Function Engineering With Linearly Graded Binary Metal Alloy Gate Electrode for Short Channel SOI MOSFET", IEEE Transaction on Nano ,**Volume:** 11 ,Issue: 3 **Page(s):** 472 – 478, 2012.
20. Bibhas Manna, Saheli Sarkhel, N.Islam, S.Sarkar, **Subir Kumar Sarkar**, "Spatial Composition Grading of Binary Metal Alloy Gate Electrode for Short-Channel SOI/SON MOSFET Application", IEEE Transaction on ED Vol-59, Issue-12, Pp-3280-3287, 2012.
21. Anindya Jana, Rajat Suvra Halder, J. K. Sing, **Subir Kumar Sarkar**. "Design and simulation of hybrid SET CMOS based sequential circuit". International Journal of Computer Science & Informatics (IJCSI), ISSN (PRINT) : 2231–5292, Vol.- II, Issue-1, 2.2012.
22. Anindya Jana, Rajat Suvra Halder, J. K. Sing, **Subir Kumar Sarkar**. , "Design and simulation of hybrid SET CMOS based sequential circuits". Journal of Nano and Electronic Physics, Vol.4 No.2, 2004(5pp), 2012.
23. Saheli Sarkhel, Sounak Naha and **Subir Kumar Sarkar** "Reduced SCEs in Fully Depleted Dual-Material Double-Gate(DMDG) SON MOSFET: Analytical Modelling and Simulation". International Journal of Scientific and Engineering Research (IJSER), Volume 3, Issue 6, June 2012.

24. Kousik Naskar, C. J. Clement Singh, **Subir Kumar Sarkar**, "Analytical modelling of SON MOSFET and realization of future high speed and ultra-dense low power Circuits."JNEP, Vol-4, No-2, 02023(5pp), 2012.
25. Amit Jain and **Subir Kumar Sarkar** "Design and Reliability analysis of a 4 :1 Mux using Single Electron Tunnelling technology based Threshold Logic Gate", Journal of Electron Devices, Vol-15, Pp-1241-1248,2012.
26. Joyashree Bag, Rajanna K.M, **Subir Kumar Sarkar**, "Design and VLSI implementation of Anti-collision enabled Robot Processor using RFID Technology ," VLSI Journal of Communication System, Vol-3, No-6,December 2012.
27. Bijoy Kantha, Subhashis Roy and **Subir Kumar Sarkar**, "Electro-Thermo-Mechanical analysis of MEMS based Micro-hotplate for gas sensor application", International Journal of Applied Engineering Research, ISSN No:- 0973-4562, Vol-7, No-11, 2012.
28. Madhumita Chakraborty, **Subir Kumar Sarkar**, Rabindranath Bera " Improving Stability performance of wide-band High gain MMIC power Amplifier of KU Band", communicated to IEEE Transaction on Microwave Theory and Techniques.
29. *Rajanna .K .M. and **Subir Kumar Sarkar**, "Development of RFID based automatic loading system for transport vehicles", communicated to acta press..*
30. Suman Basu and **Subir Kumar Sarkar**, "Modelling of Simple Capacitive SON MOSFET Structure and Study Its Performance," Accepted to International Journal Of Emerging Sciences.
31. Suman Basu and **Subir Kumar Sarkar**, "Analytical Modelling of Strained Silicon on Nothing MOSFET Structure and Study Its Performance," communicated to Journal of Nano and Electronic Physics.

#### **Publication List of Dr. A. S. Chowdhury**

1. A.K. Rudra, **A.S. Chowdhury**, A. Elnakib, F. Khalifa, A. Soliman, G. Beache, A. El-Baz: Kidney Segmentation using Graph Cuts and Pixel Connectivity, *Pattern Recognition Letters, Elsevier* (accepted)

#### **Publication List of Dr. (Mrs.) Chayanika Bose**

1. A. Chandra, **C. Bose**, M. K. Bose, 'Performance of non-coherent MFSK with selection and switched diversity over Hoyt fading channel, *Wireless Personal Communications (Springer)*, vol.68, no. 2, pp.379-389, 2013.

#### **Publication List of Dr. Manotosh Biswas**

1. **M. Biswas** and M. Dam, "Theoretical and experimental studies on characteristics of an equilateral triangular patch antenna with and without variable air gaps", *Microwave and Optical Technology Letters*, vol. 55, pp. 2271-2277, 2013.
2. **M. Biswas**, S. Banik, M. Biswas, and A. Shukla, "CAD model to predict the effect of radome on the characteristics of rectangular patch antenna", *Microwave and Optical Technology Letters*, vol. 55, pp. 2460-2468, 2013.
3. **M. Biswas** and S. Banik, "Fast and accurate model to investigate the effect of composite and suspended substrate on the characteristics of circular patch antenna", *ActaTechnica*, vol. 58, pp. 223-238, 2013.
4. **M. Biswas**, and M. Dam, "Characteristics of Equilateral Triangular Patch Antenna on Suspended and Composite Substrates," *Electromagnetics*, vol. 33, pp. 99-115, 2013.

5. M. Sen and **M. Biswas**, "Cad model to predict the effect of radome on the characteristics of rectangular patch antenna", *Int. J. of Engineering Science and Technology*, vol. 5, pp. 5055-563, 2013.
6. **M. Biswas**, and M. Dam, "Fast and Accurate Model of Equilateral Triangular Patch Antennas with and without Suspended Substrates," *Microwave and Optical Technology Letters*, vol. 54, pp. 2663-2668, 2012.
7. **M. Biswas**, and S. Banik, "Characteristics of Circular Patch Antenna with and without Air-Gaps," *Microwave and Optical Technology Letters*, vol. 54, pp. 1692-1699, 2012.

#### **Publication List of Prof. R.N.Nandi and Dr. P. Venkateswaran**

1. **P. Venkateswaran**, **R. Nandi** and Sagarika Das, "New Integrators and Differentiators using a MMCC", *Journal Circuits and Systems (CS)*, (ISSN 2153-1285), Scientific Research Publishing, USA, Vol. 3, No. 3, pp. 288-294, July 2012.

#### **Publication List of Dr. P. Venkateswaran**

1. S. Dhabal and **P. Venkateswaran**, "An Efficient Nonuniform Cosine Modulated Filter Bank Design using Simulated Annealing", *Journal of Signal and Information Processing (JSIP)*, (ISSN 2159-4465), Scientific Research Publishing, USA, Vol. 3, No. 3, pp. 330-338, August 2012.
2. S. Dhabal, **P. Venkateswaran**, "Efficient Cosine Modulated Filter Bank Using Multiplierless Masking Filter and Representation of Prototype Filter Coefficients Using CSD", *International Journal of Image, Graphics and Signal Processing - IJIGSP*, (ISSN 2074-9074), MECS Publisher, Hong Kong, Vol.4, No.10, pp.25-33, Sep. 2012.

#### **Publication List of Dr. Sheli Sinha Chaudhuri**

1. Suvojit Acharjee and **Sheli Sinha Chaudhuri**, "Fuzzy Logic Based Four Step Search Algorithm for Motion Vector Estimation", *International Journal of Image, Graphics and Signal Processing (IJIGSP)*, ISSN: 2074-9074(Print), ISSN: 2074-9082 (Online),Page Number:49-55,Vol 4 issue 4,May 2012. , 46,Published By: MECS Publisher,[Indexed at EBSCO, Crossref ]
2. Suvojit Acharjee and **Sheli Sinha Chaudhuri**, "Fuzzy Logic Based Three Step Search Algorithm for Motion Vector Estimation", *International Journal of Image, Graphics and Signal Processing (IJIGSP)*, ISSN: 2074-9074(Print), ISSN: 2074-9082 (Online),Page Number:37-43,Vol 4 issue 2,March 2012. Published By: MECS Publisher,[Indexed at EBSCO, Crossref ]
3. Nilanjan Dey, Achintya Das, **Sheli Sinha Chaudhuri**, "Wavelet Based Normal and Abnormal Heart Sound Identification Using Spectrogram Analysis",*International Journal of Computer Science & Engineering Technology (IJCSET)*,Vol. 3 No. 6 June 2012, ISSN: 2229-3345.
4. Nilanjan Dey, Sayantan Mukhopadhyay, Achintya Das, **Sheli Sinha Chaudhuri**, "Using DWT analysis of P, QRS and T Components and Cardiac Output Modified by Blind Watermarking Technique within the Electrocardiogram Signal for Authentication in the Wireless Telecardiology", *I.J. Image, Graphics and Signal Processing(IJIGSP)*, ISSN:2074-9074, July 2012,Vol 4 issue 7, Page number:33-46. Published By: MECS Publisher,[Indexed at EBSCO, Crossref ]
5. Pradipta Ghosh, Joydeep Banarjee,**Sheli Sinha Chaudhuri**, Swagatam Das, "Design of Non-Uniform Circular Antenna Arrays-An Evolutionary Algorithm Based Approach", *Journal of Electromagnetic Waves and Applications* , ISSN: 0920-5071 (\*Communicated)
6. SwatiChowdhuri, **Dr.Sheli Sinha Chaudhury**, Dr. Arun Kumar Mondal, Dr. P.K. Baneerjee, "INVESTIGATION OF PACKET TRANSMISSION STRATEGIES OF MIMO EQUIPPED MOBILE ADHOC NETWORK USING SPACE-TIME CODING", *International Journal of Engineering Inventions* ISSN: 2278-7461, www.ijejournal.com Volume 1, Issue 7 (October2012) PP: 29-35.

7. Swati Chowdhuri, Nilanjan Byabarta, **Dr. S.S.Choudhury** and Dr. P.K.Baneerjee, "REALIZATION OF DIFFERENT DIVERSITY TECHNIQUE FOR MIMO BASED MOBILE AD HOC NETWORK USING SPACE TIME BLOCK CODES", Council for Innovative Research International Journal of Computers & Technology www.cirworld.com Volume 4 No. 2, March-April, 2013, ISSN 2277-3061.
8. Swati Chowdhuri, **Dr. Sheli Sinha Chaudhury**, Dr. Arun Kumar Mondal, Dr. P.K.Baneerjee "Optimize Transmission Ranges and Improved Information Efficiency of MIMO Equipped Mobile Ad Hoc Network in Presence of Fading", Communicating with Computer Communication, Elsevier.

#### **Publication List of Dr. Sudhabindu Ray**

1. **S. Ray** and G. Kumar, "Isosceles triangular unequal power divider", Microwave and Optical Technology Letters, Vol-55, No-2, pp 254–258, 2013
2. B. Chatterjee, **S. Ray**, B N Biswas and S. Sarkar, "Fuzzy Aided Phase Frequency Controlled Digital Phase Locked Loop". International Journal Of Electronics & Communication Technology, Vol-4, spl1, 2013
3. I. Ali, B.N. Biswas and **S. Ray**, "Improved Closed Form Large Injection Perturbation Analytical Model on the Output Spectrum of Unlocked Driven Oscillator—Part I: Phase Perturbation" IEEE Transactions on Circuits and Systems I: Regular Papers, (on publication process)

#### **Publication List of Dr. Sudhabindu Ray and Prof. S. K. Sarkar**

1. K. Majumder, **S. Ray** and S. K. Sarkar, "Performance Analysis of DSDV and DSR under Variable Node Speed in Hybrid Scenario", International Journal of Wireless & Mobile Networks (IJWMN) , (ISSN : 0975 - 3834[Online]; 0975 - 4679 [Print]), Vol-4, No-4, pp 269-282, August 2012

#### **Publication List of Prof. Chandan Kumar Sarkar and Mr. Sayan Chatterjee**

1. Dipankar Saha, Subhramita Basak, Sagar Mukherjee, **Sayan Chatterjee**, C. K. Sarkar, "Implementation of the Cluster based Tunable Sleep Transistor Cell Power Gating Technique for a 4×4 Multiplier Circuit", International Journal of Computer Applications (0975-8887), vol. 66, no. 23, March, 2013.

#### **Publication List of Dr. Sudipta Chattopadhyay**

1. Abhijit Chandra and **Sudipta Chattopadhyay**, "Role of Mutation Strategies of Differential Evolution Algorithm in Designing Hardware Efficient Multiplier-less Low-pass FIR Filter", *Journal of Multimedia*, vol. 7, no. 5, pp. 353-363, October 2012.
2. Abhijit Chandra and **Sudipta Chattopadhyay**, "A Novel Approach for Coefficient Quantization of Low-pass Finite Impulse Response Filter using Differential Evolution Algorithm", *Signal, Image and Video Processing*, Springer, DOI: 10.1007/s11760-012-0359-4, July 2012.
3. Abhijit Chandra and **Sudipta Chattopadhyay**, "Novel Approach of Designing Multiplier-less Finite Impulse Response Filter using Differential Evolution Algorithm", *International Journal of Intelligent Systems and Applications*, MECS Publisher, vol. 4, no. 4, pp. 54-62, April 2012.

#### **4. B. Articles Published in Conferences in the Year 2012- 2013:**

##### **Publication List of Prof. Amit Konar**

1. Anisha Halder, Aruna Chakraborty, **Amit Konar** and Atulya K. Nagar, " Computing with Words Model for Emotion Recognition by Facial Expression Analysis Using Interval Type-2 Fuzzy Sets," in *Proc. of International Conference on Fuzzy Systems (FUZZ-IEEE)*, Hyderabad, India, 2013.

2. Pratyusha Rakshit, Archana Chowdhury, **Amit Konar** and Atulya K. Nagar, "Multi-objective Evolutionary Approach of Ligand Design for Protein-Ligand Docking Problem", in *Proc. of IEEE Congress on Evolutionary Computation (CEC)*, Cancun, Mexico, June, 2013.
3. Pratyusha Rakshit, **Amit Konar**, Swagatam Das, and Atulya K. Nagar, "ABC-TDQL: An Adaptive Memetic Algorithm", in *Proc. of IEEE Symposium Series on Computational Intelligence*, Singapore, 2013.
4. Saugat Bhattacharyya, Pratyusha Rakshit, **Amit Konar**, D. N. Tibarewala, Swagatam Das, and Atulya K. Nagar, "Differential Evolution with Temporal Difference Q-Learning Based Feature Selection for Motor Imagery EEG Data", in *Proc. of IEEE Symposium Series on Computational Intelligence*, Singapore, 2013.
5. Anuradha Saha, **Amit Konar**, Pratyusha Rakshit, and Atulya K. Nagar, "Olfaction Recognition by EEG Analysis using Differential Evolution Induced Hopfield Neural Net", in *Proc. of IEEE 13<sup>th</sup> International Joint Conference on Neural Networks (IJCNN)*, Dallas, TX, 2013.
6. Abhishek Ghosh Roy, Pratyusha Rakshit, **Amit Konar**, Samar Bhattacharya, Eunjin Kim, and Atulya K. Nagar, "Adaptive Firefly Algorithm for Nonholonomic Motion Planning of Car-like System", in *Proc. of IEEE Congress on Evolutionary Computation*, Hyderabad, India, 2013.
7. Pratyusha Rakshit, **Amit Konar**, and Atulya K. Nagar, "DEMO-TDQL: An Adaptive Multi-objective Optimization Algorithm", in *Proc. of IEEE Congress on Evolutionary Computation*, Hyderabad, India, 2013.
8. Pratyusha Rakshit, Archana Chowdhury, **Amit Konar**, and Atulya K. Nagar, "Multi-objective Evolutionary Approach of Ligand Design for Protein-Ligand Docking Problem", in *Proc. of IEEE Congress on Evolutionary Computation*, Hyderabad, India, 2013.
9. Pratyusha Rakshit, **Aruna Chakraborty**, **Amit Konar**, and Atulya K. Nagar, "Secondary Membership Evaluation in Generalized Type-2 Fuzzy Sets by Evolutionary Optimization Algorithm", in *Proc. of IEEE International Conference on Fuzzy Systems*, Hyderabad, India, 2013 (accepted, to be published).
10. R. Janarthanan, **Aruna Chakraborty**, **Amit Konar** and Atulya K. Nagar, "Adhoc Reasoning in Chained Fuzzy Systems Realized with Diens-Rescher Implication", in *Proc. of IEEE International Conference on Fuzzy Systems*, Hyderabad, India, 2013.
11. Sriparna Saha, Anupam Banerjee, Sumana Basu, **Amit Konar**, Atulya K. Nagar, "Fuzzy Image Matching for Posture Recognition in Ballet Dance", in *Proc. of International Conference on Fuzzy Systems (FUZZ)*, IEEE, Hyderabad, India, 2013.
12. Sriparna Saha, Shreya Ghosh, **Amit Konar**, Atulya K. Nagar, "Gesture Recognition From Indian Classical Dance Using Kinect Sensor", in *Proc. of 5th International Conference on Computational Intelligence, Communication Systems and Networks (CICSyN)*, Madrid, Spain, IEEE, 2013.
13. Sriparna Saha, Shreya Ghosh, **Amit Konar**, Ramadoss Janarthanan, "Identification of Odissi Dance Video Using Kinect Sensor", in *Proc. of 2nd International Symposium on Pattern Recognition and Image Processing (PRIM)*, IEEE, 2013.
14. Sriparna Saha, Lidia Ghosh, **Amit Konar**, Ramadoss Janarthanan, "Fuzzy L Membership Function Based Hand Gesture Recognition for Bharatanatyam Dance", in *Proc. of International Conference on Computational Intelligence and Communication Networks (CICN)*, Mathura, India, IEEE, 2013.



15. Sriparna Saha, Shreya Ghosh, **Amit Konar**, Ramadoss Janarthanan, "A Study On Leg Posture Recognition From Indian Classical Dance Using Kinect Sensor", in *Proc. of International Conference on Human Computer Interactions (ICHCI)*, IEEE, 2013.
16. Pavel Bhowmik, Pratyusha Rakshit, **Amit Konar**, Eunjin Kim, Atulya K. Nagar: DE-TDQL: An Adaptive Memetic Algorithm. in *Proc. of Congress in Evolutionary Computation (CEC)*, Brisbane Australia, June 10 – 15, 2012.
17. Papia Das, Pratyusha Rakshit, **Amit Konar**, Mita Nasipuri, and Ramadoss Janarthanan, "A Recurrent Fuzzy Neural Model of A Gene Regulatory Network For Knowledge Extraction Using Invasive Weed and Artificial Bee Colony Optimization Algorithm", in *Proc. of IEEE International Conference on Recent Advances in Information Technology*, Kolkata, March, 2012, pp. 385-391.
18. Pavel Bhowmik, Pratyusha Rakshit, **Amit Konar**, Eunjin Kim, and Atulya K. Nagar, "DE-TDQL: An Adaptive Memetic Algorithm", in *Proc. of IEEE Congress on Evolutionary Computation*, Brisbane, Australia, June, 2012, pp. 1-8.
19. Arindam Jati, Garima Singh, Pratyusha Rakshit, **Amit Konar**, Eunjin Kim, and Atulya K. Nagar, "A Hybridization of Improved Harmony Search and Bacterial Foraging for Multi-Robot Motion Planning", in *Proc. of IEEE Congress on Evolutionary Computation(CEC)*, Brisbane, Australia, June, 2012, pp. 1-8.
20. Anisha Halder, Pratyusha Rakshit, Sumantra Chakraborty, Amit Konar, Eunjin Kim, and Atulya K. Nagar, "Reducing Uncertainty in Interval Type-2 Fuzzy Sets for Qualitative Improvement in Emotion Recognition from Facial Expressions", in *Proc. of IEEE International Conference on Fuzzy Systems*, Brisbane, Australia, June, 2012, pp. 1-8.
21. Papia Das, Pratyusha Rakshit, **Amit Konar**, Mita Nasipuri, and Atulya K. Nagar, "Fuzzy Relational System for Identification of Gene Regulatory Network", in *Proc. of International Conference on Bioinformatics and Computational Biology*, Las Vegas, USA, July, 2012.
22. Pratyusha Rakshit, Pratyusha Das, **Amit Konar**, and Atulya K. Nagar, "Call Admission Control Using Artificial Bee Colony Optimization", in *Proc. of International Conference on Genetic and Evolutionary Methods*, Las Vegas, USA, July, 2012.
23. Pratyusha Rakshit, Dhrubojyoti Banerjee, Amit Konar, and Ramadoss Janarthanan, "An Adaptive Memetic Algorithm for Multi-Robot Path-Planning", in *Proc. of Swarm, Evolutionary and Memetic Computing Conference*, December, 2012, Bhubaneswar, pp. 248-258.
24. Pratyusha Rakshit, Saugat Bhattacharyya, **Amit Konar**, Anwesha Khasnobish, D. N. Tibarewala, and Ramadoss Janarthanan, "Artificial Bee Colony Based Feature Selection for Motor Imagery EEG Data", in *Proc. of Seventh International Conference on Bio-Inspired Computing: Theories and Applications, Advances in Intelligent Systems and Computing*, Volume 202, December, 2012, pp. 127-138.
25. Pratyusha Rakshit, Papia Das, Archana Chowdhury, **Amit Konar**, Mita Nasipuri, and Atulya K. Nagar, "Evolutionary Approach of Ligand Design for Protein- Ligand Docking Problem Using Artificial Bee Colony Optimization", in *Proc. of International Conference on Bioinformatics and Computational Biology*, USA, July, 2012.
26. Pratyusha Rakshit, Pratyusha Das, Archana Chowdhury, **Amit Konar**, and Atulya K. Nagar, "Evolutionary Approach for Designing Protein-Protein Interaction Network Using Artificial Bee Colony Optimization", in *Proc. of IEEE International Conference on Computing, Communication and Networking Technologies*, Coimbatore, India, July, 2012, pp. 1-8.
27. Pratyusha Rakshit, Archana Chowdhury, **Amit Konar**, and Atulya K. Nagar, "Evaluating the Designing Perspective of Protein-Protein Interaction Network using Evolutionary Algorithm", in

*Proc. of Nature and Biologically Inspired Computing*, November, 2012, Mexico city, Mexico, pp. 130-137.

28. Dhrubojyoti Banerjee, Pratyusha Rakshit, **Amit Konar**, and Ramadoss Janarthanan, "Path-Planning of Mobile Agent using Q-Learning and Real-Time Communication in an Unfavourable Situation", in *Proc. of World Congress on Information and Communication Technologies*, October, 2012, pp. 89-94.
29. Khasnobish A., Jati A., Singh G., Bhattacharyya S., **Konar A.**, Kim E., Tibarewala D.N. and Nagar A.K. "Object-Shape Recognition from Tactile Images Using a Feed-forward Neural Network", in *Proc. of International Joint Conference on Neural Networks (IJCNN)*, Brisbane, Australia, June 10 – 15, 2012.
30. Arindam Jati, Garima Singh, Pratyusha Rakshit, **Amit Konar**, Eunjin Kim, Atulya K. Nagar: A Hybridisation of Improved Harmony Search and Bacterial Foraging for Multi-robot Motion Planning. in *Proc. of IEEE Congress on Evolutionary Computation (CEC)*, Brisbane, Australia, June 10 – 15, 2012 (Accepted).
31. Anisha Halder, Pratyusha Rakshit, Sumantra Chakraborty, **Amit Konar**, Eunjin Kim, Atulya K. Nagar: Reducing Uncertainty in Interval Type-2 Fuzzy Sets for Qualitative Improvement in Emotion Recognition from Facial Expressions. in *Proc. of FUZZ-IEEE*, Brisbane, Australia, June 10 – 15, 2012.
32. **Amit Konar**, Aruna Chakraborty, Anisha Halder, Rajshree Mandal, and R. Janarthanan, "Interval Type-2 Fuzzy Model for Emotion Recognition from Facial Expression," in *Proc. of PerMin-2012*, pp. 114-121, CDAC, Kolkata.
33. Chatterjee S., Bhattacharyya S., Khasnobish A., **Konar A.**, Tibarewala D.N. & Janarthanan R. , "Study of inter-session variability of long term memory and complexity of EEG signals", in *Proceedings of Third International Conference on Emerging Applications of Information Technology EAIT, Kolkata*, Nov 5-9, pp. 106-109, 2012.
34. Singh G., Khasnobish A., Jati A., Bhattacharyya S., **Konar A.**, Tibarewala D.N. & Janarthanan R. , "Object-shape classification and reconstruction from tactile images using image gradient", in *Proceedings of Third International Conference on Emerging Applications of Information Technology EAIT 2012*, Kolkata, pp. 93-96, Nov 30 – Dec 1, 2012.
35. Singh G., Jati A., Khasnobish A., Bhattacharyya S., **Konar A.**, Tibarewala D.N. & Nagar A.K. , "Object-shape recognition from tactile images using regional descriptors", in *Proceedings of Fourth World Congress on Nature and Biologically Inspired Computing NABIC*, Mexico City, Nov 5-9, 2012, pp. 53-58, 2012.
36. Bhattacharyya S., Sengupta A., Chakraborti T., Banerjee D., Khasnobish A. Khasnobish A., **Konar A.**, Tibarewala D.N. & Janarthanan R. , "EEG controlled remote robotic system from motor imagery classification", in *Proceedings of Third International Conference on Recent Computing, Communication and Networking Technologies ICCCNT*, Coimbatore, Jul 26-28, 2012, pp. 1-8, 2012.
37. Singh G., Jati A., Khasnobish A., Bhattacharyya S., **Konar A.**, Tibarewala D.N. & Janarthanan R. , "Negative emotion recognition from stimulated EEG signals", in *Proceedings of Third International Conference on Recent Computing, Communication and Networking Technologies ICCCNT*, Coimbatore, Jul 26-28, 2012, pp. 1-8, 2012.
38. Roy R., Konar A., Tibarewala D.N., Janarthanan R., "EEG driven model predictive position control of an artificial limb using neural net", in *Proc. of Third International Conference on Computing, Communication and Networking Technologies (ICCCNT'12)*, 26 Jul - 28 Jul 2012

39. Khasnobish A., Bhattacharyya S., Singh G., Jati A., **Konar A.**, Tibarewala D.N., Janarthanan R., "The Role of Empirical Mode Decomposition on Emotion Classification using Stimulated EEG Signals", in *Proc. of 2<sup>nd</sup> Intl. Conf. Art. Intel. Soft Comp. and Applications (AIAA-2012)*, July, 2012, Chennai, India.
40. Rinku Roy, **Amit Konar**, D. N. Tibarewala, "EEG driven Artificial Limb Control using State Feedback PI Controller," in *Proc. of IEEE Students' Conference on Electrical, Electronics and Computer Science*, April 2012.
41. Banerjee Anwasha, Aniruddh Tibrewal, **Konar Amit**, Janarthanan R., "Gaze Detection from stimulated Electro-oculogram", in *Proceedings of International Conference on Recent Trends in Computer Science and Engineering (ICRTCSE 2012)*, ISBN 978-81-9089-807-2, pp 40, Chennai, India, May 3-4, 2012.
42. Banerjee Anwasha, Chatterjee Somsirsa, **Konar Amit**, Tibrewala D.N., "Performance analysis of various algorithms to classify Electro-oculogram for control application", in *Proceedings of IEEE Students' conference on Electrical, Electronics and Computer Science (SCEES 2012)*, pp 294-298, Bhopal, India, March, 2012.
43. Banerjee Anwasha, **Konar Amit**, Janarthanan R., Tibarewala D.N., "Identification of Eye Movement from EOG by SVM and KNN techniques", in *Proceedings of International conference on Advancements in Engineering & Management (ICAEM 2012)*, Hyderabad, India, February 28-29, 2012.
44. Banerjee, A.; Chakraborty, S.; Das, P.; Datta, S.; **Konar, A.**; Tibarewala, D.N.; Janarthanan, R., "Single channel electrooculogram(EOG) based interface for mobility aid," in *Proc. of 4th International Conference on Proc. of Intelligent Human Computer Interaction (IHCI)*, vol., no., pp.1,6, 27-29 Dec. 2012.
45. Banerjee, Anwasha; Datta, Shounak; Das, Pratyusha; **Konar, Amit**; Tibarewala, D.N.; Janarthanan, R., "Electrooculogram Based Online Control Signal Generation for Wheelchair," in *Proc. of International Symposium on Electronic System Design (ISED)*, vol., no., pp.251-255, 19-22 Dec. 2012.
46. Banerjee Anwasha, **Konar Amit**, Tibarewala D.N., Janarthanan R., "Detecting Eye Movement Direction from stimulated Electro-oculogram by Intelligent Algorithms", in *Proc. of IEEE International Conference on Computing, Communication And Networking Technology (ICCCNT 2012)*, Tamilnadu, India, July 26 – 28, 2012.
47. Banerjee Anwasha, Das Pratyusha, Datta Shounak, **Konar Amit**, Janarthanan R., Tibarewala D.N., "Real Time Electro-oculogram driven Rehabilitation aid", in *Proceedings of International Conference on Advances in Computing, Advances in Intelligent Systems and Computing, Springer*, ISSN: 1867-5662, Volume 174, 2012, pp 435-440.
48. Banerjee Anwasha, **Konar Amit**, Janarthanan R., Tibarewala D.N., "Electro-oculogram based Classification of Eye Movement Direction", in *Proceedings of the Second International Conference on Advances in Computing and Information Technology (ACITY), Advances in Intelligent Systems and Computing, Springer*, ISSN 2194-5357, Volume 178, 2013, pp 151-159.
49. Kingshuk Chakravarty, Diptesh Das, Anirudhha Sinha and **Amit Konar**, "Feature selection by Differential Evolution Algorithm-A case study in personnel identification," in *Proc. of Congress in Evolutionary Computation (CEC)*, 2013, Cancun, Mexico.
50. Debatri Chatterjee, Arijit Sinharay and **Amit Konar**, "EEG-Based Fuzzy Cognitive Load Classification during Logical Analysis of Program Segments", in *Proc. of IEEE International Conference on Fuzzy Systems*, 2013, Hyderabad, India.

51. Diptesh Das, Aniruddha Sinha, Kingshuk Chakravarty and **Amit Konar**, "Stabilization of Cluster Centers over Fuzziness Control Parameter in Component-wise Fuzzy c-Means Clustering", in *Proc. of IEEE International Conference on Fuzzy Systems*, 2013, Hyderabad, India.

#### **Publication List of Prof. Bhaskar Gupta**

1. Sankaralingam Subramaniam, Sayantan Dhar, Sanghamitra Dasgupta and Bhaskar Gupta, "Performance of Fully Fabric Wearable Circular Patch Antennas in the Vicinity of Human Body at 2.45 GHz", *Proc. EMTS 2013*, 20 – 24 May, Japan .
2. Milind Thomas, Jibendu Sekhar Roy, Bhaskar Gupta and A. Rydberg, "T-Coupled Microstrip Patch Antenna for WLAN", *ICCESD-2013*, 28 -30 January, NIT, Jaipur , India.
3. Sayantan Dhar, Sudipta Maity, Rowdra Ghatak, **Bhaskar Gupta** and Dipak Ranjan Poddar, "A CPW Fed Slot Loop Minkowski Fractal Antenna With Enhanced Channel Selectivity", *Proc. Interanational Conference on Communications , Devices and Intelligent Systems (CODIS) 2012*, Kolkata, India.
4. Arindam Deb, **Bhaskar Gupta** and Jibendu Sekhar Roy "Design of Thinned Arrays Using Particle Swarm Optimization with Differentially Perturbed Velocity", *Proc. Interanational Conference on Communications , Devices and Intelligent Systems (CODIS) 2012*, Kolkata, India.
5. Sankaralingam Subramaniam, Sayantan Dhar and **Bhaskar Gupta**, "Preliminary Studies on Performance of a 2.45 GHz Wearable Antenna in the Vicinity of Human Body" ,*Proc. Interanational Conference on Communications , Devices and Intelligent Systems (CODIS) 2012*, Kolkata, India.
6. Buddhadev Pradhan, Amrita Chakaborty and **Bhaskar Gupta** ,"Residual Stress Analysis in RF MEMS Comb line Band Reject Filter", *Proc. Interanational Conference on Communications , Devices and Intelligent Systems (CODIS) 2012*, Kolkata, India.
7. S.Sankarlingam, **Bhaskar Gupta** "Performance of Bluetooth Wearable Antennas In The Vicinity Of Human Body", *Proc. Antennas and propagation Symposium (APSYM) 2012*, Kochi,India.
8. Buddhadev Pradhan and **Bhaskar Gupta** "Comb Line Notch Filter Design on Siliconplanar Transmission Line", , published in *International Conference on merging Trands (ICET-2012)*, IEEE, NIT Durgapur, March-2012.
9. **Bhaskar Gupta** and S. Sankaralingam "Development of Wearable Antennas for Use in Wireless Communication Systems at Jadavpur University for the past Five Years: An Overview", *Proc. 12<sup>th</sup> Mediterranean Microwave symposium 2012*,Istambul.

#### **Publication List of Prof.C.K.Sarkar**

1. Chandan kumar Sarkar, Sudhansu Kumar Pati, Hemant Pardeshi, Arghyadip , "Analytical Drain Current Model for Symmetrical Gate Underlap DGMOSFET" , *IJCA Proceedings on International Conference on Communication, Circuits and Systems 2012* , Pages 26-28.
2. Sudhansu Kumar Pati, Hemant Pardeshi, Godwin Raj, Chandan Kumar Sarkar , "Comparison study of Drain Current, Subthreshold Swing and DIBL of III-V Heterostructure and Silicon Double Gate MOSFET" , *International Journal on Electronics & Communication Technology (IJECT)* , Volume 4, Issue SPI-1, Pages 33-35.
3. Hemant Pardeshi, Arghyadeep Sarkar, N Mohankumar, Chandan Kumar Sarkar, "Effect of Barrier layer thickness on device performance of AllnN/GaN Underlap DG MOSFET", *2012 International Conference on Communications, Devices and Intelligent Systems (CODIS)*.
4. Hemant Pardeshi, N Mohankumar and Chandan Kumar Sarkar, "Performance Analysis of AllnN/GaN Underlap DG MOSFET for varying Underlap and Gate length", *IJCA Proceedings on International Conference on Communication, Circuits and Systems 2012* , No 4., Pages 1-3.

5. Mukherjee, S.; Saha, D.; Mostafa, P.; Saha, D.; Chatterjee, S.; Sarkar, C.K., "A low power, high speed, IF range Flash Type ADC designed with the concept of TMCC and Binary Counter" , 2012 Annual IEEE India Conference (INDICON), vol., no., pp.092,097, 7-9 Dec. 2012
6. Sengupta, A.; Koley, K.; Sarkar, C.K., "Subthreshold charge leakage in nanoparticle embedded DGMOSFET memory devices an analytical study", International Conference on Devices, Circuits and Systems (ICDCS), 2012 vol., no., pp.643,647, 15-16 March 2012.
7. Sunipa Roy, P.Bhattacharyya, C. K. Sarkar, " ZnO nanoflake based Metal Insulator-Metal Methane Sensor for underground Coalmine Application" Proc. International Conference on Communications, Devices and Intelligent Systems (IEEE) (CODIS 2012), 28<sup>th</sup> - 29<sup>th</sup> December 2012, Jadavpur University, Kolkata. Published in IEEE Xplore.
8. S.S.Mondal, Sunipa Roy, C. K. Sarkar, " Design and Electrothermal analysis of MEMS based Microheater Array for Gas Sensor using INVAR alloy" Proc. International Conference on Communications, Devices and Intelligent Systems (IEEE) (CODIS 2012), 28<sup>th</sup> - 29<sup>th</sup> December 2012, Jadavpur University, Kolkata. Published in IEEE Xplore.
9. Avisekh Ghosh, Sunipa Roy, C. K. Sarkar, " Design and Simulation of Piezoresistive pressure sensor with enhanced sensitivity", Proc. International Conference on Energy efficient Technologies for Sustainability (ICEETS13), St .Xavier's Catholic College of Engineering , Nagercoil ,Tamil Nadu. Published in IEEE Xplore.
10. N. Banerjee, Sunipa Roy, C. K. Sarkar P.Bhattacharyya, "Pd Modified ZnO Nanorod based High Dynamic Range Hydrogen Sensor", Proc.IEEE International Conference on Nanotechnology, 20-22th August, 2013 China.\
11. Sunipa Roy, C. K. Sarkar, P.Bhattacharyya, "Hydrogen Sensing Performance of ZnO Nanoflakes Deposited on MEMS Platform" Proc. 7th International Conference on Sensing Technology, 3-5th December, 2013 NZ. Communicated.

#### **Publication List of Prof. M.K Naskar**

1. Arpita Chakraborty, Arnab Raha, Shovan Maity, **Mrinal Kanti Naskar**, Anupam Karmakar, "A fuzzy based trustworthy route selection method using LSRP in wireless sensor networks (FTRSP).", *CCSEIT 2012*: 413-419
2. Shovan Maity, Arnab Raha, Souvik Kumar Mitra, Victor Seal, **Mrinal Kanti Naskar**, Amitava Mukherjee, " An efficient sleep protocol for lifetime enhancement in multi covered and multi connected WSNs.", *ICACCI 2012*: 343-347
3. Arnab Raha, Shovan Maity, **Mrinal Kanti Naskar**, Omar Alfandi, Dieter Hogrefe, "An optimal sensor deployment scheme to ensure multi level coverage and connectivity in wireless sensor networks.", *IWCMC 2012*: 299-304
4. Arnab Raha, **Mrinal Kanti Naskar**, Arpita Chakraborty, Omar Alfandi, Dieter Hogrefe, " A Novel Indirect Trust Based Link State Routing Scheme Using a Robust Route Trust Method for Wireless Sensor Networks.", *NTMS 2012*: 1-5
5. Shaik Sahil Babu, Arnab Raha, **Mrinal Kanti Naskar**, Omar Alfandi, Dieter Hogrefe, "Fuzzy Logic Election of Node for Routing in WSNs.", *TrustCom 2012*: 1279-1284
6. Victor Seal, Arnab Raha, Shovan Maity, Souvik Kumar Mitra, Amitava Mukherjee, **Mrinal Kanti Naskar**, "A Simple Flood Forecasting Scheme Using Wireless Sensor Networks.", *CoRR abs/1203.2511 (2012)*
7. Subhabrata Mukherjee, **Mrinal K. Naskar**, Amitava Mukherjee, "Adaptive Framework for Data Distribution in Wireless Sensor Networks.", *CoRR abs/1204.2879 (2012)*

8. Subhabrata Mukherjee, Amrita Saha, **Mrinal K. Naskar**, Amitava Mukherjee," Multisource Adaptive Data Distribution and Routing in Wireless Sensor Networks.", *CoRR abs/1204.2880 (2012)*
9. Subhabrata Mukherjee, Anand Seetharam, Abhishek Bhattacharyya, **Mrinal K. Naskar**, Amitava Mukherjee, "Designing an Energy Efficient Framework for Data Gathering in Wireless Sensor Network.", *CoRR abs/1204.2882 (2012)*

#### **Publication list of Prof. Iti Saha Misra**

1. Nitul Dutta and Iti Saha Misra, "Simulation of Multilayer Mobile IPv6 Architecture in Search of Optimal Performance", IEEE Third International Conference on Computing, Communication and Networking Technologies (ICCCNT'12), Tamilnadu, Coimbatore, 2012.
2. SK. Imtiaj, Iti Saha Misra, Rathindranath Biswas "Performance Comparison of Different Adaptive Beamforming Algorithms in Smart Antennas", Proceedings of IEEE International Conference on Communication, Devices and Intelligent Systems (CODIS) 2012, pp. 29 - 32, Kolkata, December 2012.
3. SK. Imtiaj, Iti Saha Misra, Rathindranath Biswas , "A Comparative Study of Beamforming Techniques using LMS and SMI Algorithms in Smart Antennas" Proc. Of 5th International Conference on Computer and Devices for Communications (CODEC 2012), December 2012, Kolkata, India.
4. Tanumay Manna, Iti Saha Misra, "Game theoretic spectrum sharing for cognitive radios," in Communications, Devices and Intelligent Systems (CODIS) International Conference, pp.33-36, Dec 2012.
4. Dulal Mandal, Iti Saha Misra, "Performance Evaluation of VoIP Codecs over WiMAX/Wi-Fi Integrated Network", International Conference on Communication, Circuits and Systems (iC3S-2012), October 5-7, 2012.
5. Dulal Mandal, Iti Saha Misra, "An Inovative DSP Processor Based Heart activity Detection Technique", International journal of Advanced computer Engineering and Architecture, Vol 2, pg. 331-340, (June-December 2012) ISSN0: 2248945
6. Dulal Mandal, Iti Saha Misra, "A low cost Non -invasive Digital Signal Processor Based Heart Diagnosis System International Conference on Recent Advances in Information Technology. (RaAIT 2012), Department of Computer Science & Engineering, Indian School of Mines ,Dhanbad, Jharkhand, India Dhandad, Bihar, 15-17 March 2012, page: 444-447.

#### **Publication List of Prof. Iti Saha Misra and Prof. Salil Kumar Sanyal**

1. P. Chowdhury, A. Kundu, **I.S Misra**, and **S.K Sanyal**, "Analytical Model for Channel Allocation Scheme in Macro/Femto-cell Based BWA Networks", Proceedings of IEEE International Conference on Recent Advances in Computing and Software Systems (RACSS 2012), pp. 164-169, Chennai, April, 2012.
2. P. Chowdhury, A. Kundu, **I.S Misra** and **S.K Sanyal**, "Load Balancing with Reduced Unnecessary Handoff in Hierarchical Macro/Femto-cell WiMAX Networks", Proceedings of the Fourth International conference on wireless, mobile networks and application (WiMOA-2012), Advances in Intelligent and Soft Computing, Springer, Volume 167, pp. 457-467, Delhi, May, 2012.
3. T. Chakraborty, **I. S. Misra** and **S.K Sanyal**, "Design and study of VoIP model in cognitive radio network under different simulation platforms," Proc. CUBE International Information Technology Conference, pp. 160-165, Pune, September, 2012, doi: 10.1145/2381716.2381748.

4. V. Sharma, B. Bhattacharyya, **I.S. Misra** and **S.K. Sanyal**, "Development of a Multiplier Based QPSK Modulator Test-bed and Integration with Agilent Vector Signal Analyzer (89600) for Performance Evaluation", Proc. of International Conference on Communication, Circuits and Systems (iC3S-2012), Bhubaneswar, October, 2012.
5. T. Chakraborty, **I.S. Misra** and **S.K. Sanyal**, "Selection of Optimal Transmission Time in Cognitive Radio Network for Efficient VoIP Performance," Proc. of IEEE CODEC, pp. 1-4, Kolkata, December, 2012. (Best Paper Awarded)
6. Anindita Kundu, Prasun Chowdhury, **Iti Saha Misra**, **Salil K. Sanyal**, "Power Optimization in Cognitive Femto Base Stations using Non-Cooperative Game Theory", presented in the National Conference on Sustainable Development through Innovative Research in Science and Technology, Jadavpur University, September, 2012.
7. Anindita Kundu, Prasun Chowdhury, **Iti Saha Misra**, **Salil K. Sanyal**, "Design and Implementation of a Cognitive Channel Allocation Algorithm for BWA System", Proceedings of IEEE International Conference on Communication, Devices and Intelligent Systems (CODIS) 2012, pp. 25 – 28, Kolkata, December 2012.
8. Anindita Kundu, Prasun Chowdhury, Sayan Sengupta, **Iti Saha Misra**, **Salil K. Sanyal**, "Buffered Non-Random Channel Access Method for better QoS of Cognitive Users", Proceedings of IEEE International Conference on Communication, Devices and Intelligent Systems (CODIS) 2012, pp. 29 - 32, Kolkata, December 2012.
9. Sayani Ghosh, **Iti Saha Misra**, **Salil K. Sanyal**, "STUDY OF THE EFFECT OF CYCLIC PREFIX ON DIFFERENT QOS PARAMETERS IN WIMAX NETWORK" Proc. International Conference on Communication, Circuits and Systems (iC3S-2012), October 5-7, 2012.
10. Nilanjan Byabarto, **Iti Saha Misra** and **Salil K. Sanyal**, "Performance Optimization of a Soft and Hard Detector in Cognitive Radio environment using WARP", Proc. International Conference on Communication, Circuits and Systems (iC3S-2012), October 5-7, 2012.

#### **Publication List of Prof. Subir Kumar Sarkar**

1. Deekon Saha, Kousik Naskar, Saheli Sarkhel, Bibhas Manna and **Subir Kumar Sarkar**, " Device Circuit Co-Design of FD-SON MOSFET using BSIMSOI MOSFET Model" CONECCT 2013, IEEE Conference, IISc Bangalore, 17-19 January, 2013.
2. Deekon Saha, P.Saha, K.Naskar, A.Jain and **Subir Kumar Sarkar**, "comparative study and analysis of 32-nm SOI/SON and CNFET based 4 x 4 SRAM cell array," International Conference on Circuits, Power and Computing Technologies, 2013.
3. Joyashree Bag and **Subir Kumar Sarkar**, " Design and VLSI Implementation of an Automatic home surveillance system using Zigbee technology", International Conference on Computation and Communication Advancement, IC3A, JIS college of Engineering, 11-12 January, 2013
4. Abhinandan Khan, Sulagna Laha and **Subir Kumar Sarkar**, "A Novel Particle Swarm Optimization approach for VLSI Routing", IEEE International Advance Computing Conference, Dr. A.K Garg Institute, Ghaziabad, 22-23 February, 2013.
5. Sulagna Laha, Jaideep Chowdhury, Abhinandan Khan and **Subir Kumar Sarkar**, "A watermarking Scheme based on singular value decomposition and particle swarm optimization" IEEE International Advance Computing Conference, Dr. A.K Garg Institute, Ghaziabad, 22-23 February, 2013.
6. Amit Jain, Arpita Ghosh, P.Saha and **Subir Kumar Sarkar**, "On Reliability and Stability Analysis of Single Electronics Circuits" ETMN 2013, BITS PILANI, GOA, INDIA, 23rd-24th February, 2013.

7. Amit Jain, Arpita Ghosh, Priyanka Saha and **Subir Kumar Sarkar**, "Design and Simulation of Hybrid SET-MOS pass Transistor Based Universal Logic Gates", ICECCN 2013, IJCET, Tuticorin, Tamil Nadu, 25-26 March,2013.
8. Arpita Ghosh, Amit Jain and **Subir Kumar Sarkar**, "Implementation of Programmable Logic Array using SET-CMOS Hybrid Approach", ICECCN 2013, Infant Jesus College of Engineering and Technology, Tuticorin, Tamil Nadu, 25-26 March,2013.
9. Rashmi Ranjan Sahoo and **Subir Kumar Sarkar**, "Trust Based Energy Efficient Clustering in WSN", accepted IEEE ICECCN 2013, Infant Jesus College of Engineering and Technology, Tuticorin, Tamil Nadu, 25-26 March,2013.
10. Sujata Swarnalipi, Swanirbhar Majumder, T.S. Das, **Subir Kumar Sarkar**, "Binary Logo Watermarking Based on Multi-resolution SVD", International conference on computing and control engineering, ICCCE-2012, Dr. M.G.R. University, Chennai, April 12-13, 2012.
11. Tiya Dey Malakar, Bibhas Manna, Saheli Sarkhel, Sourav Naskar, P. K. Dutta and **Subir Kumar Sarkar**, "Small - Signal Parameter Extraction to Study the RF Performance of SOI and SON MOSFET", CODIS 2012, JU, 28-29 December 2012.
12. B. Kantha, S Roy, A. Ghosh, Abhinandan Khan, J. Bag, **Subir Kumar Sarkar**, "Designing a micro heater with genetic algorithm based optimized parameters and study its performance" , International Conference on Communications, Devices and Intelligent Systems, CODIS 2012, JU, 28-29 December 2012.
13. Bijoy Kantha, Subhashis Roy and **Subir Kumar Sarkar**, "Designing a MEMS based micro-heater using GA", International Conference on electronics, Communication and Information System, ICECI 2012, Kalasalingam University, Tamil Nadu, 2-3 November, 2012.
14. Bijoy Kantha, Subhashis Roy and **Subir Kumar Sarkar**, "Electro-Thermo-Mechanical analysis of MEMS based Micro-hotplate for gas sensor application", International Conference on Emerging Trends in Engineering & Technology, IETET-2012, GITM, KKR, Haryana,2012.
15. Abhishek Basu, Susmita Sur, Rabiul Mallick and **Subir Kumar Sarkar**, "On the implementation of an Intellectual Property Protection Based on Information Hiding", 5th International Conference on Computers and Devices for Communication (CODEC 2012), Dec. 17-19, 2012.
16. Romita Devi, S. Majumder, M. Mishra, S. Sarkar and **Subir Kumar Sarkar**, "Wavelet based Hybrid Image Compression using DCT, SVD and Global Thresholding-Huffman Encoding", in pg 229-235, proceedings of International Conference on Electrical Engineering and Computer Science (ICEECS 2012), ISBN-978-93-81-693-98-8, IPM Pvt Ltd, Interscience Campus,2012.
17. S. Majumder, S. Swarnalipi and **Subir Kumar Sarkar**, "A Novel Watermarking using Multiresolution SVD", in pg 224-227, proceedings of Michael Faraday IET India Summit, Organized by Young Professional Section, IET Kolkata Local Network, Kolkata, India, November 25, 2012.

#### **Publication List of Dr. A.S. Chowdhury**

1. A. Paul, N. Bhattacharya, **A.S. Chowdhury**: Digit Recognition from Pressure Sensor Data using Euler Number and Central Moments, *IEEE Sponsored International Conference on Communications, Devices and Intelligent Systems CODIS*; Kolkata, India (2012), 93 - 96.
2. R. Panda, S.K. Kuanar, **A.S. Chowdhury**: VISUC:Video Summarization With User Customization, *IEEE Sponsored International Conference on Communications, Devices and Intelligent Systems (CODIS)*; Kolkata, India (2012), 89 - 92.



3. **A.S. Chowdhury**, S. K. Kuanar, R. Panda, M.N. Das: Video Storyboard Design using Delaunay Graphs, *Twenty First IAPR/IEEE International Conference on Pattern Recognition (ICPR)*; Tsukuba City, Japan (2012), 3108 - 3111.
4. **A.S. Chowdhury**, A. Paul, F. Bunyak, D.D.W. Cornelison, K. Palaniapan: Semi-automated Tracking of Muscle Satellite Cells in Brightfield Microscopy Video, *Nineteenth IEEE International Conference on Image Processing (ICIP)*; Orlando, FL, USA (2012), 2825 - 2828.
5. **A.S. Chowdhury**, J. Burns, A. Mukherjee, B. Sen, J. Yao, R.M. Summers: Automated Detection of Pelvic Fractures From Volumetric CT Images, *Proc. Ninth IEEE International Symposium on Biomedical Imaging (ISBI)*; Barcelona, Spain (2012), 1687-1690.
6. **A.S. Chowdhury**, R. Roy, S. Bose, F. Khalifa, A. Elnakib, A. El-Baz: Non-rigid Biomedical Image Registration Using Graph Cuts With A Novel Data Term, *Proc. Ninth IEEE International Symposium on Biomedical Imaging (ISBI)*; Barcelona, Spain (2012), 446-449.

#### **Publication List of Dr. (Mrs.) Chayanika Bose**

1. Suvasree Biswas Sett and **Chayanika Bose**, "Influence of geometrical shape of quantum dot on field emission", Proc. IEEE CODEC, Kolkata, Dec. 2012.
2. Arkaprava Praharaj, Shounak Dasgupta and **Chayanika Bose**, "Optical DEMUX using silicon-silica based 2D photonic crystal", Proc. IEEE CODEC, Kolkata, Dec. 2012.
3. Shounak Dasgupta, Susovan Mandal and **Chayanika Bose**, "Photonic crystal based flat-top filter for CWDM channel compatible with ITU-T recommendation G694.2", Proc. IEEE CODIS, Kolkata, Dec. 2012.
4. Suvasree Biswas Sett and **Chayanika Bose**, "Fowler-Nordheim tunnelling from quantum wires of different cross-sections", Proc. IEEE CODIS, Kolkata, Dec. 2012.

#### **Publication List of Dr. Manotosh Biswas**

1. M. Dam, S. Mazumder, and **M. Biswas**, "Improved Computation of Resonant Resistance of a Tunable Equilateral Triangular Patch Antenna," *13<sup>th</sup> National symposium on Antenna and Propagation (APSYM-2012)*, pp.151-155, Dec. 17-19, 2012, Cochin, India.
2. S. Banik and **M. Biswas**, "Accurate determination of effective permittivity of circular microstrip patch antenna on composite and suspended substrate", *13<sup>th</sup> National symposium on Antenna and Propagation (APSYM-2012)*, pp.116-121, Dec. 17-19, 2012, Cochin, India.
3. A. Mandal, M.Biswas and **M. Biswas**, "Experimental and theoretical investigation of resonance and bandwidth characteristics of an inverted equilateral triangular patch antenna," *13<sup>th</sup> National symposium on Antenna and Propagation (APSYM-2012)*, pp.111-115, Dec. 17-19, 2012, Cochin, India.
4. M. Dam, and **M. Biswas**, "Fast and Accurate Model to Compute the Resonant frequency of Triangular Patch Antenna on Suspended and Composite Substrates," *IEEE International Conference on Communications, Devices and Intelligent Systems (CODIS-2012)*, Dec. 28-29, 2012, Kolkata, India.
5. S. Banik and **M. Biswas**, "The effect of composite and suspended substrate on resonant resistance of circular microstrip patch antenna", *IEEE International Conference on Communications, Devices and Intelligent Systems (CODIS-2012)*, pp. 235-238, Dec. 28-29, 2012, Kolkata, India.

6. M. Dam, P. Ghosh, and **M. Biswas**, "Improved Cavity Model to Compute the Resonant Resistance of an Equilateral Triangular Patch Antenna With and Without Air Gap," *International Conference on Computation and Communication Advancement (IC3A-2013)*, pp. 302-305, Jan. 11-12, 2013, Nadia, India.
7. A. Shukla and **M. Biswas**, "Characteristics of cavity backed triangular patch antenna with variable air gap and cavity side length," *Antenna Test and measurement Society conference (ATMS-2013)*, pp. 187-190, Feb, 2013, Kolkata, India.
8. M. Sen, M. Biswas and **M. Biswas**, "Improved cad model to compute the resonant frequency of rectangular patch covered by dielectric superstrate," *Antenna Test and measurement Society conference (ATMS-2013)*, pp. 207-210, Feb, 2013, Kolkata, India.
9. M. Dam, and **M. Biswas**, "CAD model to compute the effect of air gap on the band width of an equilateral triangular patch antenna," *Antenna Test and measurement Society conference (ATMS-2013)*, pp. 180-183, Feb, 2013, Kolkata, India.

#### **Publication List of Dr. P. Venkateswaran**

1. S. K. Sadhukhan, U. Tiwari, V. Agarwal and **P. Venkateswaran**, "Mobility Management Protocol in Dual-Homed UMTS Networks", Proc. 2012 International Conference on Emerging Applications in Information Technology – EAIT, (ISBN 978-1-4673-1827-3), (Kolkata, pp. 361-365, Nov. 30 – Dec. 01, 2012.
2. **D. Misra, S. Dhabal, R. Chakrabarti and P. Venkateswaran**, "Canonical Signed Digit Representation of Quadrature Mirror Filter Using Genetic Algorithm", Proc. 2012 International Conference on Communications, Devices and Intelligent Systems – 2012 CODIS, (ISBN 978-1-4673-4698-6), Jadavpur University, Kolkata, pp. 65-68, Dec. 28 & 29, 2012.
3. R. Chakraborti, S. Dhabal and **P. Venkateswaran**, "An IFIR Approach for Designing M-Band NPR Cosine Modulated Filter Bank with CSD", *ibid*, pp. 77 – 80 .

#### **Publication List of Dr. P. Venkateswaran and Dr.R.Nandi**

1. S. S. Parhi, **P. Venkateswaran and R. Nandi**, "Design and FPGA Verification of RFID Transponder, *ibid*, pp. 437 – 440 (Won the BEST POSTER AWARD under Poster Session: A).

#### **Publication List of Dr. Sheli Sinha Chaudhuri**

1. NilanjanDey, AnamitraBardhan Roy, Achintya Das, **Sheli Sinha Chaudhuri**, "Stationary Wavelet Transformation Based Self-Recovery of Blind-Watermark from Electrocardiogram Signal in the Wireless Telecardiology", International Workshop on Intelligence and Security Informatics for International Security (IIS'12) , 11-12 October 2012, Trivandrum, India, [ Springer in Communications in Computer and Information Science Series(CCIS), ISSN: 1865:0929. CCIS is abstracted/indexed in ISI Proceedings, Scopus, EI and DBLP ].
2. NilanjanDey,Poulami Das, Achintya Das, **Sheli Sinha Chaudhuri**, "Feature Analysis for the Blind–Watermarked Electroencephalogram Signal in Wireless Telemonitoring Using Alattar’s Method", 5th International Conference on Security of Information and Networks (SIN2012),In Technical Cooperation with ACM Special Interest Group on Security, Audit and Control (SIGSAC). Proceedings by ACM Press and Digital Library, 22-26 October 2012, Jaipur, India.
3. NilanjanDey,Poulami Das, Achintya Das, **Sheli Sinha Chaudhuri**, "DWT-DCT-SVD Based Intravascular Ultrasound Video Watermarking", Second World Congress on Information and Communication Technologies (WICT 2012), Trivandrum, India: October 30-November 02, 2012, [IEEE Xplore] .

4. NilanjanDey,Poulami Das, Achintya Das, **Sheli Sinha Chaudhuri**,"NilanjanDey,Poulami Das, Achintya Das, SheliSinhaChaudhuri, "DWT-DCT-SVD Based Blind Watermarking Technique of Gray Scale Image in Electrooculogram Signal ",International Conference on Intelligent Systems Design and Applications (ISDA-2012), Kochi, 27-29 Nov. 2012,[IEEE Xplore].
5. NilanjanDey, ShouvikBiswas , AnamitraBardhan Roy, Achintya Das, **Sheli Sinha Chaudhuri**, "Analysis Of Photoplethysmographic Signals Modified by Reversible Watermarking Technique using Prediction-Error in Wireless Telecardiology",International Conference of Intelligent Infrastructure ,47th Annual National Convention of CSI –Kol, 01 - 02 December 2012 , McGraw-Hill Proceeding.
6. NilanjanDey,ShouvikBiswas , Poulami Das, Achintya Das,**Sheli Sinha Chaudhuri**," Lifting Wavelet Transformation Based Blind Watermarking Technique of Photoplethysmographic Signals in Wireless Telecardiology", Second World Congress on Information and Communication Technologies (WICT 2012),Trivandrum, India: October 30-November 02, 2012,[IEEE Xplore] .
7. NilanjanDey,Girish Mishra, Bijurika Nandi , Moumita Pal, Achintya Das, **SheliSinhaChaudhuri**, " Wavelet Based Watermarked Normal and Abnormal Heart Sound Identification using Spectrogram Analysis", 2012 IEEE International Conference on Computational Intelligence and Computing Research (ICIC),Tamilnadu College of Engineering,Coimbatore,India, Dec 18 - 20, 2012.
8. NilanjanDey, ProsenjitMaji , Poulami Das, Achintya Das , **Sheli Sinha Chaudhuri**,"An Edge Based Watermarking Technique of Medical Images without Devalorizing Diagnostic Parameters", International Conference on Advances in technology and Engineering, NMIMS University, Mumbai, India , January 23-25, 2013, [IEEE Xplore].
9. NilanjanDey,ShouvikBiswas , Poulami Das, Achintya Das, **Sheli Sinha Chaudhuri**,"Feature Analysis for the Reversible Watermarked Electrooculography Signal using Low Distortion Prediction-error Expansion", 2012 International Conference on Communications, Devices and Intelligent Systems (CODIS),Jadavpur University,Dec-28-29, [IEEE Explore].
10. SouravSamanta, NilanjanDey, Poulami Das, SuvojitAcharjee, **Sheli Sinha Chaudhuri**, "Multilevel Threshold Based Gray Scale Image Segmentation using Cuckoo Search", International Conference on Emerging Trends in Electrical, Communication And Information Technologies - ICECIT, Dec 12-23, 2012, [ ELSEVIER Proceedings ].
11. SuvojitAcharjee, NilanjanDey, DebalinaBiswas, **Sheli Sinha Chaudhuri**, "A Novel Block Matching Algorithmic Approach with Smaller Block Size for Motion Vector Estimation in Video Compression", International Conference on Intelligent Systems Design and Applications (ISDA-2012), Kochi, 27-29 Nov. 2012,[IEEE Xplore].
12. SuvojitAcharjee, NilanjanDey, DebalinaBiswas, **Sheli Sinha Chaudhuri**, "An Efficient Motion Estimation Algorithm using Division Mechanism of Low and High Motion Zone", International Multi Conference on Automation, Computing, Control, Communication and Compressed Sensing, iMac4s-2013, Kerala, India, On 22 - 23 March 2013, [IEEE Xplore].
13. Nilanjan Dey, Bijurika Nandi, AnamitraBardhan Roy, DebalinaBiswas, Achintya Das, **Sheli Sinha Chaudhuri**, " Visible Watermarking Within the Region of Non-Interest of Medical Images based on Fuzzy C-Means and Harris Corner Detection", Third International Conference on Computer Science, Engineering and Applications, AIRCC, May 24-25, 2013, Delhi, India.

#### Publication List of Dr. Sudhabindu Ray

1. B. Chatterjee, **S. Ray** and B.N. Biswas, "Design and Implementation of a Novel 2nd Order Fuzzy DPLL", International Conference on Communications, Devices and Intelligent Systems (CODIS 2012), Dec. 2012 Jadavpur University, Jadavpur, Kolkata, India.
2. B. Chatterjee, **S. Ray** and B.N. Biswas, "Performance Enhancement in a Fuzzy Controlled Digital Phase Locked Loop", International Conference on Communications, Devices and Intelligent Systems (CODIS 2012), Dec. 2012 Jadavpur University, Jadavpur, Kolkata, India.
3. Md. F. Ali and **S. Ray**, "Study of Dipole Antenna Characteristic using Different Numerical methods", International Conference on Communications, Devices and Intelligent Systems (CODIS 2012), Dec. 2012 Jadavpur University, Jadavpur, Kolkata, India.
4. Md. F. Ali and **S. Ray**, "SAR Analysis Using SFDTD and Hybrid FDTD", International Conference on Computers and Devices for Communication (CODEC) 2012
5. F. Ali, **S. Ray** and R.R. Sahoo, "Study Of Maximum Local Temperature Rise And Hotspots Distribution In A Human Head For Gsm900 Mobile Phone", International Conference on Eco-friendly Computing and Communication Systems (ICECCS) 2013,
6. R.R. Sahoo, A. R. Sardar, M. Singh, **S. Ray** and S. K. Sarkar, "Trust Based Secure and Energy Efficient Clustering in Wireless Sensor Network: A Bee Mating Approach", International Conference on Pattern Recognition and Machine Intelligence (PReMI'13), ISI, Kolkata, 2013
7. S. Sabnam, P. Mukherjee, **S. Ray**, "Solving Multiobjective Antenna Optimization Problem Using Genetic Algorithm", Next Generation Computing Technologies & Applications (NGCTA-2013), I.T.S-Institute of Technology & Science, Mohan Nagar, Ghaziabad

#### **Publication List of Mr. Sayan Chatterjee**

1. Soumyo Chatterjee, **Sayan Chatterjee**, Dipak Ranjan Poddar, "Side Lobe Level Reduction of a Linear Array using Chebyshev Polynomial and Particle Swarm Optimization", International Conference on Communication, Circuits and Systems, October 2012.
2. Soumyo Chatterjee, **Sayan Chatterjee**, Dipak Ranjan Poddar, "Synthesis of Non Uniform Linear Array using Chebyshev Polynomial and Particle Swarm Optimization", International Conference on Computation and Communication Advancement, Vol. 1, pp. 306-309. Jan, 2013.

#### **Publication List of Prof. Chandan Kumar Sarkar and Mr. Sayan Chatterjee**

1. Rituparna Dasgupta, Dipankar Saha, Jagannath Samanta, **Sayan Chatterjee**, **Chandan Kumar Sarakar**, " Implementation of a New Offset Generator Block for the Low-Voltage, Low-Power Self Biased Threshold Voltage Extractor Circuit", Proceedings of the 16th International Symposium on VLSI Design and Test (VDAT), July, 2012.
2. Sagar Mukherjee, Dipankar Saha, Posiba Mostafa, Deepon Saha, **Sayan Chatterjee**, **C. K. Sarkar**, "A Low Power, High Speed, IF Range Flash Type ADC designed with the concept of TMCC and Binary Counter", IEEE INDICON, Dec., 2012.
3. Subhramita Basak, Dipankar Saha, Sagar Mukherjee, **Sayan Chatterjee**, **C. K. Sarkar**, "Design and Analysis of a Robust, High Speed, Energy Efficient 18 Transistor 1-bit Full Adder Cell, modified with the concept of MVT Scheme", IEEE International Symposium on Electronic System Design (ISED), Dec., 2012.
4. Sagar Mukherjee, Dipankar Saha, Posiba Mostafa, **Sayan Chatterjee**, **C. K. Sarkar**, "A 4-bit Asynchronous Binary Search ADC for Low Power, High Speed Applications", IEEE International Symposium on Electronic System Design (ISED), Dec., 2012.

5. Dhruvajyoti Basu, Sagar Mukherjee, Dipankar Saha, **Sayan Chatterjee**, **C. K. Sarkar**, "An Optimized Analog Layout for a Low Power 3-bit Flash Type ADC modified with the CMOS Inverter based Comparator Designs", IEEE International Conference on Circuit, Power and Computing Technologies (ICCPCT), March, 2013.

#### **Publication List of Dr. Sudipta Chattopadhyay**

1. Abhijit Chandra and **Sudipta Chattopadhyay**, "Powers-of-two Design of Finite Impulse Response Filter using Self-organizing Random Immigrants Genetic Algorithm", in Proceedings of *The Third International Conference on Computers Science and Information Technology (CCSIT 2013)*, Bangalore, India, February 18-20, 2013.
2. Abhijit Chandra and **Sudipta Chattopadhyay**, "Differential Evolution Based Design of Multiplier-less FIR Filter using Canonical Signed Digit Representation", in Proceedings of *2012 International Conference on Communications, Devices and Intelligent Systems (CODIS 2012)*, pp. 445-448, Kolkata, India, December 28-29, 2012.
3. Abhijit Chandra and **Sudipta Chattopadhyay**, "Performance Analysis of DE-optimized Multiplier-less Finite Impulse Response Data Transmission Filter", in Proceedings of *5<sup>th</sup> International Conference on Computers & Devices for Communication (CODEC 2012)*, Kolkata, India, December 17-19, 2012.
4. Abhijit Chandra and **Sudipta Chattopadhyay**, "Computationally Efficient Design of Multiplier-less Low-pass FIR Filter using Trigonometric Mutation Strategy of Differential Evolution Algorithm", *IEEE International Conference on Signal Processing, Communications and Computing (ICSPCC 2012)*, Hongkong, August 12-15, 2012 (Accepted).

#### **5. Collaborative Programmes :**

1. Prof. Amit Konar has new collaborations with Prof. Lakhmi C. Jain, Univ. Of South Australia, Adelaide.
2. Prof. Amit Konar has collaborations with Prof. Anca Ralescu, Univ. Of Cincinnati, USA.
3. Prof. Amit Konar has collaborations with Prof. Atulya K. Nagar, Liverpool Hope University, UK.
4. Prof. Amit Konar has collaborations with Prof. Nikhil R. Pal, Indian Statistical Institute, Kolkata.
5. Dr. A.S. Chowdhury has started collaboration with Dr. Xiaoyi Jiang, University of Münster, Germany on "Detection of Retinal Blood Vessels".
6. Dr. A.S. Chowdhury has started collaboration with Dr. Ronald M. Summers, National Institutes of Health, USA and Dr. Joseph Burns, University of California, Irvine, USA on "Detection of Pelvic Fractures".
7. Dr. A.S. Chowdhury has started collaboration with Dr. Ayman El-Baz, University of Louisville, USA on "Non-rigid Registration of Biomedical Images" and "Kidney Segmentation from Very Low Contrast MRI data".
8. Dr. A.S. Chowdhury has collaborations with Dr. Kannappan Palaniappan, University of Missouri, Columbia, USA on "Tracking of Muscle Satellite Cells".
9. Dr. A.S. Chowdhury has collaborations with Dr. Nilanjan Ray, University of Alberta, Canada on "Tracking of Human Monocyte Cells".
10. Prof. Bhaskar Gupta is associated with RF Systems and Antennas (Joint Research Project initiated with Govt. of Tunisia). Indian Representative –Prof. B. Gupta and Tunisia Representative- Prof. Ali Ghatshala.

11. Dr. Sudhabindu Ray has been appointed as Co-PI of collaborative research project (with IIT KGP) "Design and Development of High Speed Miniaturized RF MEMS Switched Capacitor" sponsored by ISRO.
12. Dr. Sudhabindu Ray has associated Fabrication of High Speed RF MEMS Based Miniaturized Switched Capacitor Based Phase Shifting Unit Cell (INUP Project at IIT Bombay) in collaboration with IIT Kgp.(Completed).
13. Dr. Sudhabindu Ray Co-PI of DST sanctioned Indo-Tunisian project "Development of wearable antennae for Body Centric application and studies on their physiological effects".
14. Dr. Sudhabindu Ray has initiated collaborative research with IIT, Bombay.

## 6. Major Achievements in the year 2012-2013:

### Achievement of the Department

The Department of Electronics & Tele-Communication Engg., Jadavpur University successfully Organized an International Conference on Communication, Devices and Intelligent Systems – CODIS during Dec. 28 & 29, 2012 with **Prof. Subir Kumar Sarkar, Head, Dept. of ETCE as General Chair**. There were 336 valid submissions with authors from Australia, Bangladesh, China, Republic of Korea, South Africa, Thailand, Turkey, USA apart from India. Based on the recommendations made by the reviewers, we were able to accept a total of 177 papers leading to a 52.7% acceptance rate. Out of 177 papers, we could accommodate 102 papers for Oral and 75 papers for Poster presentations. The technical program, spanning 2 days, consists of 18 oral and 4 poster sessions. Three parallel tracks, each with six sessions, have been organized for hosting 102 oral presentations. For 75 poster presentations, two parallel sessions were held on each day. Apart from the contributed papers, the technical program has included 1 Plenary and 9 Invited talks in emerging research fields. The plenary talk on Hybrid spintronics and straintronics: An Ultra Low Energy Paradigm for Digital Computing was delivered by Prof. Supriyo Bandyopadhyay from the Virginia Commonwealth University, USA. We had designated one invited talk as Jnan Saran Chatterjee Memorial Lecture in the name of the Founder member of our department. This lecture on Cell Tower Radiation Hazards and Solutions was delivered by Prof. Girish Kumar from IIT Bombay. All the papers presented in 2012 CODIS have been indexed in IEEE Xplore.

### Achievements of the Faculty :

1. **Prof. Amit Konar** has been appointed as an Associate Editor of *IEEE Trans. on Fuzzy Systems* for the period 2012-2013, *IEEE Trans. on Systems, Man and Cybernetics(Part-A)* for the period 2012 and *Neurocomputing*, Elsevier for the period 2012-2013.
2. One Indian patent entitled "A novel approach to measure cognitive load of subjects by EEG analysis," by Arijit Sinharay, Debatri Chatterjee and **Prof. Amit Konar** has been filed.
3. **Prof. Amit Konar** has served as the program co-chair for the prestigious IEEE Computational Intelligence Flagship Conference: *FUZZ-IEEE*, 2013.
4. **Prof. Bhaskar Gupta** has been appointed as Chairman, Audit Committee, Direct Freight Corridor Corporation of India
5. **Prof. Bhaskar Gupta** is appointed as Committee member, Common Entrance Test (CET) for admission into the post graduate courses in general education offered by the Universities and State-aided colleges offering PG courses in West Bengal.
6. **Prof. Bhaskar Gupta** acted as Chair, Award Committee, MMS 2013, Beirut, Lebanon.

7. **Prof. Bhaskar Gupta** has obtained Best Paper Award in ICMARS 2011, Jodhpur, Rajasthan for the paper by his student Dr S. Sankaralingam.
8. **Prof. Bhaskar Gupta** is continuing as Chairman, West Bengal Board of Joint Entrance Examinations
9. **Prof. Salil kumar Sanyal** has been appointed as Chairman, Circuits and Systems Society Chapter of IEEE Calcutta Section.
10. **Prof. Iti Saha Misra** obtained best paper award CUBE 2012 International Information Technology Conference and Exhibition, ACM, PUNE, Maharastra, India, 3-5 Sep 2012.
11. **Prof. Iti Saha Misra** Obtained the fund from IEEE HQ, USA, for doing project on "Low Cost Low Bandwidth Remote Virtual Educational Platform for underserved" and successfully completed the project under Special Interest Group for Humanitarian Technology, SIGHT, Acted as the coordinator of the SIGHT project.
12. **Prof. Iti Saha Misra** has been appointed as Chairperson, of SIGHT, IEEE KolkataSection.
13. **Prof. Iti Saha Misra** has been appointed as Secretary, IEEE KolkataSection.
14. **Prof. Subir Kumar Sarkar** is the Editor-In-Chief of the International Journal of Nano Electronics, Circuits and Systems.
15. **Prof. Subir Kumar Sarkar** was the General Chair of International conference on communications, devices and Intelligent Systems (CODIS 2012).
16. **Prof. Subir Kumar Sarkar** was with an investigating team for investigation in a plant of General Power Corporation after some complain against Wessman Pvt. Ltd.
17. **Dr. A.S. Chowdhury** was a invited speaker (for a panel discussion) at Indo-US Bilateral Symposia on Advances in Computer Vision, IIT Bombay, 2012.
18. **Dr. A.S. Chowdhury** was selected member of International Association for Pattern Recognition (IAPR)'s Technical Committee on "Graph-based Representations (GbR) in Pattern Recognition (PR)", 2012.
19. **Dr. Sudhabindu Ray** has appointed as member of technical subcommittee ,West Bengal Jointentrance Board
20. **Dr. Sudhabindu Ray** has appointed as academic member of School of Nuclear Studies and Application.
21. **Mr.Sayan Chatterjee** has appointed as a reviewer of International Journal of Electronics (IJE) .
22. **Mr.Sayan Chatterjee** has appointed as a reviewer of 2012 IEEE Asia Pacific Conference on Applied Electromagnetics.
23. **Mr.Sayan Chatterjee** has appointed as a reviewer of 2012 IEEE Int. Conference on Electronic Design, System and Applications.
24. **Mr.Sayan Chatterjee** has appointed as a reviewer of 2012 IEEE Symposium on Industrial Electronics and Application.
25. **Mr.Sayan Chatterjee** has appointed as a reviewer of 2012 IEEE Symposium on Wireless Technology and Applications.
26. **Mr.Sayan Chatterjee** has appointed as a reviewer of 2012 IEEE Int. Conference on Communications, Device and Intelligent Systems (CODIS)
27. **Mr.Sayan Chatterjee** has appointed as a reviewer of 2012 IEEE Int. RF and Microwave conference.

28. **Mr.Sayan Chatterjee** has appointed as a reviewer of 2012 IEEE Symposium on Wireless Technology and Applications.
29. **Mr.Sayan Chatterjee** has appointed as a member of IEEE Special Interest Group on Humanitarian Technology (SIGHT).
30. **Dr. P. Venkateswaran** acted as the **Organizing** chair to organize an IEEE-sponsored International conference CODIS-12 by the Department.

#### **Achievements of the Students:**

1. LAP Lambert Academic Publishing house has agreed to publish M.Tech Thesis written by B. Pradhan in the form of Book. Thesis is guided by Prof. B.Gupta.
2. Priyanka Saha, M.Tech student, bagged the best paper award on the paper, "Comparative study and analysis of 32 nm FD-SOI/SON and CNFET based 4X4 SRAM cell Array" in International Conference on Circuits, Power and Computing Technologies, 2013, Under the supervision of Prof. Subir Kumar Sarkar. Held at Noorul Islam University, 21-22 March, 2013, Tamilnadu.
3. Amrita Chakraborty awarded second best prize in "National Conference on Advancement of Science and Technology and Sustainable Development Following the ideals of Swami Vivekananda" at Indian Association for Cultivation of Science, Kolkata, India.
4. S. Chatterjee, A. Bhaduri, T. Bagchi, D. Basu sent a project proposal on designing a Smart Security System for home security to Anveshan 2012, organized by M/S Analog Devices(India) Private Limited and Jadavpur University was selected among the top ten institutions in India based on the proposals.
5. Indian patent "A Radio Frequency MEMS unit cell Miniature-size Switched Capacitor Based Phase Shifter Device" by Amirta Chakraborty, Bhaskar Gupta and Binay Kumar Sarkar (Patent Application No. 90/KOL/2013, under review process).
6. A CPW fed slot loop Minkowski fractal antenna with enhanced channel selectivity" by Sayantan Dhar, Sudipta Maity, Bhaskar Gupta, D R Poddar and Rowdra Ghatak. Awarded for best paper in CODIS 2012.
7. Bitan Bandyopadhyay achieved 3<sup>rd</sup> and final International Master Norm in National Premier Chess Championship.
8. Bitan Bandyopadhyay secured 7<sup>th</sup> position in National Challenger's Chess Championship.
9. Bitan Bandyopadhyay was the Silver Medallist in National Inter-University Chess Championship.

#### **Ph.D Awarded or Submitted:**

<b>Name of the Research Status</b>	<b>Name of the Guide:</b>	<b>Title of the Ph.D Thesis :</b>	<b>Present</b>
<b>Scholar: L Lolit Kumar Singh 2012</b>	<b>Prof. Bhaskar Gupta</b>	<b>Effects of ground plane and perturbations on Microstrip antenna performance</b>	<b>Awarded in</b>
<b>R R Wakodkar 2013</b>	<b>Prof. Bhaskar Gupta</b>	<b>Analysis and modeling of Microstrip antenna under perturbed and environm-</b>	<b>Awarded in</b>



		entally disturbed conditions	
Avra Kundu 2013	Prof. Bhaskar Gupta	Performance enhancement of RF MEMS for switching and other applications	Submitted in
Manidipa Nath 2013	Prof. Bhaskar Gupta	Optimal design of waveguide filter using artificial intelligence techniques	Submitted in
Dibyendu Kayal (2012)	Prof. Chandan Kumar Sarkar		Awarded
Amretashis Sengupta (2012)	Prof. Chandan Kumar Sarkar		Awarded
Mrinal Kranti Hota (2013)	Prof. Chandan Kumar Sarkar		Awarded
Swapnadip De (2013)	Prof. Chandan Kumar Sarkar		Awarded
Anshuman Sarkar (2013)	Prof. Chandan Kumar Sarkar		Awarded
Srabanti Pandit (Thesis	Prof. Chandan Kumar Sarkar		Awarded
Sunipa Roy (Thesis	Prof. Chandan Kumar Sarkar	Submitted)	Awarded
Sudipta Chattopadhyay (2012)	Prof. Salil K. Sanyal	Submitted) Some Studies on the Role of various Pulse-shaping Filters in Determining the Performance Metrics of QPSK & OQPSK based Mobile Communication Systems	Awarded
Biswa Binayak Mongaraj 2012	Prof. Iti Saha Misra	Design, Analysis, and Optimization of Some Wire Antennas and their Arrays using Numerical Technique and Soft Computing Tools	Awarded
Nitul Dutta 2012	Prof. Iti Saha Misra	Studies of Hierarchical IPv6 Based Mobility Model in Search of Optimal Performance for Next Generation Networks	Awarded
Kalpna Saha Roy 2012	Prof. Iti Saha Misra	Some Studies on Call Admission Control Protocol with QoS Provisioning in Next	Awarded

Dr. S. Dogra, 2012	Prof. S.K.Sarkar	Generation Cellular Networks Some studies on mobile communication	Awarded
Dr..Sanjoy Deb 2012	Prof. S.K.Sarkar	An overview of nano electronic devices and their applications	Awarded
Dr.Koushik Majumder 2012	Prof. S.K.Sarkar	Design and Performance study of routing protocols for mobile Ad hoc Network	Awarded
Dr.G.P.S Mishra(QIP) 2012	Prof. S.K.Sarkar	To study the characteristics of low dimensional semiconductor structures and explore some applications	Awarded
Dr. N Basanta Singh, 2013	Prof. S.K.Sarkar	To Study some aspects of micro and nanoelectronics structures and their applications	Awarded
Dr. C. John Clement 2013 Singh	Prof. S.K.Sarkar	Nano devices and their applications	Awarded
Dr. K. Senthil Kumar 2013	Prof. S.K.Sarkar	To study some characteristics of Low Dimensional, Low power consuming and High Frequency Nano Devices.	Awarded
Sri.Rajanna K M(QIP)	Prof. S.K.Sarkar	Some studies on RFID and explore some low power system realization	Submitted

## FOOD TECHNOLOGY & BIO-CHEMICAL ENGINEERING

Phone : + 91-33-2414-6822  
 Int. : 2457-2241  
 H.O.D. : Prof. Utpal Raychaudhuri  
 E-mail : hod@ftbe.jdvu.ac.in

- Area of Research Activities:** Functional Foods & Nutraceuticals, Biosensors, Food Quality & Food Safety, Fats & Oils, Food Product Development, Separation Techniques, Microbial Processing, Enzyme Technology, Bioprocessing & Biochemical Engineering, Food Biotechnology, Nanotechnology, Biomaterials, Bioremediation.

- **Major Research Project:** Centre of Advanced Studies- Phase II by UGC, Coordinator-Prof. Utpal Raychaudhuri and Deputy Coordinator –Prof. Runu Chakraborty

- **Invited lectures Delivered/Sessions Chaired:**

**Prof. Utpal Raychaudhuri & Dr. Paramita Bhattacharjee**

- Delivered an invited lecture on 'Food Irradiation: Safety and Quality of Irradiated Foods' for 'CH-IIT Certificate course in Food Safety and Quality Management (FSQM)' in the Agricultural and Food Engineering Department of at IIT-Kharagpur on March 1, 2013.
- **Seminar/Workshop/Conference/Symposium Attended:**

**Dr. Paramita Bhattacharjee**

1. Extraction of antioxidant-rich fractions from clove buds using supercritical carbon dioxide and comparative evaluation of antioxidant efficacies of these un-encapsulated and encapsulated fractions in soybean oil, Dipan Chatterjee, **Paramita Bhattacharjee**, Oral presentation in *AICTE Sponsored National Seminar on Recent Advances in the Development of Natural Antioxidants*, Gurunanak Institute of Technology, March 12-13, **2013**.
  2. Assessment of shelf-life of cookies formulated with clove extracts using electronic nose: Estimation of rancidity in cookies, Dipan Chatterjee, **Paramita Bhattacharjee**, Herve Lechat, Fatma Ayouni, Valerie Vabre, Oral presentation in session Electronic Nose on December 20, *Sixth International Conference on Sensing Technology*, Special Focus on Sensors for Agriculture and Environmental Monitoring, organized by C-DAC, Kolkata and Massey University, New Zealand, Hyatt Regency, Kolkata, December 18-21, **2012**.
  3. Quality assessment of fried potato wedges by fuzzy logic and texture analyses, Probir Kumar Ghosh and **Paramita Bhattacharjee**, **Poster presentation in 'Food Engineering', XXII Indian Convention of Food Scientists and Technologists (ICFOST-XXII) on SAFEST (Safety Assurance of Foods through Emerging Science & Technology) INNOVATIONS**, CFTRI, Mysore, India, December 6-7, **2012**. This poster won the second prize in the section of the Food Engineering.
  3. Phytochemical analyses and food applications on clove bud extracts obtained by liquid and supercritical carbon dioxide extraction technologies, **Dipan Chatterjee**, Paramita Bhattacharjee, Anindita Banerjee, oral presentation in *International Conference on Engineering & Applied Science*, Beijing, China, July 24-27, **2012**.
  4. Supercritical carbon dioxide extraction of *Ocimum sanctum* Linn and a comparative evaluation with other extraction techniques: Process optimization and phytochemical properties, **Sudip Ghosh**, Dipan Chatterjee and Paramita Bhattacharjee, oral presentation in *International Conference on Food and Nutrition Technology for Public Health Care, ICFNP-2012*, organized by International Institute of Stress Management and Allied Sciences (IISMAAS), Jawaharlal Nehru University, New Delhi, May 4-5, **2012**.
- **Course / Seminar Organized / Participated :**
  - Coordinated a 2-day UGC-sponsored Short Term Course on '**Health Foods using Traditional Herbs and Spices**' in the Dept. of FTBE, JU, March 25-26, **2013**.
  - Coordinated a 21-day UGC-sponsored Refresher Course on '**Process Control and Analytical Techniques in Food Processing and Quality Evaluation**' in the Dept. of FTBE, JU, June 12-July 2, **2012**.

- **Books/Monographs etc. Published: Prof. Utpal Raychaudhuri (Co-Author)**

Fundamentals of Automatic Process Control, CRS Press, Taylor & Francis 2012

Articles published in Journals: Dr. Paramita Bhattacharjee

1. Probir Kumar Ghosh and Paramita Bhattacharjee, 'Alternative methods of frying and antioxidant stability in sesame and mustard oils', *Acta Alimentaria*, 42 (1), March 2013.
2. Dipan Chatterjee, Paramita Bhattacharjee, Herve Lechat, Fatma Ayouni, Valerie Vabre, 'Assessment of shelf-life of cookies formulated with clove extracts using electronic nose: Estimation of rancidity in cookies', *IEEE explore on Conference Proceedings of the 2012 Sixth International Conference on Sensing Technology*, ISBN 978-1-4673-2245-4, pages 404-409, 2012, DOI: <http://dx.doi.org/10.1109/ICSensT.2012.6461709>.
3. Dipan Chatterjee, Nikhil T Jadav and Paramita Bhattacharjee, 'Solvent and supercritical carbon dioxide extraction of color from egg plants: Characterization and food applications', *LWT-Food Science and Technology*, 51: 319-324, 2013. The above article received citation in Decision newsletter of FoodNavigator.com on October 9, 2012, William Reed Business Media SAS 2012; <http://www.foodnavigator.com/Science-Nutrition/Aubergine-peel-promises-provision-of-natural-purples>
4. Paramita Bhattacharjee and Suranjan Panigrahi, 'Quantitative determination of volatile organic compounds using HS-SPME/GC-MS: A comprehensive reviewed application on meat', *Journal of Food Technology*, Medwell Journals, 10: 103-112, 2012.
5. Dipan Chatterjee, Paramita Bhattacharjee, Anindita Banerjee, 'Phytochemical analyses and food applications on clove bud extracts obtained by liquid and supercritical carbon dioxide extraction technologies', *Proceedings of the International Conference on Engineering & Applied Science*, ISSN 2227-0299, ISBN 978-986-87417-1-3, Article 679, pages 392-409, Beijing, China, July 24-27, 2012.
6. Probir Kumar Ghosh, Dipan Chatterjee and Paramita Bhattacharjee, 'Alternatives methods of frying and antioxidant stability in soybean oil', *Advance Journal of Food Science and Technology*, 4: 26-33, 2012.
7. Paramita Bhattacharjee, Dipan Chatterjee and Rekha S. Singhal, 'Studies on supercritical carbon dioxide extraction of squalene from *Amaranthus paniculatus*', *Food and Bioprocess Technology*, 5: 2506-2521, 2012.

#### **Publications :**

##### **Prof. Utpal Raychaudhuri & Prof. Runu Chakraborty**

1. Development of PEI-GA modified antibody based sensor for the detection of *S. aureus* in food samples. **Tania Majumdar, Runu Chakraborty, Utpal Raychaudhuri. Food Bioscience. Elsevier Vol. 4 (2013) 38 – 45.**
2. Rapid electrochemical quantification of food borne pathogen *Staphylococcus aureus* based on hydrogen peroxide degradation by catalase. **Tania Majumdar, Runu Chakraborty, Utpal Raychaudhuri. Journal of The Electrochemical Society, ECS, 160 (4) G75-G78 (2013).**
3. Study on Electrochemical Immunoassay methodology for Protein A: a modified approach towards detection and quantification of *Staphylococcus aureus* in food samples, **Tania**

- Majumdar, Runu Chakraborty, Utpal Raychaudhuri. Research Journal of Chemical Sciences. International Science Congress Association. Vol. 2(8), (2012), 62-68.**
4. Study on Enzyme-Linked Immunoassay and Polymerase Chain Reaction for the Identification and Quantification of *Staphylococcus aureus* in Pure Culture and Food Samples, **Tania Majumdar, Runu Chakraborty, Utpal Raychaudhuri. ISCA Journal of Biological Sciences. International Science Congress Association. Vol. 1(3), (2012) 30-36.**
  5. Study on Factor H mediated identification of Staphylococcal Sbi protein in pure culture; **Tania Majumdar, Runu Chakraborty, Utpal Raychaudhuri. Biochemistry: An Indian Journal. Trade Science Inc. 6(4), (2012) 111-113.**
  6. Quality enhancement of mustard oil by tocotrienol rich fraction from rice bran oil. International Journal of Food Properties: Taylor and Francis (accepted for publication). Bardhan Jayeeta, Chakraborty Runu, Raychaudhuri Utpal. 2013.
  7. Quality enhancement of groundnut oil by addition of rice bran oil extract. Natural Products: An Indian Journal. Publisher: Trade Science Inc. Bardhan Jayeeta, Chakraborty Runu, Raychaudhuri Utpal. 2012
  8. Cereal based functional food of Indian subcontinent: a Review. ,Das Arpita., Raychaudhuri Utpal. & Chakraborty Runu. **Journal of Food Science and Technology.** 49: 665-672. Publisher: Springer.2012
  9. Effect of Freeze-drying and oven drying on antioxidant properties of fresh wheatgrass Das Arpita, Raychaudhuri Utpal. & Chakraborty Runu. , **International Journal of Food Sciences and Nutrition.** 63(6): 718-721. Publisher: Informa healthcare, United Kingdom.2012
  10. Antimicrobial effect of edible plant extracts on the growth of some food borne bacteria including pathogens. Das Arpita., Raychaudhuri Utpal. & Chakraborty Runu. **Nutrafoods** 11(3) 99-104. Publisher: Springer.2012
  11. Nutraceuticals derived from plant source (herbals Das Arpita, Raychaudhuri Utpal. & Chakraborty Runu. In. **Nutraceuticals & Functional Foods: Natural Remedy.** (Ed.) Brar SK, Dr. Sudinder Kaur, Dhillon GS. Nova Science. Inc., USA. Accepted for publication. 2013
  12. Innovative formulation of rice cake for celiac people and its characterization. Das Arpita, Ray Sohini, Raychaudhuri Utpal. & Chakraborty Runu. **Natural Products: An Indian Journal.** Publisher: Trade Science Inc. (2013). Accepted for publication
  13. Microencapsulation of probiotic bacteria and its potential application in food technology. Das Arpita, Ray Sohini, Raychaudhuri Utpal. & Chakraborty Runu. **International Journal of Agriculture, Environment and Biotechnology.** New Delhi publishers. Accepted for publication .2013

#### **Prof.Lalitagauri Ray**

- Das, D. & Ray, L. Production, partial purification and characterization of a *Cryptococcus laurentii* invertase. National Seminar on Biotechnology for sustainable development. Organized by Dept. of Biotechnology, Heritage Institute of Technology.Feb.23-24, 2012.
- Nath, J & Ray, L. Bioaccumulation of malachite green from aqueous solution using washed biomass of *Bacillus cereus* M<sup>1</sup><sub>16</sub>. National Seminar on Biotechnology for sustainable development. Feb.23-24, 2012.

- Basu, M, Guha, A.K, Ray,L. Adsorption behavior of lead on lentil husk. National Seminar on Biotechnology for sustainable development. Organized by Dept. of Biotechnology, Heritage Institute of Technology.Feb.23-24, 2012.
- Nath, J & Ray, L. Bioaccumulation of malachite green from aqueous solution using washed biomass of *Bacillus cereus* M<sup>1</sup><sub>16</sub>. National Seminar on Biotechnology for sustainable development. Feb.23-24, 2012.

#### **Prof. Lalitagauri Ray**

- Member of the Advisory Board National Conference on organized by Dept of Food Sc. Rastraguru Surendranath College on , 2012.

#### **Articles Published in Journals:**

##### **Prof. Lalitagauri Ray**

- Bera,D. Chattopadhyay,P. Ray,L. Continuous removal of Chromium from aqueous solution using activated sludge process – Determination of kinetic parameters. Ind. J. Chemical Technol. 19, 32-36, 2012.
- Mukherjee,A, Sengupta,S, Ray,L, Sengupta, S. Evaluation of *Tinospora cordifolia* amylase as a commercial digestive enzyme of plant origin. J. of Herbs, Spices and Medicinal Plants.18(1), 58 – 76, 2012.
- Adhikari,S, Chattopadhyay,P, Ray,L. Continuous removal of malathion by immobilized biomass of *Bacillus Sp.S<sub>14</sub>* using packed bed column reactor. Chemical Speciation and Bioavailability.24(3) 2012.
- Ghatak,A, Guha,A.K, Ray,L. Immobilization of *Enterobacter cloacae* Beta - galactosidase : characterization and use in the production of low lactose milk using a continuous packed bed column reactor. Ind J Biotech. Accepted. 2012.
- Sen,S, Chattopadhyay,P, Ray,L. Production, Purification & immobilization and characterization of thermostable α-galactosidase from *Aspergillus alliaceus*. Appl.Biochem & Biotechnol. Part A ,Enz Engg & biotech, 167,1938 – 1953,2012. DOI 10.1007/s12010-012-9732-6.

##### **Dr. Uma Ghosh**

- Ranu Paul and Uma Ghosh ; Effect of thermal treatment on ascorbic acid content of pomegranate juice. Indian J. of Biotechnology. 11, 309, 2012.
- Saswati Gayen and Uma Ghosh ;Effect of carbon compounds and metal ions on the production of tannase by *Penicillium natatum* NCIM 923 utilizing agri horticultural wastes by solid state fermentation J. Mycopathological Res. 50(1), 67, 2012
- Soumi Gayen and Uma Ghosh; Pectin methyl esterase production from mixed agro wastes by *Penicillium natatum* NCIM 923 in solid state fermentation J. Bioremed Biodegrad 2,119, 2011.
- Arnab Paramanik, Muthuraman Sundararaman, Satadal das, Uma Ghosh and Joydeep Mukherjee. Isolation and characterization of Cynobacteria possessing antimicrobial activity from the Sundarbans the World's largest tidal Mangrove forest. J Phycol. 47, 2011.
- Soumi Gayen and Uma Ghosh Effect of different carbohydrates to increase the production of pectin methyl esterase by solid state fermentation J. Mycopathol. Res. 49,111,2011

- Shreeparna Das and Uma Ghosh.2012. Production of phytase by submerged fermentation.J. *Mycopathol.Res.*50, 93, 2012

#### **Prof. Utpal Raychaudhuri & Prof.Runu Chakraborty**

- Role of nutraceuticals in human health. Das Lipi, Bhaumik Eshani, Raychaudhuri Utpal & Chakraborty Runu. (2012). *Journal of Food Science and Technology*, 49(2): 173-183. Publisher: Springer
- Supplementation of common white bread by coriander leaf powder. Das Lipi, Raychaudhuri Utpal & Chakraborty Runu. (2012). *Food Science and Biotechnology*, 21(2): 425-433. Publisher: Springer
- Optimizing Process Conditions for Palm (*Borassus flabellifer*) Wine Fermentation using Response Surface Methodology. Ghosh Satyabrata, Chakraborty Runu, Raychaudhuri Utpal. (2012). *International Food Research Journal*. Publisher: University Putra Malaysia.
- Kinetic Model of Natural Palm Juice Vinegar Production in Bioconversion of Palm Wine to Acetic acid using Acidophilic Bacteria and Optimization by Response Surface Methodology. Ghosh Satyabrata, Chakraborty Runu, Chatterjee Gourav, Raychaudhuri Utpal. (2012). *Brazilian Journal of Chemical Engineering*. Publisher: Brazilian Society of Chemical Engineering.
- Optimization of Soy Dessert on Sensory, Color and Rheological Parameters Using Response Surface Methodology. Chattopadhyay Sanchari, Raychaudhuri Utpal & Chakraborty Runu. (2012). *Food science and Biotechnology*. Publisher: Springer.
- Sub-chronic toxicity study of the seeds of *Swietenia macrophylla* in wister rats.Moumita Dutta, Runu Chakraborty, Debasish Maji, Utpal Raychaudhuri. (2012). *Science and Culture*, Vol.78, No.1–2. Indian Science News Association.
- Antimicrobial effect of edible plant extracts on the growth of some food borne bacteria including pathogens. Das Arpita., Raychaudhuri Utpal. & Chakraborty Runu. (2012). *Nutrafoods*. Publisher: Springer.

#### **Major Achievement :**

- New Four Year B.E. Course in Food Technology & Biochemical Engineering (Intake – 30) was started in July 2011.

#### **Others:**

Diploma Courses Organized : Coordinator –Prof. Utpal Raychaudhuri

- Food Processing and Customized Management (2012-13).
- Food Processing, Nutrition & Health Care (2012-13).

### **INFORMATION TECHNOLOGY (SALT LAKE)**

Phone : + 91-33-2335-8321

Int. : 6128  
H.O.D. : Dr. Bibhas Chandra Dhara  
E-mail : hod@it.jusl.ac.in

**1. A. Courses Offered :**

<b>Name of the Course :</b>	<b>Duration of the Course :</b>	<b>Annual Intake :</b>
B.E (Information Technology)	4 years degree course	65
M.E (Software Engineering)	2 year degree course	25
M.E (Software Engineering) for TCS sponsored students	3 year degree course	20

**1. B. Number of Faculty Members:**

- Professor: 01
- Associate Professor: 00 (Sanctioned: 01)
- Assistant Professor: 04 (Sanctioned: 05)
- Lecturers on Contractual Basis:03 (Sanctioned 05)
- Reader on Contractual Basis: 01

**2 A. Area of Research Activities: (Broad Area):**

All teachers are actively engaged in research activities. The thrust areas of the department may be classified as follows.

- (i) Image processing, Video Compression, Pattern Recognition
- (ii) Distributed Object Computing, Middleware
- (iii) Middleware in Mobile Computing, Mobile Ad hoc Networks
- (iv) Artificial Intelligence, Machine Learning
- (v) Network Architecture, Routing Protocols
- (vi) Parallel Processing, Cryptography

**B. Major Research Projects :**

Departmental / Individual :Individual

Name of the project:Content Based Video Indexing and Retrieval using Rectilinear Motion

Principal Investigator:Bibhas Chandra Dhara

Funding Agency: ISI

Departmental / Individual :Departmental

Name of the project: DST-PURSE Project

Principal Investigator: Prof. Samiran Chattopadhyay Dr. Bibhas Chandra DharaDr. Uttam Kumar Roy

Dr. Parama BhaumikDr. Bhaskar Sardar

Funding Agency:Central Govt.

Departmental / Individual :Individual

Name of the project: Mobile Computing and innovative Applications

Principal Investigator: Prof. Samiran Chattopadhyay & Munmun Das

Funding Agency:Central Govt.

Departmental / Individual :Individual

Name of the project: Leveraging Wireless & Mobile Technology in Web Based Education

Principal Investigator: Prof. Samiran Chattopadhyay



Funding Agency: State Govt.

Departmental / Individual : Collaborative

Name of the project: Identification of damage initiation mechanisms in Advanced High strength steels (AHSS) using in-suit tensile testing under scanning electron microscope

Principal Investigator: Dr. Bibhas Chandra Dhara, Co-Investigator

Funding Agency: Tata Steel Ltd., Jamshedpur

**3. A. Invited Lectures Delivered/Session Chaired:**

Name of the Teacher: Prof. Samiran Chattopadhyay

Type of Participants: Chaired a Session on "Mobile Computing

Name of the Seminars /Conference: Third International Conference on Emerging Applications of Information Technology (EAIT 2012) Nov 29- Dec-01

Place: Kolkata, India

Duration: November 30, 2012 from 13:45 to 15:45

Name of the Teacher: Dr. Bibhas Chandra Dhara

Type of Participants: Member in a panel of judges to select a set of papers for the award of Special Mention Category of Papers

Name of the Seminars /Conference: Third International Conference on Emerging Applications of Information Technology (EAIT 2012) Nov 29- Dec-01

Place: Kolkata, India

Duration: November 30, 2012 from 13:45 to 15:45

Name of the Teacher: Dr. Bhaskar Sardar

Type of Participants: Resource person Topic: "Mobile IP"

Name of the Seminars /Conference: Faculty Development Program

Place: Heritage Institute of Technology, Kolkata

Duration:

Name of the Teacher: Dr. Bhaskar Sardar

Type of Participants: Resource person Topic: "IP Mobility Management"

Name of the Seminars /Conference: One day seminar on Advanced Computing and Communication

Place: Heritage Institute of Technology, Kolkata

Duration:

**3. C. Seminar/Workshop/Conference/Symposium Organized:**

Prof. Samiran Chattopadhyay and Dr. Bibhas Chandra Dhara acted as members of the Technical Program Committee of Third International Conference on Emerging Applications of Information Technology (EAIT 2012) held at Kolkata, India, on November 29 – December 01, 2012.

**4. A. Books and Monographs etc. Published :**

Name of the Teacher: Jayanta Mukhopadhyay, Partha Bhowmick, P.P.Das, Samiran Chattopadhyay, B.N. Chatterji, P.K. Biswas, P.K. Dutta, Anirban Mukherjee

Name of the Book: Digital Geometry in Image Processing

Name of the Publisher: Chapman and Hall/CRC Press

Name of the Teacher: Utpal Kumar Ray, Ryan Saptarshi Ray

Name of the Book: Software Transactional Memory:An Alternative to Locks

Name of the Publisher:LAP LAMBERT ACADEMIC PUBLISHING,GERMANY (ISBN: 978-3-659-25606-6)

**4. B. Articles Published in Journals/Conferences:**

1. Sukhendu Kanrar, Nabendu Chaki, Samiran Chattopadhyay, A New Link Failure Resilient Priority Based Fair Mutual Exclusion Algorithm for Distributed Systems, *Journal of Network and Systems Management*, [DOI: 10.1007/s10922-011-9218-9], Springer, Volume 21, Issue 1, 2013, 1 – 24.
2. Shilpi Bose, Chandra Das, Sourav Dutta and Samiran Chattopadhyay, A Novel Interpolation Based Missing Value Estimation Method to Predict Missing Values in Microarray Gene Expression Data, *Proceedings of International Conference on Communications, Devices and Intelligent Systems (CODIS)*, 2012, IEEE Xplore, pp. 318 – 321
3. Saswati Mukherjee, Matangini Chattopadhyay, Samiran Chattopadhyay, Prince Bose, Agniswar Bakshi, Detection of Selective Forwarding Attack in Wireless Ad hoc Networks using Binary Search, accepted for publication in the *Proceedings of Third International Conference on Emerging Applications of Information Technology, EAIT 2012*, held on November 29 – December 01, 2012, Kolkata, India, IEEE Xplore, pp 382 – 386.
4. Saswati Mukherjee, Matangini Chattopadhyay, Ayan Lahiri, Samiran Chattopadhyay, An Efficient Binary Playfair Algorithm using a 4×4 Playfair Key Matrix, *Lecture Notes in Computer Science*, Volume 7564, A. Cortesi et al. (Eds.), Springer, pp. 314–325, 2012.
5. Chandra Das, Shilpi Bose and Samiran Chattopadhyay, Effectiveness of Different Partition-based Clustering Algorithms for Estimation of Missing Values in Microarray Gene Expression Data *Advances in Computing and Information Technology, Advances in Intelligent Systems and Computing*, Springer, Volume 177, 2013, pp 37-47.
6. Saswati Mukherjee, Sreya Dey, Rajdeep Mukherjee, Matangini Chattopadhyay, and Debarshi Kumar Sanyal, Samiran Chattopadhyay, Addressing Forwarder's Dilemma: A Game-Theoretic Approach to Induce Cooperation in a Multi-Hop Wireless Network, *Advances in Communication, Network, and Computing, Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, Das, Vinu V; Stephen, Janahanlal (Eds.), Springer, Volume 108, 93 – 98, 2012.
7. Chandra Das, Shilpi Bose, Abir Chakraborty and Samiran Chattopadhyay, A Novel Attribute Clustering Algorithm for Extraction of Discriminative Features to Classify Samples from Microarray Gene Expression Data, published by IEEE in the *Proceedings of 4th International Conference on Electronics Computer Technology (ICECT 2012)*, held in Kanyakumari, India held during April 6 - 8, 2012.
8. A Ghosal, R Chakraborty, B. C. Dhara, and S. K. Saha, "Music Classification based on MFCC Variants and Amplitude Variation Pattern: A Hierarchical Approach", *International Journal of Signal Processing, Image Processing and Pattern Recognition*, 5(1):131-150, 2012.
9. C. Maiti and B. C. Dhara, "A Robust Binary Watermarking Scheme using BTC-PF Technique", In *International Conference on Eco-friendly Computing and Communication Systems (ICECCS)*, pp. 187 –185, 2012.
10. A Ghosal, R Chakraborty, B. C. Dhara, and S. K. Saha, "Song/Instrumental Classification using Spectrogram Based Contextual Features", *CUBE 2012* , pp. 21 –25
11. C. Maiti and B. C. Dhara, "A binary watermarking scheme using quantization levels of btc-pf method," in *Proc. of IEEE International Conference on Communications, Devices and Intelligent Systems*, pp. 604 – 607, 2012.

12. A Ghosal, R Chakraborty, B. C. Dhara, and S. K. Saha, "Genre Based Classification of Song Using Perceptual Features", International Conference on Advanced Computing, Networking, and Informatics, (accepted)
13. A. Ghosh, B. C. Dhara and R. K. De, "Comparative analysis of cluster validity indices in identifying some genes mediating certain cancers" *Molecular Informatics* 32 (4), 347-354
14. Suvadip Batabyal, Parama Bhaumik, "Improving Network Performance with Affinity based Mobility Model in Opportunistic Network", *International Journal of Wireless & Mobile Networks (IJWMN)* Vol. 4, No. 2, April,2012, pp. 189-202.
15. Debabrato Giri, Uttam Kumar Roy, "WPAN Routing Using Huffman Technique", *International Journal of Engineering Sciences*, Vol (2), No (2), Pages 49-61. 2013.
16. Debabrato Giri, Uttam Kumar Roy, "Multilevel Address Reorganization Type 2 I N Wireless Personal Area Network", *International Journal of Wireless & Mobile Networks (IJWMN)* Vol 05, No. 01, pages 47 - 64., 2013.
17. Indrajit Bhattacharya, Amit Kumar Gupta, Uttam Kumar Roy, "XRFID: Design of an XML Based Efficient Middleware for RFID Systems", *International Journal of Radio Frequency Identification and Wireless Sensor Networks*, Vol 1, No. 1, July 2012, ISSN:1847-9812, pp. 44-52 .
18. Indrajit Bhattacharya, Kaushik Das Sharma, Uttam Kumar Roy, "Tracking and Monitoring of Tagged Objects Employing Particle Swarm Optimization In a Departmental Store", *IIUM Engineering Journal*, Vol 12, No. 1 2012, Pp.1-11.
19. Ryan Saptarshi Ray, Utpal Kumar Ray "Modified Playfair Cipher using Rectangular Matrix" *International Journal of Computer Applications* Vol. 46(9) PP 28-30, 2012
20. Ryan Saptarshi Ray, Utpal Kumar Ray "Writing Lock-Free Code" *IRNet Transactions on Computer Science and Engineering*, Vol-1(1) pp. 30-36, 2012
21. Ananya Chowdhury, and Utpal Kumar Ray. "Implementation of MD6" *SNDS*, volume 335 of *Communications in Computer and Information Science*, page 444-455. Springer, (2012).
22. Ryan Saptarshi Ray, Utpal Kumar Ray "Lock-Free Producer-Consumer", *International Conference on Computer Science & Information Technology*, pp 13-18, 2012.
23. B. Sardar, "Analyzing Buffer Requirement for Wireless Enhancement of TCP in Network Mobility", *International Journal of Business Data Communication and Networking*, vol. 9(1), pp. 28-49, 2013.

#### 5. Collaborative Programmes:

- Professor Samiran Chattopadhyay works with Indian Institute of Technology, Kharagpur and Indian Statistical Institute and with Bengal Science and Engineering University for joint research work leading to a Ph.D.
- Dr. Bibhas Chandra Dhara is an investigator of a research project jointly supervised and funded by Indian Statistical Institute, Calcutta.
- Mrs. Parama Bhaumik and Dr. Uttam Kumar Roy works with faculty of Indian Institute of Management, Calcutta on joint research projects.
- Dr. Bhaskar Sardar works with faculty of Indian Institute of Management and researchers from Wipro Ltd for Ph.D program.

#### 6. Major Achievements

- A new class room and a new laboratory facility have been created as an additional facility for the department at the second floor of the Building of the Centre of Mobile Computing and Communications.

- Professor Samiran Chattopadhyay has served as a Part Time Technical Consultant to Interra Systems India Pvt. Ltd., Kolkata.
- Damini Nenawati got full-financed scholarship award “Erasmus Mundus Europe Asia” from the University of Milan, Italy.
- Meghna Gupta and Sayak Kundu got “Best Student Project Award” from TCS.

## INSTRUMENTATION & ELECTRONICS ENGINEERING (SALT LAKE)

Phone : + 91-33-2335-2587  
 Int. : 6139  
 H.O.D. : Dr. Bipan Tudu  
 E-mail : dept@iee.jusl.ac.in

### 1. A. Courses Offered:

Name of the Course:	Duration	Course Started	Total Intake	No. of Students Enrolled
41 & Electronics Engineering Bachelor of Technology in Instrumentation and Electronics Engineering	3 Years	1966	22	22
Master of Technology in Instrumentation and Electronics Engineering	2 Years	2001	08	08
Ph. D.		1966		21

- Meghna Gupta and Sayak Kundu got “Best Student Project Award” from TCS.

### 2. B. Number of Faculty Members:

#### Professor(s)

Kalyankumar Ray  
 Subhankar Bandyopadhyay  
 Ardhendu Ghoshal  
 Rajib Bandyopadhyay  
 Bivas Dam

#### Associate Professor(s)

Kalyan Majumdar  
 Rajanikanta Mudi  
 Kumardeb Banerjee  
 Bhaswati Goswami  
 Ratna Ghosh  
 Bipan Tudu

#### Assistant Professor(s)

Runu Banerjee.  
 Prolay Sharma

### 2. A. Area of Research Activities:

- i) Signal Processing
- ii) Digital System Design
- iii) Intelligent Control
- iv) Electronic Olfaction
- v) Embedded Systems
- vi) Sensor Design

- vii) Control System
- viii) Filtering and estimation
- ix) Bio-medical instrumentation

**2. B. Major Research Project:**

Name of the Project :FIST-2008  
Investigators :Head of Deptt.  
Funding Agency :DST, Govt. of India  
Amount (Rs. Lakhs):150.50  
Duration :2009-2014

Name of the Project :Studies on fabrication, characterization and standardization of Fractance  
Investigators :Dr. B. GoswamiDr. R. Ghosh  
Funding Agency :DST - PURSE  
Amount (Rs. Lakhs):61.21  
Duration :2009-2012

Name of the Project :Development of PID Controllers for Networked Control of Process Plants with Packet drop-out and Data Loss  
Investigators : Prof. A. Gupta (Power Engg)Dr. B. GoswamiDr. R. Ghosh  
Funding Agency : BRNS, Govt. of India  
Amount (Rs. Lakhs):28.83  
Duration :2010-2013

Name of the Project :Development of QCM Sensors Array for Black Tea Flavour Detection with Electronic Nose  
Investigators : Mr. Prolay Sharma  
Funding Agency : SERC, DST, Govt. of India  
Amount (Rs. Lakhs):6.67  
Duration :2010-2012

Name of the Project :Development of a Combined Electronic Nose & Tongue System For Improved Classification of Black Tea Quality  
Investigators :Ms. Runu Banerjee  
Funding Agency :SERC, DST, Govt. of India  
Amount (Rs. Lakhs):6.80  
Duration :2010-2012

Name of the Project :Inward leaf inspection system for Indian tea industries  
Investigators :Prof. Rajib Bandyopadhyay  
Funding Agency :DeitY, Govt. of India  
Amount (Rs. Lakhs):21.00  
Duration :2012-2013

Name of the Project :Development of Ammonia Gas Sensor  
Investigators :Prof. Subhankar Bandyopadhyay  
Funding Agency : UGC Govt. of India  
Amount (Rs. Lakhs):10.30

Duration :2012-2014

Name of the Project :Development of Voltammetric Electronic Tongue with Different Electrodes Made of Nano Composites of Carbon and Polymer for Quality Analysis of Tea

Investigators :Prof. Rajib Bandyopadhyay

Funding Agency : CSIRGovt. of India

Amount (Rs. Lakhs):18.00

Duration :2012-2014

### 3. A. Invited Lectures Delivered/ Session Chaired:

- Prof. Rajib Bandyopadhyay delivered a lecture on "Electronic Nose and Tongue" in the refresher course organized by School of Biomedical Engg., in 2012
- Prof. Kumardeb Banerjee delivered a lecture on "Signal Processing in Measurement Systems" in the refresher course organized by School of Biomedical Engg., in 2012
- Prof. R. Bandyopadhyay delivered a lecture on "Data analysis techniques for electronic olfaction" in the Refresher Course organized by the Department of Instrumentation Science, Jadavpur University on "Recent Developments in Analytical Instrumentation" in the month of June 2012

### 3. B. Seminar/ Workshop/ Conference/Symposium Attended:

#### INTERNATIONAL

1. Pradip Saha, Santanu Ghorai, Bipan Tudu, Rajib Bandyopadhyay, Nabarun Bhattacharyya "Multi-class Support Vector Machine for Quality Estimation of Black Tea Using Electronic Nose," **2012 Sixth International Conference on Sensing Technology (ICST 2012)**, , Kolkata, India, pp.571-576, December 18-21, 2012.
2. Chandra Sekhar Nadi, Bipan Tudu, Chiranjib Koley, "An Automated Machine Vision Based System for Fruit Grading and Sorting," **2012 Sixth International Conference on Sensing Technology (ICST 2012)**, Kolkata, India, pp.195-200, December 18-21, 2012.
3. Pradip Saha, Santanu Ghorai, Bipan Tudu, Rajib Bandyopadhyay, Nabarun Bhattacharyya, "Optimization of Sensor Array in Electronic Nose by Combinational Feature Selection Method," **2012 Sixth International Conference on Sensing Technology (ICST 2012)**, Kolkata, India, pp. 341-346, December 18-21, 2012.
4. Prolay Sharma, Arunangshu Ghosh, Bipan Tudu, Bandyopadhyay, Nabarun Bhattacharyya, "Electronic nose with Quartz Crystal Microbalance sensors to discriminate Indian Black tea varieties," **2012 Sixth International Conference on Sensing Technology (ICST 2012)**, Kolkata, India, pp. 410-413, December 18-21, 2012.
5. Arun Jana, Nabarun Bhattacharyya, Subhankar Mukherjee, Devdulal Ghosh, Jayanta Kr. Roy Rajib Bandyopadhyay , Bipan Tudu, "Regression model on electronic nose data from aromatic rice samples ," **2012 Sixth International Conference on Sensing Technology (ICST 2012)**, Kolkata, India, pp. 418-421, December 18-21, 2012.
6. Barun Kumar Bairagi, Samir Chandra Das, Arpitam Chatterjee, Bipan Tudu, "Expressions invariant face recognition using SURF and Gabor features," **Third International Conference on Emerging Applications of Information Technology (EAIT)**, Kolkata, India, pp.170-173, November 30-December 01, 2012.

7. Kamalika Tiwari, Bipan Tudu, Rajib Bandyopadhyay, Anutosh Chatterjee, "Discrimination of monofloral honey using cyclic voltammetry," **Proceedings - 2012 3rd National Conference on Emerging Trends and Applications in Computer Science, NCETACS-2012**, Shillong, pp. 132-136, March 30-31, 2012
8. Arunangshu Ghosh, Rajib Bandyopadhyay, Bipan Tudu, Pradip Tamuly, and Nabarun Bhattacharyya, "Partial least squares modeling of voltammetric electronic tongue for determination of important biochemical compounds present in tea," **National Conference on Olfaction and E-Nose**, Bengaluru, India, April 20-21, 2012.
9. Prolay Sharma, Arunangshu Ghosh, Bipan Tudu, Rajib Bandyopadhyay, and Nabarun Bhattacharyya, "Electronic nose for discrimination of black tea using quartz crystal microbalance gas sensors and radial basis function network," **National Conference on Olfaction and E-Nose**, Bengaluru, India, April 20-21, 2012.
10. Arun Jana, Nabarun Bhattacharyya, Devdulal Ghosh, Bipan Tudu, and Rajib Bandyopadhyay, "Electronic nose for aroma classification of aromatic rice based on KPCA," **National Conference on Olfaction and E-Nose**, Bengaluru, India, April 20-21, 2012.
11. R.R. De and Rajani K. Mudi, "A New Self-Tuning Fuzzy PI Controller for Integrating Processes with Dead-Time," **Proc. 2nd Int. Conf. on Advances in Computing, Control and Communication – CCN-2012**, New Delhi-NCR (India), pp. 24-28, June 16-17, 2012. (ISBN: 978-981-07-2579-2 doi:10.3850/978-981-07-2579-2 CCN-426)
12. P.K. Paul, C. Dey, and Rajani K. Mudi, "Model based PID controller for integrating process with its real time implementation," **Proc. 2nd Int. Conf. on Advances in Computing, Control and Communication – CCN-2012**, New Delhi-NCR (India), pp. 62-66, June 16-17, 2012. (ISBN: 978-981-07-2579-2 doi:10.3850/978-981-07-2579-2 CCN-460)
13. A.K. Pal and Rajani K. Mudi, "An Adaptive Fuzzy Control for Overhead Crane," **Proc. Int. Conf. on Advanced Communication, Control and Computing Technologies – ICACCCT-2012**, Ramanathapuram (India), pp. 328-332, August 23-25, 2012. (ISBN:978-1-4673-2047-4/12 ©2012 IEEE).
14. R.R. De, Rajani K. Mudi, and A.K. Pal, "A PD-Type Self-Tuning FLC for Second-order Systems with Dead-time," **Proc. Int. Conf. on Advanced Communication, Control and Computing Technologies – ICACCCT-2012**, Ramanathapuram (India), pp. 452-456, August 23-25, 2012. ( ISBN:978-1-4673-2047-4/12 ©2012 IEEE)
15. Rajani K. Mudi and R.R. De, "A New Self-tuning Fuzzy Proportional-Derivative Controller for High-Order Systems," **Proc. 2012 Third Int. Conf. on Emerging Applications of Information Technology – EAIT-2012**, Kolkata (India), pp. 24-27, November 29 – December 01, 2012. [978-1-4673-1827-3/12/ ©2012 IEEE]
16. C. Dey, Rajani K. Mudi, and P. Mitra, "A self-tuning fuzzy PID controller with real-time implementation on a position control system," **Proc. 2012 Third Int. Conf. on Emerging Applications of Information Technology – EAIT-2012**, Kolkata (India), pp. 32-35, November 29 – December 01, 2012. [978-1-4673-1827-3/12/ ©2012 IEEE]
17. R.R. De and Rajani K. Mudi, "A Robust Self-Tuning Fuzzy Controller for Integrating Systems," **Proc. 2nd Int. Conf. on Power, Control and Embedded Systems – ICPCES-2012**, Allahabad (India), pp. 519-524, December 16-19, 2012. [ISBN No. 978-1-4673-1049-9/12/ ©2012 IEEE]
18. D. Simhachalam, C. Dey, and Rajani K. Mudi, "An auto-tuning PD controller for DC servo position control system," **Proc. 2nd Int. Conf. on Power, Control and Embedded Systems – ICPCES-2012**,

Allahabad (India), pp. 513-518, December 16-19, 2012. [ISBN No. 978-1-4673-1049-9/12/ ©2012 IEEE]

19. D. Simhachalam, Rajani K. Mudi, S. Talukder, and A. Mondal, "Improved Critical Point Estimation and its Application to Temperature Control System," **Proc. 7th Int. Conf. on Electrical and Computer Engineering – ICECE-2012**, Dhaka (Bangladesh), pp. 248-251, December 20-22, 2012. [978-1-4673-1436-7/12/ ©2012 IEEE]
20. C. Dey, Rajani K. Mudi, and P.K. Paul, "A non-linear PD controller for pure integrating process with delay," **Proc. 7th Int. Conf. on Electrical and Computer Engineering – ICECE-2012**, Dhaka (Bangladesh), pp. 783-786, December 20-22, 2012. [978-1-4673-1436-7/12/ ©2012 IEEE]
21. Rajani K. Mudi and R.R. De, "A Noble Fuzzy Self-tuning Scheme for Conventional PI Controller." **Proc. 2012 Int. Conf. on Frontiers of Intelligent Computing: Theory and Applications – FICTA**, Bhubaneswar (India), **AISC - 199, Springer-Verlag**, pp. 83-91, December 22-23, 2012.
22. Rajani K. Mudi, D. Simhachalam, and Arindam Mondal, "An Augmented Self-tuning Fuzzy Logic Controller with its Real-time Implementation," **Proc. 2012 Int. Conf. on Frontiers of Intelligent Computing: Theory and Applications – FICTA**, Bhubaneswar (India), **AISC - 199, Springer-Verlag**, pp. 67-75, December 22-23, 2012.
23. A.K. Pal, Rajani K. Mudi, and R.R. De, "A Non-Fuzzy Self-tuning Scheme of PD-Type FLC for Overhead Crane Control," **Proc. 2012 Int. Conf. on Frontiers of Intelligent Computing: Theory and Applications – FICTA**, Bhubaneswar (India), **AISC - 199, Springer-Verlag**, pp. 35-42, December 22-23, 2012.
24. P. Mitra, C. Dey, and Rajani K. Mudi, "Fuzzy PI Controller with Dynamic Set Point Weighting," **Proc. 2012 Int. Conf. on Frontiers of Intelligent Computing: Theory and Applications – FICTA**, Bhubaneswar (India), **AISC - 199, Springer-Verlag**, pp. 51-58, December 22-23, 2012.
25. Paramita Banerjee, Ratna Ghosh and Bhaswati Goswami, " Modeling of a sensor used for RFA based dental implant stability measurement", **International Conference on Informatics, Electronics & Vision, (ICIEV12)**, Dhaka, Bangladesh, 18-19 May, 2012.
26. Madhushree Baruah, Paramita Banerjee, Atish Nandy, Bhaswati Goswami and Ratna Ghosh, "A Low Cost Instrumentation System for determining Stability of Dental Implants", **Third International Conference on Emerging Applications of Information Technology (EAIT12)**, Organized by Computer Society of India, Kolkata, India, Nov30-Dec01, 2012.
27. Aditi Bhattacharya, Nilanjan Mandal, Koustav Sarkar, Debarghya Mitra, Dibyendu Basu, Bhaswati Goswami, Ratna Ghosh, "A Signal Conditioning Circuit to measure Human Biopotentials", **International Conference on Sensing Technology, Kolkata, India (ICST2012)**, pp. 794-799, 18-21 Dec, 2012.

#### **NATIONAL:**

1. Ardhendu Ghoshal, Achintya Mandal and Bipan Tudu, "Maximum Entropy Power Spectral Analysis Using Limited Number of Noisy Samples" *Proceedings of the National Conference on Control, Sensor, Transducer and Signal Conditioning(CSTS-2012)*, B.P.Poddar Institute of Management & Technology, Kolkata, West Bengal, April 2012
2. Arnab Chakaraborty, Maharaja Adhikari, Mousumi Banerjee, Subhankar Bandyopadhyay, "The Effect of Different Carboxilates on the properties of NTC Thermistors Prepared with NiMn<sub>2</sub>O<sub>4</sub>", *Proceedings of the National Conference on Control, Sensor, Transducer and Signal Conditioning(CSTS-2012)*, B.P.Poddar Institute of Management & Technology, Kolkata, West Bengal, April 2012,p.p.C18-C24,

#### **4. A. Books/Monographs Published:**



**Title of the Book:** *Intelligent Systems for Machine Olfaction: Tools and Methodologies*

**Edited by:** Evor L Hines and Mark S Leeson

**Publisher:** IGI Global

**Title of the chapter:** Making an electronic nose versatile: the role of incremental learning algorithms By Nabarun Bhattacharyya, Rajib Bandyopadhyay and Bipan Tudu

#### 4. B. Articles Published in Journals:

##### INTERNATIONAL

1. Kamalika Tiwari, Bipan Tudu, Rajib Bandyopadhyay, Anutosh Chatterjee, "Identification of monofloral honey using voltammetric electronic tongue," *Journal of Food Engineering*, vol. 117, no. 2, pp. 205-210, 2013.
2. Arpitam Chatterjee, Bipan Tudu, Kanai Ch. Paul, "Binary genetic algorithm-based pattern LUT for grayscale digital half-toning," *Signal, Image and Video Processing, Springer*, vol. 7, no. 2, pp. 377-388, 2013.
3. Arpitam Chatterjee, Bipan Tudu, Kanai Ch. Paul, "A temporal memory based ordered dithering using recurrent neural network," *Imaging Science Journal*, vol. 61, pp. 109-119, 2013.
4. Arpitam Chatterjee, Bipan Tudu, Kanai Ch. Paul, "Towards optimized binary pattern generation for grayscale digital halftoning: a binary particle swarm optimization (BPSO) approach," *Journal of Visual Communication and Image Representation*, vol. 23, no. 8, pp. 1245-1259, 2012.
5. Arpitam Chatterjee, Bipan Tudu, Kanai Ch. Paul, "Binary grayscale halftone pattern generation using binary artificial bee colony (bABC)," *Signal, Image and Video Processing, Springer*, 2012. (In Press Accepted Manuscript).
6. Arunangshu Ghosh, Bipan Tudu, Pradip Tamuly, Nabarun Bhattacharyya, Rajib Bandyopadhyay, "Prediction of Theaflavin and Thearubigin content in black tea using a voltammetric electronic tongue," *Chemometrics and Intelligent Laboratory Systems*, vol. 116, pp. 57-66, 2012.
7. Runu Banerjee(Roy), Bipan Tudu, Laxmi Shaw, Arun Jana, Nabarun Bhattacharyya, Rajib Bandyopadhyay, "Instrumental testing of tea by combining the responses of electronic nose and tongue," *Journal of Food Engineering*, vol. 110, no. 3, pp. 356-363, 2012.
8. Subrata Mondal, **Bipan Tudu**, Asish Bandyopadhyay, Pradip K. Pal, "Process optimization for laser cladding operation of alloy steel using genetic algorithm and artificial neural network," *International Journal Of Computational Engineering Research*, vol. 2, no. 1, pp. 018-024, 2012.
9. Arunangshu Ghosh, Pradip Tamuly, Nabarun Bhattacharyya, Bipan Tudu, Nagen Gogoi, Rajib Bandyopadhyay, "Estimation of theaflavin content in black tea using electronic tongue," *Journal of Food Engineering*, vol. 110, no. 1, pp. 71-79, 2012.
10. Rajnita Bhattacharyya, Bipan Tudu, Samir Chandra Das, Nabarun Bhattacharyya, Rajib Bandyopadhyay, Panchanan Pramanik, "Classification of black tea liquor using cyclic voltammetry," *Journal of Food Engineering*, vol. 109, no. 1, pp. 120-126, 2012.
11. S. Bandyopadhyay, Performance of nanocrystalline PbS gas sensor with improved cross-sensitivity, *Particulate Science and Technology*, vol. 30, no. 1, pp. 43-54, 2012.
12. A.K. Pal, Rajani K. Mudi, and C. Dey, "Rule Extraction through Self-Organizing Map for a Self-tuning Fuzzy Logic Controller," *Advanced Materials Research*, vol. 403-408, pp. 4957-4964, 2012.
13. C. Dey, Rajani K. Mudi, and D. Simhachalam, "An Auto-tuning PID Controller for Integrating Plus Dead-time Processes," *Advanced Materials Research*, vol. 403-408, pp. 4934-4943, 2012.

14. A.K. Pal and Rajani K. Mudi, "Speed Control of DC Motor using Relay Feedback Tuned PI, Fuzzy PI and Self-Tuned Fuzzy PI Controller," *Control Theory and Informatics*, vol. 2, no. 1, pp, 24-32, 2012.
15. R.R. De and Rajani K. Mudi, "A New Self-Tuning Fuzzy PI Controller for Integrating Processes with Dead-Time," *Int. Journal of Advancements in Electronics and Electrical Engineering*, vol. 1, no. 2, pp. 130-134, 2012.
16. P.K. Paul, C. Dey, and Rajani K. Mudi, "Model based PID controller for integrating process with its real time implementation," *Int. Journal of Advancements in Electronics and Electrical Engineering*, vol. 1, no. 2, pp. 139-144, 2012.
17. C. Dey, Rajani K. Mudi, and D. Simhachalam, "A Simple Nonlinear PD Controller for Integrating Processes," *ISA Transactions*, 2013. (Accepted)

#### 5. Collaborative Programmes:

- a. Commercialization of indigenously developed sensors at Sensor Hub located at CGCRI, Kolkata (a collaborative program of Central Glass & Ceramic Research institute, Centre for Development of Advanced Computing. Calcutta University, Bengal Engineering & Science University) Principal Investigator from Jadavpur University: Prof. Rajib Bandyopadhyay, Dept. of IEE.
- b. Dr. Ratna Ghosh visited Department of Mathematics, IISc, and Bangalore and worked with Prof. M. K. Ghosh for collaborative research in June 2012.

### MECHANICAL ENGINEERING

Phone : + 91-33-2414-6890  
 Int. : 2457-2248  
 H.O.D. : Prof. Sadhan Kumar Ghosh  
 E-mail : hod@mech.jdvu.ac.in

1. **Major Research Project:** (Departmental / Individual, Name of the Project/Funding agency).  
 Details of the ongoing Project between 01.04.2012 and 31.03.2013 :

#### Publications :

1. J. Nixon, P.K.Dey, **S. K. Ghosh**, P. Davies, Evaluation of options for energy recovery from municipal solid waste in India using the analytical network process Energy, Journal of Energy, Elsevier, Accepted in March 2013 for publication.
2. J. Nixon, P.K.Dey, **S. K. Ghosh**, A comparative assessment of waste incinerators in the UK, Journal of Waste Management, Elsevier, Under review. accepted for publication in March 2013.
3. T. Roy, A.K.Mukhopadhyaya, **S. K.Ghosh**, G. Majumdar, Influence of honking on the noisier situation( $L_{10}$ ), Noise control engineering journal.(Accoustical Society of America), Volume 60, Number 2, pp132-136 April 2012.
4. A. K. Sarkar, A. K. Mukhopadhyaya, **S. K.Ghosh**, Forecasting Daily Workflow Volumes for Medical Transcription Process, IAPQR Transaction, Vol 37, No 2, 2012, pp 83-102.

5. A. K. Sarkar, A. K. Mukhopadhyaya, **S. K. Ghosh**, Addressing Environmental concern through Lean Six Sigma – a Greener Approach, 2nd International Conference on Solid Waste Management, 2012, pp 71-76.
6. **S. K. Ghosh**, Sustainable Development in Waste Management in India, Proceedings of the International Conf on Waste and Health, ICWWH 2013, IIWM, DST, Bhopal, Feb 15-17, 2013.
7. A. Aich, **S. K. Ghosh**, Windrow Composting is More Financial Viable Option than Vermi Composting and Anaerobic Digestion for the Disposal and Processing of Municipal Waste of Big Cities, 3<sup>rd</sup> IconSWM 2012 , Proceedings of International Conf on SWM, Mysore, Infosys Campus, July 30 - Aug 01, 2012, pp 353 – 361, ISBN : 81- 86862 - 45 – 5.

#### **Academic Appointments / Lectures Abroad by Prof Sadhan K Ghosh :**

1. Delivered lecture at Fu Jen Catholic University, on 28<sup>th</sup> March 2013.
2. Delivered lecture at Green Trade Project Office, Ministry of Economic Affairs, Taiwan on “ Green Manufacturing on 26<sup>th</sup> March 2013.
3. Delivered lecture at Green Trade Project Office, Taiwan on “ TQM” on 27<sup>th</sup> March 2013.
4. Visited Tongji University, China on invitation during 29<sup>th</sup> March to 5<sup>th</sup> April 2013.
5. Worked at Aston University as Distinguished Visiting Fellow of Royal Academy of Engineering, during August – Sept 2012 on Energy recovery from Wastes.
6. Visiting Faculty at Aston University, UK : Carried out collaborative research during October – November 2012. 25<sup>th</sup> to June 14<sup>th</sup> 2013 under UKIERI.
7. Attended ISO TC 207 Environment Management System, meeting at Kuala Lumpur in June 2012 as Indian Delegation.

#### **Outstanding Achievemnt:**

Awarded Distinguehd Visiting Fellow by Royal Academy of Engineering, UK in December 2012 to work on “ Energy Recovery from Municipal Waste”.

#### **Lectures Abroad by Prof Sadhan K Ghosh**

1. Speech at the International conference on SWM at DST and IIWM at Bhopal in February 2013.
2. Lecture on House Keeping and TQM in MANIT, Bhopal in February 2013.

#### **Research Projects Ongoing by Prof Sadhan K Ghosh as PI**

1. UK India Educational Research Initiative – Thematic Partnership Research Project “Waste to Energy from MSW – Decision support System for planning and implementation in India” Partners are Aston University, UK and IIT Kharagpur, 2013 – 2015 – 40,000 GBP.
2. UK India Educational Research Initiative – Thematic Partnership Research Project “Climate Change Issues and Environmental Performance of the Indian Small and Medium-sized Enterprises” Partners are Aston University, UK and IIT Kharagpur, 2012 – 2014 – 60,000 GBP.
3. Research Project for Developing DPR for modernization of EWS KMC for repair and maintenance of submersible pumps for enhanced quality and productivity, 2012 – INR 10.80 Lacs.
4. Research Project for study of SWM status & developing detail Bio Gas Project Document for nine ULBs, 2011 – 2012 – INR 2.70 Lacs.
5. Research Project on Study & developing 2<sup>nd</sup> generation DDP for 5 years planning for Howrah Municipal Corporation, 2012 – INR 6.60 Lacs.

#### **Edited Volume as Chief Editor by Prof Sadhan K Ghosh**

Proceedings of 3<sup>rd</sup> International Conference on Solid Waste Management, in 2012 (Associate editors are Dr. R. Stegmann, Dr. J. Wong, Mr. J. C. Muffat, Dr. P. Agamuthu, Dr. Wang Jing-Yuan AND Prof P. K. Dey,

**Chairman of Icon SWM**

Chairman, 4<sup>th</sup> International Conference on Solid Waste Management to be held at Hyderabad organized by Govt of Andhra Pradesh during January 28-30, 2014.

**Prof. Sankar Dhar**

**Research Projects:**

Principal Investigator: Prof. Sankar Dhar

Acting PI Co Investigators: Dr. Sanjib Acharyya

Name of the Research Project :Modelling and Finite element Simulation of Multiaxial Fatigue and Ratcheting of SA333 C-Mn steel

Project Value : 19.0 Lakhs

Funding Agency: BARC

**2. Invited Lectures Delivered / Session Chaired:**

**Prof. Sankar Dhar**

Lectures delivered:

Date:04-05 May,2012

Organisation: TATA STEEL R&D and NML

Topic: Finite Element Application in Metal Plasticity

Capacity: Invited Speaker

Lectures delivered:

Date: 20.07.2012

Organisation:PXE, DRDO

Topic: Finite Element Analysis of ballistic Penetration in Armour Steel

Capacity:Invited Speaker

**3. Invited to Chair / Co – Chair Technical Session:-**

**Prof. Sankar Dhar**

Fatigue Fracture and Integrity Assessment ( FFIA ) , 04-05 May, 2012 organised by Tata Steel R&D and NML Jamshedpur

**Papers Published in Journals/Magazines :**

**Prof. Sankar Dhar**

1. S. Bhowmik, S.K. Acharyya, P. Sahoo, S. Dhar, J. Chattopadhyay, "Estimation and comparative study of  $J_{IC}$  using different method for 20MnMoNi55 steel", Materials and Design: 2013 Vol 46, pp 680-687.
2. J.SHIT , S.DHAR, S. ACHARYYA, 2012, "Modelling and Finite Element Simulation of Low Cycle Fatigue behavior of SS 316", *Procedia Engineering*.
3. Sumit Bhowmik, Prasanta Sahoo, Sanjib Kumar Acharyya, Sankar Dhar, 2013, "Effect of corrosion on fracture toughness in ductile to brittle transition region of 20MnMoNi55 steel",*Procedia Engineering*

4. S.K.Paul, S. Sivaprasad, S.Dhar, S. Tarafder ,2012, " True Stress-Controlled Ratcheting Behavior of 304LN Stainless Steel", J . Mat. Sc. 47 (11) 4660-4672

## **Dipankar Sanyal**

### **[A] Publications**

1. B.K. Sarkar, P. Mandal, R. Saha, S. Mookherjee and D. Sanyal, "GA-optimized feedforward-PID tracking control for a rugged electrohydraulic system design," *ISA Trans.*, <http://dx.doi.org/10.1016/j.isatra.2013.07.008>, 2013.
2. B. K. Sarkar, J. Das, R. Saha, S. Mookherjee and **D. Sanyal**, 2013, Approaching servoclass tracking performance by a proportional valve-controlled system, *IEEE/ASME Trans. on Mechatronics*, vol. 18, pp. 1425–1430, 2013.
3. B. Halder, R Saha and **D. Sanyal**, 2012, Control-integrated design by theoretical simulation for a torque-actuated 6-SBU Stewart platform, *AMAE Int. J. Manufacturing and Material Science* 2, pp 13-21.
4. N. P. Mandal, R. Saha and **D. Sanyal**, 2012, Effects of flow inertia modeling and valve plate geometry on swash plate axial piston pump performance, *Proc. Inst. Mech. Engrs, Part I, J Systems Control Engg*, 226, pp 451-465.
5. A. Mukhopadhyay and **D. Sanyal**, 2012, Modeling of evaporation and combustion of droplets in a spray using the unit cell approach: A review, *Heat Transfer Engineering* 33, pp 375–386.

### **[B] Projects**

1. Name of Funding Agency: ITR, Chandipur  
Project Title/PI or Co-I (other members): Design and Implementation of Two-Axis Direct Drive Tracking Mechanism/Co-I (with Kumardeb Bandyopadhyay, Kamalesh Majumdar, Sanjib Kumar Acharyya, Saikat Mookherjee, Sanjoy Saha, Rana Saha)  
Duration Funding :2013-2015Rs 10.0 lakh
2. Name of Funding Agency: ER&IPR, DRDO, New Delhi  
Project Title/PI or Co-I (other members): Development of a Multiple Degree of Freedom Hydraulic Parallel Manipulator with Control for Motion Tracking/Co-I (with Rana Saha)  
Duration Funding :2012-2015Rs 43.91 lakh
3. Name of Funding Agency: Aeronautics R&D Board, New Delhi  
Project Title/PI or Co-I (other members): Design of Low Noise Swash Plate axial Piston Pump/**PI** (with Rana Saha)  
Duration Funding :2012-2014Rs 14.86 lakh
4. Name of Funding Agency: HAL, Lucknow  
Project Title/PI or Co-I (other members): Analysis of Pressure Compensator Design of LCA –130 lpm Main Hydraulic Pump by Modelling and Simulation/ Co-I (with Saikat Mookherjee & Rana Saha)  
Duration Funding : 2012-13Rs 4.0 lakh
5. Name of Funding Agency: Aeronautics R&D Board, New Delhi  
Project Title/PI or Co-I (other members): High-Frequency Real Time Tracking Control for Linear Servo Actuation System/Co-I (with Rana Saha)  
Duration Funding : 2012-2014Rs 20.45 lakh

**Publications of Prof. Simul Banerjee** (1<sup>st</sup> April 2012 to 31<sup>st</sup> March 2013) Present "h index": 3

1. Bijoy Mandal, Rajender Singh, Santanu Das, **Simul Banerjee**, *Development of a grinding fluid delivery technique and its performance evaluation*, Materials and Manufacturing Processes, 27/4 (2012) 436 – 442.
2. Sunil Hansda, **Simul Banerjee**, *Multiple performance characteristics optimization in drilling of glass fibre reinforced polyester composite at different weightage of performance by Grey relational analysis*, International Journal of Machining and Machinability of Materials, 12/1/2 (2012) 14 – 27.
3. Asit Baran Puri, **Simul Banerjee**, *Multiple-response optimization of electrochemical grinding characteristics through response surface methodology*, International Journal of Advanced Manufacturing Technology, 64/5-8 (2013) 715 – 725.
4. Ushasta Aich, Amit Kumar Pal, Dipak Laha, **Simul Banerjee**, *Searching for a pareto optimal multi-objective simulated annealing on RSM model*, Advanced Materials Research, 622-623 (2013) 51-55.
5. Bijoy Mandal, Debashis Biswas, Anirban Sarkar, Santanu Das, **Simul Banerjee**, *Improving grindability of Inconel 600 using alumina wheel through pneumatic barrier assisted fluid application*, Advanced Materials Research, 622-623 (2013) 394-398.
6. Haradhan Soren, Subhas Chandra Panja, Sunil Hansda, **Simul Banerjee**, *Analysis process capability of drilling on glass fiber reinforced polyester (GFRP) composites with Taguchi loss function*, Advanced Materials Research, 622-623 (2013) 1314-1319.
7. Bijoy Mandal, Debashis Biswas, Anirban Sarkar, Santanu Das, Simul Banerjee, *Experimental Observation on Grindability of Titanium Gr.1 Under Different Environment*, Proceedings of 4<sup>th</sup> International and 25<sup>th</sup> AIMTDR Conference, December 14 – 16, 2012, Jadavpur University, India, 2012, 357 – 362.

### **Prof.Goutam Sutradhar**

#### **Published in Journal ( National/International) During April 2012 to March 2013**

1. Rabindra Behera and G. Sutradhar, "Solidification Characteristics and Forgeability of Aluminium" Transaction of Indian Institute Metals (**Springer**), Received: 11 January 2012 / Accepted: 9 May 2012 DOI 10.1007/s12666-012-0140-y.
2. Rabindra Behera, D Chatterjee and G Sutradhar "Effect of reinforcement particles on the fluidity and solidification behavior of the stir cast aluminum alloy metal matrix composites", American Journal of Materials Science, 2012, 2(3): 53-61 DOI: 10.5923/j.materials.20120203.04.
3. Sourav Kayal, Rabindra Behera and G Sutradhar, "Castability of Al-SiCp Metal Matrix Composites in Thin Walled Castings", Published in International Journal of Engineering Science and Technology (IJEST), Vol. 4, No. 07 July 2012
4. Sourav Kayal, Rabindra Behera and G Sutradhar, "Mechanical properties of the as-cast silicon carbide particulate reinforced Aluminium alloy matrix composites", Published in International Journal of Current Engineering and Technology, Vol.2, No.3 (Sept. 2012)
5. Hillol Joardar, Goutam Sutradhar and Nitai Sudar Das, "FEM Simulation and Experimental Validation of Cold Forging Behavior of LM6 Base Metal Matrix Composites", Published in International Journal of Minerals and Materials Characterization and Engineering, 2012, 11, 989-994, (Sept. 2012)
6. R Behera, Nihar Ranjan Mohanta, G Sutradhar, "Distribution of SiC Particulates in Stir Cast Aluminium alloy Metal Matrix Composites & its Effect on Mechanical Properties". Published in international journal of emerging trends in engineering & development. Issue 2,vol.1(2012)

7. Souvik Ghosh , Prasanta Sahoo & Goutam Sutradhar , “ Friction Performance of Al-SiC<sub>p</sub> Metal Matrix Composites using Taguchi Method” International Society Research Network, ISRN, Vol.11, 2013
8. R Behera,,D.Chatterjee and G Sutradhar,“Machinability of LM6/SiC<sub>p</sub> Metal Matrix Composites with Tungsten Carbide Cutting Tool Inserts”. Published in ARPN journal of Engineering & applied sciences,vol.7,No.2,Feb-2012 , ISSN 1819 -6608
9. Sujit Das, **R. Behera**, S Koyal,G. Majumdar,B. Oraona,G. Sutradhar, “Study on the effect of heat treatment on the mechanical properties and forgeability of AMMCs”, International Journal of Emerging Trends in Engineering and Development Issue 3, Vol.2 (March 2013) ISSN 2249-6149, pp 62-72.

**Presented Paper in National/International Conferences :**

1. “Casting defects Analysis and Remedy” presented in the National Conference on Achieving Excellence for Industrial Competitiveness January 19-20, 2013, at GLA University, Mathura.
2. “Shop Floor Practice of Ductile Iron Castings : At a Glance” Presented in 61st. Indian Foundry Congress held at Kolkata during 29-31st January 2013.

**PAPER PRESENTED IN ABROAD**

1. “Modern Foundry Sand Control : Few Important Observations In Indian Perspective” Presented in 53<sup>rd</sup>. International Foundry Conference , Portoroz 2013, Slovenia during 11-13<sup>th</sup>.Sept.2013

**Books Written**

- (i) Principles of Foundry Process design – New Age International (p) Limited, Publishers, New Delhi – Sept’2012

**Review Work:**

Reviewed 20 cds [ about 40 hours ] of recording and time line of 4 weeks to launch a portal containing courses on **Casting Design and Simulation** by **Prof.B.Ravi, Chair Professor, Department of Mechanical Engineering , IIT Bombay** organized by Dept of Chemical Engineering, IIT Bombay under **Talk To A Teacher Project** funded by **Ministry of Human Resources and Development (MHRD)** , New Delhi during April- May 2012

**International Technical Tour :**

1. Visited Ten Foundries in Japan as delegate of The Institute of Indian Foundrymen (IIF) as Joint venture between two countries during 15.4.2013 to 22.4.2013

**Invited Lectures Delivered / Session Chaired:**

**Prof. Sudipta De**

Date: 7<sup>th</sup> February, 2013

Organisation:International Conference on Energy Resources & Technologies for Sustainable Development (ICERTSD), BESU, Shibpur, West Bengal,

Topic: Energy systems modeling – from first principle to data based’

Capacity:Invited Speaker

Date: 5<sup>th</sup> August, 2013

Organisation:National Power Training Institute (NPTI), Durgapur, WB

Topic: ‘Electricity from conventional power plants: somethoughts on challenges and visible future trends’

Capacity:Invited Speaker

**Prof. Sudipta De:**

**International Journal Papers:**

1. Jana, K. and **De, S.\*** (2013): 'Utilizing waste heat of the flue gas for post combustion CO<sub>2</sub> capture – a comparative study for different process layouts', **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects (Taylor & Francis) (Accepted)**.
2. Majoumerd, M.M., Raas, H., **De, S.**, Assadi, M. "Estimation of performance variation of future generation IGCC with coal quality and gasification process - simulation results of EU H2-IGCC project" **Applied Energy (Elsevier) (In Press)**.
3. Maiti, R., Ghosh, S. and **De, S.\*** (2013): "Cracking of tar by steam reforming and hydrogenation", **Biomass Conversion and Biorefinery (Springer)**, 3(2), 103-111.

**International Conference Papers:**

1. **Naskar, S., Jana, K. and De, S.\*** (2013): '**Comparative performance study of CO<sub>2</sub> capture with monoethyl and diethyl amines using ASPEN PLUS**', International Conference on Energy Resources & Technologies for Sustainable Development (**Paper No.: ICERTSD-16-304**).
2. **Ghoshal, G., Ghosh, A., Maiti, S. and De, S.\*** (2013): '**Optimum operation for different design conditions of a single pressure heat recovery steam generator (HRSG) for minimum entropy generation**', International Conference on Energy Resources & Technologies for Sustainable Development (**Paper No.: ICERTSD-15-228**).
3. **Bose, A., Mitra, D., Jana, K. and De, S.\*** (2013): '**Coal Based Polygeneration With CO<sub>2</sub> Capture For Power And Urea Production - Possible Improved Schemes**', International Conference on Energy Resources & Technologies for Sustainable Development (**Paper No.: ICERTSD-03-227**).
4. **Jana, K. and De, S.\*** (2013): '**Energy savings potential through waste heat recovery from flue gas for post combustion CO<sub>2</sub> capture**', International Conference on Energy Resources & Technologies for Sustainable Development (**Paper No.: ICERTSD-15-219**).

**National Conference Papers:**

1. **Poddar, S., De, A., Chowdhury R. and De, S.** (2012): '**Transient behavior of a Semi-Batch pyrolyser based on the Jute Waste- Experiments and Modeling**'. Indian Chemical Engineering Congress- CHEMCON 2012 (**Paper No.: P306**).

**Prof. Sudipta De**

1. Organizing a lecture series (over one-year) on '**Sustainability of Indian Energy Sector: Prospects and Challenges**' jointly with Bengal Chamber of Commerce and Industry (BCCI) and European Business and Technology Centre (EBTC) with World Bank funding. ([http://teqip.jdvu.ac.in/for\\_website/web\\_lecture.html](http://teqip.jdvu.ac.in/for_website/web_lecture.html))
2. Senior research fellow of '**Indian-European Multi-Level Climate Governance Research Network**' ([http://www.indiaeu-climategovernance.org/people/senior\\_researchers/de\\_sudipta/index.html](http://www.indiaeu-climategovernance.org/people/senior_researchers/de_sudipta/index.html)).
3. Expert Member of High Power Committee of **Kolkata Metropolitan Corporation (KMC)** for saving of energy in public utilities.
4. Expert member of West Bengal Board of Boiler Operation Engineers under the **Directorate of the Boiler, Government of West Bengal**.



5. Member of the Core Group of the Jadavpur University for **Indo – European Interactions on Higher Education** coordinated by **British Council**.
6. Regular **reviewer** of many reputed international journals.

### **Achintya Mukhopadhyay**

#### **Journal Publication:**

1. S. Mondal, A. Mukhopadhyay and S. Sen, Dynamic Characterization of a Laboratory-Scale Pulse Combustor, *Combustion Science and Technology*, Accepted for publication, 2013.
2. S. Chatterjee, S. Samanta, A. Mukhopadhyay and S. Sen, Effect of Confinement and Prefilming on the Stability of an Annular Liquid Sheet, *Atomization and Sprays*, Vol. 23, pp. 401 – 418, 2013.
3. P. Ghose, A. Datta and A. Mukhopadhyay, Effect of Dome Shape on Static pressure Recovery in a Dump Diffuser at Different Inlet Swirl, *International Journal of Emerging Technology and Advanced Engineering*, Vol. 3, pp. 465 – 471, 2013.
4. T.J. Tharakan, A. Mukhopadhyay, A. Datta and M.A. Jog, Trends in Comprehensive Modeling of Spray Formation, *International Journal of Spray and Combustion Dynamics*, Vol.5 pp. 123 – 180, 2013.
5. A. Mukhopadhyay, R.R. Chaudhari, T. Paul, S. Sen and A. Ray, Prediction of Lean Blow-out in Gas Turbine Combustors using Symbolic Time Series Analysis, *Journal of Propulsion and Power*, Vol. 29 pp. 950 – 960, 2013.
6. P. Sinha Mahapatra, S. De, K.Ghosh, N.K. Manna and A. Mukhopadhyay, Heat Transfer Enhancement and Entropy Generation in a Square Enclosure in the Presence of Adiabatic and Isothermal Blocks, *Numerical Heat Transfer Part A: Applications*, Vol. 64 pp. 577 - 596, 2013.
7. S. Barman, N. Barman, A. Mukhopadhyay and S. Sen, Studies on the Phase Transformation during Cooling of a Moving Plate under Water Jet, *Journal of Machining and Forming Technology*, Vol. 5 pp. 137 – 149, 2013.
8. S. Barman, N. Barman, A. Mukhopadhyay and S. Sen, Thermal Behaviour of a Hot Moving Steel Strip under Multi-Cooling Jets, *Heat Transfer Engineering*, Accepted for publication, 2013.
9. R. R. Chaudhari, R.P. Sahu, S. Ghosh, A. Mukhopadhyay and S. Sen, Flame Color as a Lean Blowout Predictor, *International Journal of Spray and Combustion Dynamics*, Vol. 5 pp. 49 – 66, 2013.
10. S. Barman, N. Barman, A. Mukhopadhyay and S. Sen, Analytical Prediction of Thermal Behavior during Cooling of a Steel Strip, *Advanced Materials Research*, Vol. 585, pp. 19 – 23, 2012.
11. N. Biswas, N.K. Manna, A. Mukhopadhyay and S. Sen, Numerical Simulation of Laminar Confined Radial Flow Between Parallel Circular Discs, *Transactions of ASME Journal of Fluids Engineering*, Vol.134, pp. 011205-1 – 011205-8, 2012
12. A. Mukhopadhyay, G. Jasor and W. Polifke, Simulation of Pure Sedimentation of Raindrops using Quadrature Method of Moments, *Atmospheric Research*, Vol.106, 61 – 70, 2012.
13. S. Mondal, A. Mukhopadhyay and S. Sen, Effects of Inlet Conditions on Dynamics of a Thermal Pulse Combustor, *Combustion Theory and Modelling*, Vol.16, pp. 59 – 74, 2012
14. A. Mukhopadhyay and D. Sanyal, Modeling of Evaporation and Combustion of Droplets in a Spray using Unit Cell Approach: A Review, *Heat Transfer Engineering*, Vol. 33 pp. 375 – 386, 2012.

#### **Conference Publication:**

1. A. Mukhopadhyay, Parametric Investigation of Sedimentation of Raindrop using Quadrature Method of Moments, *Proc. 5<sup>th</sup> International Conference on Population Balance Modelling*, Bangalore, September 2013.

2. M. Das, S. Chatterjee, A. Garai, A. Mukhopadhyay and S. Sen, Spray Characterization of Hollow Cone Nozzle, *Proc. Indian Conference on Applied Mechanics (INCAM)*, Chennai, July 2013.
3. P. S. Mahapatra, S. Chatterjee, K. Ghosh, N.K. Manna, S. Sen and A. Mukhopadhyay, Transient Interaction of Particles with Quiescent Water: Experimental and Numerical Analysis, *Proc. Indian Conference on Applied Mechanics (INCAM)*, Chennai, July 2013.
4. S. Chatterjee, M. Das, A. Mukhopadhyay and S. Sen, Experimental Investigation of Swirling Effects in Central Air Core on Atomization in an Annular Hybrid Atomizer, *Proc. European Combustion Meeting*, Lund, Sweden, June 2013.
5. S. Mondal, A. Mukhopadhyay and S. Sen, Effect of CO<sub>2</sub> dilution with Methane in Thermal Pulse Combustor, *Proc. International Workshop on Non-Normal and Nonlinear Effects in Aero- and Thermo-acoustics*, Munich, Germany, June 2013.
6. S. Chatterjee, A. Mukhopadhyay and S. Sen, Study of Laminar Flame Dynamics using Proper Orthogonal Decomposition and Dynamic Mode Decomposition, *Proc. International Workshop on Non-Normal and Nonlinear Effects in Aero- and Thermo-acoustics*, Munich, Germany, June 2013.
7. S. Chatterjee, M. Das, A. Mukhopadhyay and S. Sen, Effect of Co- and Counter-Swirling Inner Air on the Spray Dynamics of an Annular Fuel Sheet in a Hybrid Atomizer, *Proc. 9<sup>th</sup> Asia Pacific Conference on Combustion*, Gyongju, Korea, May, 2013.
8. S. Chatterjee, M. Das, A. Mukhopadhyay and S. Sen, Experimental Investigation of Disintegration of Annular Liquid Jet in a Prefilming Hybrid Atomizer, Paper No. 12008, *Proc. National Propulsion Conference*, Chennai, 2013.
9. S. Chatterjee, A. Mukhopadhyay and S. Sen, Dynamic Mode Decomposition of Liquid Jet Atomization in a Hybrid Atomizer, Paper No. 12009, *Proc. National Propulsion Conference*, Chennai, 2013.
10. P. Ghose, A. Datta and A. Mukhopadhyay, Effect of Dome Shape on Static pressure Recovery in a Dump Diffuser at Different Inlet Swirl, *Proc. International Conference on Energy Resources and Technologies for Sustainable Development*, Shibpur, 2013.
11. R. Bhattacharjee and A. Mukhopadhyay, Analysis of Hot Spot Formation in Multicore Processors using OpenFOAM, Paper No.: FMFP2012-199, *Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power*, Surat, 2012.
12. K.K. Das, M. Sarkar, R. Ganguly and A. Mukhopadhyay, Transient Response of Ferrofluid Plug, Paper No.: FMFP2012-178, *Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power*, Surat, 2012.
13. S. Chatterjee, M. Das, A. Mukhopadhyay, and S. Sen, Experimental Study of Disintegration of Annular Swirling Liquid Jet in a Hybrid Atomizer, Paper No.: FMFP2012-177, *Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power*, Surat, 2012.
14. S. Chatterjee S. Samanta, A. Mukhopadhyay, K. Ghosh and S. Sen, Stability Analysis and Parametric Study of an Annular Prefilming Atomizer in a Swirling Field, Paper No.: FMFP2012-176, *Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power*, Surat, 2012.
15. A. Guha and A. Mukhopadhyay, Control of Mass Flowrate of Non-polar Fluid in Microchannels using Time Varying Electroosmotic Flow, Paper No.: FMFP2012-175, *Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power*, Surat, 2012.
16. A. Basu, A. Bose, D. Mitra, D. Mukherjee and A. Mukhopadhyay, Analytic and Numerical Study of Dynamics of Polydisperse particulate Flow to Fluctuating Flowfields, Paper No.: FMFP2012-174, *Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power*, Surat, 2012.

17. S. Kar and A. Mukhopadhyay, Numerical Simulation of Response of Polydisperse Sprays to Fluctuating Flowfield using Method of Moments, Paper No.: FMFP2012-170, *Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power*, Surat, 2012.
18. M. Das, S. Chatterjee, A. Mukhopadhyay, and S. Sen, Experimental Investigation and Spray Characterization of Viscous Liquid Jet, Paper No.: FMFP2012-166, *Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power*, Surat, 2012.
19. K. Chatterjee, A. Kumar, S. Chatterjee, A. Mukhopadhyay and S. Sen, Numerical Simulation to Characterize Homogeneity of Air-Fuel Mixture for Premixed Combustion in Gas Turbine Combustor, *Proc. ASME 2012 Gas Turbine India Conference*, Paper No.:GTIndia2012-9602, Mumbai, 2012.
20. A. Kumar, K. Chatterjee, A. Mukhopadhyay and S. Sen, Experimental Characterization of Premixed Flame in gas Turbine Combustor with Spectroscopy and RGB Analysis, *Proc. ASME 2012 Gas Turbine India Conference*, Paper No.:GTIndia2012-9604, Mumbai, 2012.
21. S. Chatterjee, S. Samanta, A. Mukhopadhyay, K. Ghosh and S. Sen, Effect of a Confined Outer Air Stream on Instability of an Annular Liquid Sheet Exposed to Gas Flow, *Proc. ASME 2012 Gas Turbine India Conference*, Paper No.:GTIndia2012-9605, Mumbai, 2012.
22. S. Mahapatra, S. Chatterjee, S. Shannigrahi, A. Mukhopadhyay and S. Sen, Experimental Investigation and Spray Characterization of Liquid Jet Atomization of Conventional Fuels and Liquid Bio-Fuels, *Proc. ICLASS 2012, 12th Triennial International Conference on Liquid Atomization and Spray Systems*, Heidelberg, Germany, 2012.
23. S. Nath, A. Mukhopadhyay, A. Datta and S. Sen, Analysis of Disintegration of Plane Liquid Sheets Sandwiched between Gas Streams with unequal Velocities and Resulting Spray Formation, *Proc. ICLASS 2012, 12th Triennial International Conference on Liquid Atomization and Spray Systems*, Heidelberg, Germany, 2012.
24. S. Mondal, A. Mukhopadhyay and S. Sen, Dynamic Characterization of a Laboratory-Scale Thermal Pulse Combustor, Paper No: GT2012-69273, *Proc. ASME Turbo Expo 2012*, Copenhagen, 2012.

**Research Projects (In addition to already included in report):**

Principal Investigator: Achintya Mukhopadhyay

Acting PI/ Co Investigator: Swarnendu Sen, Koushik Ghosh, Amitava Datta

Name of the Research Project: Modeling and Experimental Validation of Spray Formation by Disintegration of Annular Swirling Liquid Sheets for Design of Advanced Fuel Injectors for Gas Turbine Combustors

Project Value in Lakh of INR: 15.58

Funding Agency: GATET-GTRE

Principal Investigator: Swarnendu Sen

Acting PI/ Co Investigator: Achintya Mukhopadhyay, Koushik Ghosh, Amitava Datta

Name of the Research Project: Conjugate Heat transfer Modeling with Gas Radiation for Gas-turbine Combustor/Afterburner Liners

Project Value in Lakh of INR: 16.67

Funding Agency: GATET-GTRE

**Publications of Prof. Goutam Pohit**

## Referred Journals

1. Chaterjee, S., and Pohit, G., "Squeeze-film damping characteristics of cantilever micro-resonators under large electrostatic loading", *Journal of Mechanics of Advanced Materials and Structures*, 19, 2012, pp. 613–624.
2. Chaterjee, S., and Pohit, G., "Dynamics of nonlinearly damped microcantilevers under electrostatic excitation", *Proc IMechE Part C: J Mechanical Engineering Science*, 227(3), 2012, pp. 630-646.
3. Pohit, G. and Kumar K., "Virtual Manufacturing of various types of Gears and the validation of the technique using Rapid Prototyping." *Virtual and Physical Prototyping*, Vol. 7, No. 2, 2012, pp. 153-171.
4. Pohit G. and Misra D., "Optimization of Engine Performance and Emission Characteristics of Diesel Engine Fueled with Karanja Oil Methyl Ester using Grey-Taguchi Method." *Journal of Engineering*, Volume 2013, Article ID 915357, 8 pages.
5. Jena, Pankaj Charan, Parhi, Dayal R. and Pohit, G., "Study of faults detection of a single cracked beam through various techniques", *International Journal of Applied Artificial Intelligence in Engineering System*, Vol. 4, No. 1, 2012, pp. 51-58.
6. Pohit, G. Das, S. K. and Roy, P. C., "Non-linear In-plane Vibration of a Rotating Beam with Spring-mass System Attached to the Beam", *Advances in Vibration Engineering*, Vol. 14, Issue 1, 2014.
7. Jena, Pankaj Charan, Parhi, Dayal, R., and Pohit, G., "Faults Detection of a Single Cracked Beam by Theoretical and Experimental Analysis using Vibration Signatures", *Journal of Mechanical and Civil Engineering (IOSR-JMCE)*, Vol. 4, Issue 3, pp 01-18.
8. Sahoo, Bamadev, Panda, L. N, Pohit, G., "Parametric and Internal Resonances of an Axially Moving Beam with time Dependent Velocity", In Press *Modelling and Simulation in Engineering*.
9. Sahoo, Bamadev, Panda, L. N, Pohit, G., "A Continuation Algorithm for Stability and Bifurcation Analysis of Nonlinear Systems," In Press *Journal of Mechatronics and Intelligent Manufacturing*.

## Contribution in Conference Proceedings:

1. Datta, Ambarish and Pohit, G., "Optimization of performances and emissions of a karanja biodiesel driven vcr ci engine", International Conference on Recent Advances and Challenges in Energy (RACE – 2012), MIT, Manipal.
2. Banerjee, Amit and Pohit, G., "Comparison Study of Cracked Detection of Cantilever Beam using Artificial Neural Network and wavelet Transform", *2nd International Conference on Advanced Manufacturing and Automation (INCAMA-2013)*, Kalasalingam University, 28-30 March 2013, pp 13-18.
3. Sahoo, Bamadev, Panda, L.N. and Pohit, G., "A Continuation Algorithm for Stability and Bifurcation Analysis of Nonlinear Systems", *2nd International Conference on Advanced Manufacturing and Automation (INCAMA-2013)*, Kalasalingam University, 28-30 March 2013, pp 19-26.

## Sanjib Kumar Acharyya

### International Journal :

1. Sumit Bhowmik, Prasanta Sahoo, Sanjib Kumar Acharyya, Sankar Dhar, 2013, "Effect of corrosion on fracture toughness in ductile to brittle transition region of 20MnMoNi55 steel", *Procedia Engineering*

2. Ruby Mishra, T.K.Naskar, Sanjib Acharya 2013, "Synthesis of coupler curve of a Four Bar Linkage with joint Clearances" International Journal of Engineering Research and Applications (IJERA) Vol. 3, Issue 1, pp.1193-1199.
3. J.SHIT , S.DHAR, S. ACHARYYA, 2012, "Modelling and Finite Element Simulation of Low Cycle Fatigue behavior of SS 316", *Procedia Engineering*.
4. Ruby Mishra, T.K.Naskar and S. K. Acharyya , 2012, "Synthesis of 4r path generating chain with multiple joint clearances using de algorithm", International Journal of Engineering Science and Technology (IJEST), Vol. 4 No.12, pp-4912-4921
5. S. Bhowmik, S.K. Acharyya, P. Sahoo, S. Dhar, J. Chattopadhyay, "Estimation and comparative study of  $J_{Ic}$  using different method for 20MnMoNi55 steel", *Materials and Design*: 2013 Vol 46, pp 680-687.
6. S. Bhowmik , P. Sahoo , S.K. Acharyya , J. Chattopadhyay , S. Dhar 2012, "Application and comparative study of the master curve methodology for fracture toughness characterization of 20MnMoNi55 steel", *Materials and Design* ,vol-39, pp-309–317
7. Bappa Acherjee, Arunanshu S. Kuar, Souren Mitra, Dipten Misra, Sanjib Acharyya, 2012, "Experimental investigation on laser transmission welding of PMMA to ABS via response surface modeling" *Optics and Laser Technology*, 44 (5) , pp. 1372-1383
8. SHIT, J., DHAR, S., ACHARYYA, S.K., GOYAL. S., 2012. "Modeling of uniaxial ratchetting behavior of SA333 carbon manganese steel", *International Journal of Pressure Vessels and Piping*, 92 , pp. 96-105

**Project Supervised:**

1. Designation:Co- Investigator  
 Title of the Project: Modelling and Finite element Simulation of Uniaxial and Bi- axial Low cycle fatigue and Ratcheting  
 Funding Authority: BARC  
 Duration: from 2008 to 2013  
 Sanctioned Amount(Rs. in lakh):12.0  
 Status of the Project:Ongoing
2. Designation: Principal Investigator  
 Title of the Project: Master Curve Generation for Fracture Toughness of the material 20 Mn Mo Ni 55 from lower shelf to upper shelf"  
 Funding Authority: BARC  
 Duration: from 2009 to 2013  
 Sanctioned Amount(Rs. in lakh): 44.0  
 Status of the Project:Ongoing
3. Designation: Principal Investigator  
 Title of the Project: Fracture Tests on Three Point Bend Specimens of the material 20MnMoNi55 at Room and Sub-zero Temperature to Investigate Master Curve."  
 Funding Authority: BARC  
 Duration: from 2010 to 2014  
 Sanctioned Amount(Rs. in lakh): 39.0  
 Status of the Project:Ongoing
4. Designation: Principal Investigator

Title of the Project: Measurement of Mass Properties of Payloads  
Funding Authority: RCI, DRDO  
Duration: from 2010 to 2013  
Sanctioned Amount(Rs. in lakh): 9.95  
Status of the Project:Ongoing

5. Designation: C.I  
Title of the Project: Design & Implementation of two-axis direct-drive tracking mechanism  
Funding Authority: ITR, DRDO  
Duration: from 2013 to 2015  
Sanctioned Amount(Rs. in lakh): 10.0  
Status of the Project:Ongoing

## Himadri Chattopadhyay

### List of Publications

#### Journals

- 1 Biswas, G., Chattopadhyay, H. and Sinha, A. (2012), Augmentation of Heat Transfer by Creation of Stream-wise Longitudinal Vortices using Vortex Generators, *Heat Transfer Engineering* , 33, 506-524.
- 2 Chattopadhyay, H., Kundu, A., Saha, B.K. and Gangopadhyay, T, (2012) Analysis of flow structure inside a spool type pressure regulating valve, *Energy Conversion and Management*, **53**, 196-204
- 3 Loha, C., Chattopadhyay, H. and Chatterjee, P.K. (2012), Simulation of bubbling fluidized bed using different drag models, *Chemical Engineering Science*, **75**, 400-407
- 4 Rawat, M., Das, L.G., Chattopadhyay, H., Neogi, S. (2012), An experimental investigation on thermoelectric refrigeration system: a potential green refrigeration technology, *J. Environmental Research Development*, **6**, 1031-1037
- 5 Das, P., Samanta , S.K., Chattopadhyay, H, Sharma, B.B., Datta, P. (2012) , Effect of Pouring Temperature on Semi Solid Slurry Generation Process in a Cooling Channel, *Acta Metallurgica Sinica*, **25**, 329-339
- 6 Nandi, T. and Chattopadhyay, H. (2012), Simultaneously developing flow in microchannels under pulsating inlet flow condition, *Int. J. Transport Phenomena*, **13**, 111-20.
- 7 Das, P., Samanta , S.K., Chattopadhyay, H, Sharma, B.B., Datta, P. (2012), Microstructural evolution of A356 Al alloy during flow along a Cooling Slope, *Transactions IIM*, **65(6)**, 669-672
- 8 Simlandi , S., Barman, N. and Chattopadhyay , H. (2012),Study on rheological behavior of A356 alloy during solidification in presence of stirring, *Transactions IIM*, **65(6)** , 809-814
- 9 Das, P., Samanta , S.K., Chattopadhyay, H., Barman, N., Datta, P. (2013), Rheological characterization of semi-solid A356 aluminium alloy, *Solid State Phenomena* **192-193**, 329-334
- 10 Simlandi , S., Barman, N. and Chattopadhyay , H. (2013), Study of thixotropic property of A356 alloy in semisolid state, *Solid State Phenomena* **192-193**, 335-340
- 11 Das, P., Samanta , S.K., Chattopadhyay, H, Datta, P. (2013), Studies on rheocasting using cooling slope, *Solid State Phenomena*, **192-193**, 341-346
- 12 Sinha, A., Ashoke Raman, K., A., Biswas, G., Chattopadhyay H. (2013),, Effects of Different Orientations of Winglet Arrays on the Performance of Plate-Fin Heat Exchangers, *Int. J. Heat Mass Transfer*, **57**, 202-214

- 13 Ghosh., A., Barman, N.K., , Chattopadhyay, H. Hloch, S. (2013), A Study on thermal Behaviour during Submerged Arc Welding, *Strojniški vestnik - Journal of Mechanical Engineering*, **59**: 333-338
- 14 Das, P., Samanta , S.K., Chattopadhyay, H, Datta, P. (2013), Eulerian Two Phase Flow Simulation and experimental validation of semisolid slurry generation process using cooling slope, *Materials Science and Technology*, **29**:83-92
- 15 Simlandi , S., Barman, N. and Chattopadhyay , H. (2013), Studies on Transport Phenomena during Continuous Casting of an Al-Alloy in Presence of Electromagnetic Stirring, *Transactions IIM* **66**: 141-146
- 16 Loha, C., Chattopadhyay, H. and Chatterjee, P.K., Euler-Euler CFD modeling of fluidized bed: influence of specular coefficient on hydrodynamic behavior, *Particology (in press)*
- 17 Rawat M.K., Chattopadhyay, H., Neogy, S. (2013) Review on developments of thermoelectric refrigeration and air conditioning systems : a novel potential green R& AC technology, *Int J. Emerging Tech Advanced Engg*, **3**: 362-367
- 18 Ghosh., A., Barman, N.K., , Chattopadhyay, H , Bag, S.(2013), Modeling of Heat Transfer in Submerged Arc Welding Process, *Proc. Instt Mechanical Engineers Pat B J. Engg. Manufacture*,
- 19 Ghosh, A. and Chattopadhyay, H., Mathematical Modeling of Moving Heat Source Shape for Submerged Arc Welding Process, *Advanced Manufacturing Technology, in press*
- 20 Nandi, T. and Chattopadhyay, H. , Numerical Investigations of Simultaneously Developing Flow in Wavy Microchannels under Pulsating Inlet Flow Condition, *Int Comm Heat Mass Transfer*, In press

#### Conferences :

1. Nandi, T., Chattopadhyay, H., Numeicla investiogation of microchannel flow under pulsaing inlet, accepted National Conf. for Fluid Mechanics Fluid Power, Surat November 2012
2. Loha, C., Chattopadhyay, H., Numerical simulation of bubble formation in a jetting fluidized bed accepted National Conf. for Fluid Mechanics Fluid Power, Surat November 2012
3. Bit, A., Chattopadhyay, H., Non-newtonian flows in stenosed channel, accepted for Indian Scince Congress, 3-7 January 2013
4. Nandi, T., Chattopadhyay, H, Development of flow and thermal field in wavy microchannels under inlet pulsations, accepted for Indian Scince Congress, 3-7 January 2013
5. Simlandi, S., Barman, N. and Chattopadhyay , H, Rheological Behaviour of Semisolid Alloy Slurry – an Overview, acepetd for Indian Foundry Congress 27-29 January, 2013, Kolkata
6. Rawat M.K., Chattopadhyay, H., Neogy, S Review on developments of thermoelectric refrigeration and air conditioning systems : a novel potential green R& AC technology, International Conference on Energy Resources and Technologies for Sustainable DevelopmentI, Feb 7-9, 2013, Howrah India

#### Saikat Mookherjee

##### [C] Publications

1. B. K. Sarkar, J. Das, R. Saha, **S. Mookherjee** and D. Sanyal, *Trans. on Mechatronics*, vol. 18, pp. 1425–1430, 2013.
2. N. P. Mandal, R. Saha, **S. Mookherjee** and D. Sanyal, 2013, Pressure compensator design for an axial piston pump, *Tans. ASME Dynamic Systems Measurements Controls*, Accepted for publication (manuscript no. DS-12-1356.)

## [D]Projects

1. Name of Funding Agency: ITR, Chandipur  
Project Title/PI or Co-I (other members): Design and Implementation of Two-Axis Direct Drive Tracking Mechanism/Co-I (with Kumardeb Bandyopadhyay, Kamallesh Majumdar, Sanjib Kumar Acharyya, Dipankar Sanyal, Sanjoy Saha, Rana Saha)  
Duration/Funding: 2013-2015 Rs 10.0 lakh
2. Name of Funding Agency: HAL, Lucknow  
Project Title/PI or Co-I (other members): Analysis of Pressure Compensator Design of LCA –130 lpm Main Hydraulic Pump by Modelling and Simulation/ PI (with Dipankar Sanyal & Rana Saha)  
Duration/Funding: 2012-13 Rs 4.0 lakh

**Dr. Nilkanta Barman**

## PUBLICATIONS

### INTERNATIONAL JOURNALS

1. U. Ray, A. Sarkar, S. Sen, B. Roychowdhury and **N. Barman**, "Induction Heating of an Aluminum Billet: A Numerical Study of the Thermal Behavior", *Applied Mechanics and Materials*, vols. 110-116, 2012, pp. 4697-4704
2. S. Simlandi, **N. Barman** and H. Chattopadhyay, "Study on Thixotropic Property of A356 Alloy in Semi-Solid State", *Solid State Phenomena*, vols. 192-193, 2013, pp. 335-340
3. **N. Barman** and P. Dutta, "Evolution of Microstructure during Solidification of an Aluminium Alloy under Stirring", *Transactions of the Indian Institute of Metals*, vol. 65(6), pp. 683-687
4. D. Mohanty, A. K. Nayak and **N. Barman**, "Studies on Transport Phenomena during Solidification of a Binary Solution ( $\text{NH}_4\text{Cl} + \text{H}_2\text{O}$ ) on an Inclined Cooling Plate", *Transactions of the Indian Institute of Metals*, vol. 65(6), 2012, pp. 801-807
5. S. Simlandi, **N. Barman** and H. Chattopadhyay, "Study on Rheological Behavior of Semisolid A356 Alloy during Solidification", *Transactions of the Indian Institute of Metals*, vol. 65(6), 2012, pp. 809-814
6. A. Das, N. Banerjee, S. Sen, B. Neogi, S. Simlandi and **N. Barman**, "Studies on Double Diffusive Convection and Macro-segregation during Solidification of an Al-alloy based on Macro-Micro Model", *Transactions of the Indian Institute of Metals*, vol. 65(6), 2012, pp. 815-820
7. S. Barman, **N. Barman**, A. Mukhopadhyay and S. Sen, "Analytical Prediction of Thermal Behavior during Cooling of a Hot Steel Strip", *Advanced Materials Research*, vol. 585(2012), pp. 19-23.
8. P. Das, S. K. Samanta, H. Chattopadhyay, P. Dutta and **N. Barman**, "Rheological Characterization of Semi-Solid A356 Aluminium Alloy", *Solid State Phenomena*, vols. 192-193, 2013, pp. 329-334
9. S. Simlandi, **N. Barman** and H. Chattopadhyay, "Studies on Transport Phenomena during Continuous Casting of an Al-Alloy in Presence of Electromagnetic Stirring", *Transactions of the Indian Institute of Metals* (**in press, 2013**)
10. S. Barman, **N. Barman**, A. Mukhopadhyay and S. Sen, "Thermal Behavior of a Hot Moving Steel Strip under Multi-cooling Jets", *Heat Transfer Engineering* (**accepted**)
11. S. Barman, **N. Barman**, A. Mukhopadhyay and S. Sen, "Studies on the Phase Transformation during Cooling of a Hot Moving Steel Plate under Multi Water Jets", *Journal of Machining and Forming Technology* (**in press, 2013**)

### CONFERENCE PROCEEDINGS



1. S. Mukherjee, S. Simlandi and **N. Barman**, "Studies on Thermal Behavior for Cooling of a Building using Phase Change Material ", Recent Advances and Challenges in Energy, January 4 -6, 2012, MIT, Manipal, India, pp. 695-701
2. R. Halder and **N. Barman**, "Studies on the Forced Convection Flow over a Porous Hot Flat Plate" International Conference on Applications of Fluid Engineering September 20-22, 2012, G .L. Bajaj Institute of Technology and Management, Greater *Noida* (U.P.), India
3. **N. Barman**, S. Simlandi and H. Chattopadhyay, "Rheological Behaviour of Semisolid Alloy Slurry - An Overview", Transactions of 61<sup>st</sup> Indian Foundry Congress 2013, Kolkata, India

### **Best Paper Award**

Best Paper Award to Sri S. Mukherjee (a Student) for presenting a work entitled "*Studies on Thermal Behavior for Cooling of a Building using Phase Change Material*" by S. Mukherjee, S. Simlandi and N. Barman in the conference "*Recent Advances and Challenges in Energy*" held on January 4 -6, 2012 at MIT, Manipal, India

### **RESEARCH GRANTS**

Title: An Experimental Study on the Formation of Slurry during Solidification of a Metal Analogous Transparent Solution ( $\text{NH}_4\text{Cl} + \text{H}_2\text{O}$ ) in Presence of Shear Flow

Funding Agency:DST under Fast Track Scheme(Rs.14.64 lacs)

Duration:2012-2015

### **SWARNENDU SEN**

#### **Journal Publication:**

1. Flame Color as a Lean Blowout Predictor; R. R. Chaudhari, R.P. Sahu, S. Ghosh, A. Mukhopadhyay, S. Sen; International Journal of Spray and Combustion Dynamics; V-5, 49-66, 2013
2. Studies on the Phase Transformation during Cooling of a Hot Moving Steel Plate under Multi Water Jets; S. Barman, N. Barman, A. Mukhopadhyay, S. Sen; Journal of Machining and Forming Technologies; V-5, 137-149, 2013
3. Effect of Confinement and Prefilming on the Stability of an Annular Liquid Sheet; S. Chatterjee, S. Samanta, A. Mukhopadhyay, S. Sen; *Atomization and Sprays*; V-23, 401-418, 2013
4. Analytical Prediction of Thermal Behaviour during Cooling of a Hot Steel Strip; S. Barman, N. Barman, A. Mukhopadhyay, S. Sen; *Advanced Materials Research*; Vol. 585, 19-23, 2012
5. Numerical Simulation of Laminar Confined Radial Flow between Parallel Circular Discs; N. Biswas, N.K.Manna, A. Mukhopadhyay, S.Sen; *Trans ASME J. Fluids Engg.*; Vol-134, 011205-1 – 011205-8, 2012.
6. Shear Viscosity Enhancement in Water-nanoparticle Suspensions; B. Ganesh, S. Sen, I.K. Puri; *Physics Letter A*; Vol-376, 860-863, 2012.
7. Effects of Inlet Conditions on Dynamics of a Thermal Pulse Combustor, S. Mondal, A. Mukhopadhyay, S. Sen; *Combustion Theory and Modelling*. Vol-16, 59-74, 2012.
8. Thermal Behavior of a Hot Moving Steel Strip under Multi-cooling Jets; S. Barman, N. Barman, A. Mukhopadhyay, S. Sen; *Heat Transfer Engineering* (In Press).
9. Lean Blowout Prediction in Gas Turbine Combustors Using Symbolic Time Series Analysis; A. Mukhopadhyay, R.R. Chaudhary, T. Paul, S. Sen & A. Ray; *J. Prop. Power* (In Press)

10. Dynamic Characterization of a Laboratory-Scale Pulse Combustor, S. Mondal, A. Mukhopadhyay & S. Sen; Combust. Sc. Technol. (Accepted).

**Conference Publication:**

25. Stability Study of Laminar Flame using Proper Orthogonal Decomposition and Dynamic Mode Decomposition; S. Chatterjee, A. Mukhopadhyay, S. Sen; International Summer School and Workshop on Non-Normal and Nonlinear Effects in Aero- and Thermoacoustics, June 18 - 21, 2013, Munich
26. Effect of CO<sub>2</sub> Dilution with Methane in Thermal Pulse Combustor; S. Mondal, A. Mukhopadhyay, S. Sen; International Summer School and Workshop on Non-Normal and Nonlinear Effects in Aero- and Thermoacoustics, June 18 - 21, 2013, Munich
27. Experimental Investigation and Spray Characterization of Liquid Jet Atomization of Conventional Fuels and Liquid Bio-Fuels; S. Mahapatra, S. Chatterjee, S. Shannigrahi, A. Mukhopadhyay, S. Sen; 12th Triennial International Conference on Liquid Atomization and Spray Systems (ICLASS 2012), Pap. No.: 1223b, Heidelberg, Germany, September 2-6, 2012
28. Analysis of Disintegration of Planar Liquid Sheet Sandwiched between Gas Streams with Unequal Velocities and Resulting Spray Formation; S. Nath, A. Mukhopadhyay, A. Datta, S. Sen, 12th Triennial International Conference on Liquid Atomization and Spray Systems (ICLASS 2012), Pap. No.: 1154b, Heidelberg, Germany, September 2-6, 2012
29. Effect of a Confined Outer Air Stream on Instability of an Annular Liquid Sheet Exposed to Gas Flow. Chatterjee S, Samanta S, Mukhopadhyay A, Ghosh K, Sen S. Proceedings of ASME 2012 Gas Turbine India Conference; Paper No.:GTIndia2012-9605; 1 December, 2012, Mumbai, India.
30. Stability Analysis and Parametric Study of an Annular Prefilming Atomizer in a Swirling Field; Chatterjee S, Samanta S, Mukhopadhyay A, Ghosh K, Sen S. Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power; Paper No: 176; 13-15 December, 2012, SVNIT Surat, Gujarat, India.
31. Experimental Study of Disintegration of Annular Swirling Liquid Jet in a Hybrid Atomizer; Chatterjee S, Das M, Mahapatra S, Mukhopadhyay A, Sen S. Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power; Paper No. 177; 13-15 December, 2012, SVNIT Surat, Gujarat, India.
32. Experimental Investigation and Spray Characterization of Viscous Liquid Jet; Das M, Mahapatra S, Chatterjee S, Mukhopadhyay A, Sen S. Proc. 39<sup>th</sup> National Conference on Fluid Mechanics and Fluid Power; Paper No. 166; 13-15 December, 2012, SVNIT Surat, Gujarat, India.

**Research Projects (In addition to already included in report):**

Principal Investigator: Achintya Mukhopadhyay

Acting PI/ Co Investigator: Swarnendu Sen, Koushik Ghosh, Amitava Datta

Name of the Research Project: Modeling and Experimental Validation of Spray Formation by Disintegration of Annular Swirling Liquid Sheets for Design of Advanced Fuel Injectors for Gas Turbine Combustors

Project Value in Lakh of INR: 15.58

Funding Agency: GATET-GTRE

Principal Investigator: Swarnendu Sen

Acting PI/ Co Investigator: Achintya Mukhopadhyay, Koushik Ghosh, Amitava Datta

Name of the Research Project: Conjugate Heat transfer Modeling with Gas Radiation for Gas-turbine Combustor/Afterburner Liners

Project Value in Lakh of INR:16.67  
Funding Agency:GATET-GTRE

**Prasanta Sahoo:**

**Publications**

**BOOK Chapters**

Tribology for Scientists and Engineers ( Eds. Sudeep Ingole et al.), 2013, Springer, USA, Sahoo, P. and Davim, J. P., Tribology of ceramics and ceramic matrix composites (in press).

Handbook of Measurement in Science and Engineering, (Ed. Myer Kutz), 2013, Wiley, USA; ISBN: 978-1-1183-8463-3, Sahoo, P.: Tribology measurements (Chapter 32), pp. 981-1006.

Dynamic Methods and Process Advancements in Mechanical, Manufacturing, and Materials Engineering, J P Davim (Ed.) IGI Global, Hershey, USA, 2012

Chapter 2: Large Amplitude Forced Vibration Analysis of Stiffened Plates under Harmonic Excitation (pages 25-61), A Mitra, P. Sahoo, K Saha

Dynamic Methods and Process Advancements in Mechanical, Manufacturing, and Materials Engineering, J P Davim (Ed.) IGI Global, Hershey, USA, 2012

Chapter 18: Roughness Optimization of Electroless Ni-B Coatings Using Taguchi Method (pages 302-319) S K Das, P. Sahoo

Materials and Surface Engineering: Research and Development (Ed. J. Paulo Davim), 2012, Woodhead, UK, Chapter 6, P. Sahoo: Tribo Performance of Electroless Ni-P coatings, pp. 163-206.

Mechatronics and Manufacturing Engineering: Research and Development (Ed. J. Paulo Davim), 2012, Woodhead, UK, Chapter 5, P. Sahoo and T K Barman: ANN Modelling of Fractal Dimension in Machining, pp. 159-226.

**RESEARCH Publications** (most recent first)

**2013**

**Referred Journals**

1. Chatterjee, B and Sahoo, P, Shakedown behavior in multiple normal loading-unloading of an elastic-plastic spherical stick contact, Tribology in Industry, 2013, 35(1), 3-18.
2. Das, M. K., Kumar, K, Barman, T. K. and Sahoo, P., Optimization of material removal rate in EDM using Taguchi method, Advanced Materials Research, 2013, 626, 270-274.
3. Bhowmik S, Acharyya S K, Sahoo P, Dhar S and Chattopadhyay J, Estimation and comparative study of JIC using different methods for 20MnMoNi55 steel, Materials and Design, 2013, 46, 680-687.
4. Chatterjee, B and Sahoo, P, Finite element based multiple normal loading-unloading of an elastic-plastic spherical stick contact, ISRN Tribology, 2013, ID 871634, 1-13.
5. Mitra, A., Sahoo, P. and Saha, K. N., Forced vibration analysis of cross stiffened plates with simply supported boundary condition, Advances in Vibration Engineering, 2013, 12 (3) 303-310.
6. Mitra, A, Sahoo, P and Saha K N, Effect of In-plane Boundary Conditions on Forced Vibration Analysis of Stiffened Plates with a Free Edge, Journal of Vibration and Control 2013, 19(2), 234-261.

7. Mitra, A., Sahoo, P. and Saha, K.N., Nonlinear vibration analysis of simply supported stiffened plates by a variational method, *Mechanics of Advanced Materials and Structures*, 2013, 20(5), 373-396.
8. Chatterjee, B and Sahoo, P, Finite element based unloading of an elastic plastic spherical stick contact for varying tangent modulus and hardening rule, *International Journal of Surface Engineering and Interdisciplinary Materials Science*, 2013, 1(1), 13-32.

#### **Contribution in Conference Proceedings:**

9. Sudeepan J, Kumar K, Barman T K and Sahoo, P., Study of tribological and mechanical properties of ABS/CaCO<sub>3</sub> composites, Proc. 4<sup>th</sup> International Conference on Recent Advances in Composite Materials (ICRACM-2013), Feb 18-21, Goa, 2013.
10. Sudeepan J, Kumar K, Barman T K and Sahoo, P., Study of tribological and mechanical properties of compression molded ABS/TiO<sub>2</sub> composites, Proceedings of International Conference on Innovations in Materials and Product Development, Lucknow, India, 1-3 March, 2013, paper ID 86, pp. 1-4.
11. Sudeepan J, Kumar K, Barman T K and Sahoo, P., Comparative studies on tribological and mechanical properties of ABS/CaCO<sub>3</sub> and ABS/TiO<sub>2</sub> composites, Proc. 2<sup>nd</sup> International Conference on Advanced Manufacturing and Automation (INCAMA-2013), 28-30 March, 2013, Krishnankoil, pp. 179-183.
12. Roy, S and Sahoo, P., Tribological performance optimization of electroless Ni-P-W coating using weighted principal component analysis, Proc. 2<sup>nd</sup> International Conference on Advanced Manufacturing and Automation (INCAMA-2013), 28-30 March, 2013, Krishnankoil, pp. 174-178.
13. Ghosh, S., Sahoo, P. and Sutradhar, G., Wear behaviour optimization of Al-7.5%SiC metal matrix composite using Taguchi method, Proc. 2<sup>nd</sup> International Conference on Advanced Manufacturing and Automation (INCAMA-2013), 28-30 March, 2013, Krishnankoil, pp. 184-188.
14. Das, M. K., Kumar, K, Barman, T. K. and Sahoo, P., Optimization of EDM process parameters using Grey-Taguchi Technique, Proc. 2<sup>nd</sup> International Conference on Advanced Manufacturing and Automation (INCAMA-2013), 28-30 March, 2013, Krishnankoil, pp. 521-525.

#### **2012 (since April)**

##### **Referred Journals**

15. Roy, S and Sahoo, P., Corrosion Study of Electroless Ni-P-W Coatings using Electrochemical Impedance Spectroscopy, *Portugaliae Electrochimica Acta*, 2012, 30(3), 203-220.
16. Ghosh, S., Sahoo, P. and Sutradhar, G., Wear Behaviour of Al-SiCp Metal Matrix Composites and Optimization using Taguchi Method and Grey Relational Analysis, *Journal of Minerals & Materials Characterization & Engineering*, 2012, 11(11), 1085-1094.
17. Das, S. K. and Sahoo, P., Influence of process parameters on microhardness of electroless Ni-B coatings, *Advances in Mechanical Engineering*, 2012, ID 703168, pp. 1-11.
18. Roy, S and Sahoo, P., Multiple roughness characteristics of chemically deposited Ni-P-W coatings, *Tribology in Industry*, 2012, 34 (4), 186-197.
19. Ghosh, S., Sahoo, P. and Sutradhar, G., Friction performance of Al-10%SiCp metal matrix composites using Taguchi method, *ISRN Tribology*, 2012, ID 386861, 1-9.
20. Roy, S and Sahoo, P., Friction performance optimization of chemically deposited Ni-P-W coating using Taguchi method, *ISRN Tribology*, 2012, ID 136740, 1-9.

21. Sahoo, P., Barman, T. K. and Routara, B. C., Grey-based Taguchi analysis of cylindrical grinding process parameters with multiple roughness characteristics, *International Journal of Production and Quality Engineering*, 2012 (in press).
22. Roy, S and Sahoo, P., Optimization of multiple roughness characteristics of chemically deposited Ni-P-W coating using weighted principal component analysis, *ISRN Mechanical Engineering*, 2012, ID 495857, 1-7.
23. Chatterjee, B and Sahoo, P, Unloading of an elastic plastic spherical stick contact under varying strain hardening-A finite element study, *International Journal of Materials, Manufacturing and Design*, 2012, 1 (1), 107-126.
24. Sahoo, P., Loading and unloading characteristics of rough surfaces in presence of soft coatings and adhesion, *International Journal of Materials, Manufacturing and Design*, 2012, 1(1), 89-105.
25. Ghosh, S. and Sahoo, P., Friction behaviour of medium leaded brass UNS C34000 against steel using Taguchi method, *International Journal of Materials, Manufacturing and Design*, 2012, 1(1), 77-87.
26. Roy, S and Sahoo, P., Potentiodynamic polarization behavior of electroless Ni-P-W coatings, *ISRN Corrosion*, 2012, ID 914867, 1-11.
27. Mitra, A., Sahoo, P. and Saha, K. N., Large displacement of crossbeam structure through energy method, *International Journal of Automotive & Mechanical Engineering*, 2012, 5, 520-544.
28. Bhowmik S, Sahoo P, Acharyya S K, Chattopadhyay J and Dhar S, Application and comparative study of the master curve methodology for fracture toughness characterization of 20MnMoNi55 steel, *Materials and Design*, 2012, 39, 309-317.
29. Chatterjee, B and Sahoo, P, Effect of strain hardening on elastic-plastic contact of a deformable sphere against a rigid flat under full stick contact condition, *Advances in Tribology 2012*, ID 472794, 1-8.
30. Das, D, Sahoo, P and Saha K N, A numerical analysis of large amplitude beam vibration under different boundary conditions and excitation patterns, *Journal of Vibration and Control* 2012, 18(12), 1900-1915.
31. Barman, T. K. and Sahoo, P., Prediction of fractal dimension in cylindrical grinding of brass using ANN, *Journal of Machining and Forming Technologies*, 2012, 4 (1-2), 85-106.
32. Das, D, Sahoo, P and Saha K N, Dynamic analysis of rotating annular disk of variable thickness under uniform axial pressure, *International Journal for Computational Methods in Engineering Science & Mechanics*, 2012, 13, 37-59.

### **Contribution in Conference Proceedings**

33. Mitra, A., Sahoo, P. and Saha, K. N., Experimental Investigation of Static Deflection and Loaded Natural Frequencies of Stiffened Plates, *Proceedings of the IASTED International Conference Engineering and Applied Science (EAS 2012) December 27-29, 2012 Colombo, Sri Lanka*, pp. 6-13.
34. Das M K, Kumar K, Barman T K and Sahoo, P., Surface roughness modeling in wire electrical discharge machining (WEDM) using response surface methodology, *Proc. International Conference on Advances in Mechanical Engineering and its Interdisciplinary Areas, Kolaghat, 27-28 Dec, 2012*, pp. 186-191.
35. Roy, S. and Sahoo, P., Friction performance optimization of electroless Ni-P-W coating using Taguchi design of experiments, *Proc. International Conference on Advances in Mechanical Engineering and its Interdisciplinary Areas, Kolaghat, 27-28 Dec, 2012*, pp. 207-213.

36. Das M K, Kumar K, Barman T K and P Sahoo, Optimization of surface roughness in EDM of EN31 tool steel using Taguchi method, 8th International Conference on Industrial Tribology, 2012, Dec 7-9, Pune, paper ID: TSI 812507, p. 9.
37. Roy, S. and Sahoo, P., Wear performance optimization of electroless Ni-P-W coating parameters using Taguchi method, 8th International Conference on Industrial Tribology, 2012, Dec 7-9, Pune, paper ID: TSI 812541, p. 50.
38. Ghosh, S., Sahoo, P. and Sutradhar, G., Tribological performance of Al-5%SiC metal matrix composite using Taguchi based grey relational analysis, 8th International Conference on Industrial Tribology, 2012, Dec 7-9, Pune, paper ID: TSI 812540, p. 49.
39. Chatterjee, B. and Sahoo, P., Finite element based cyclic loading-unloading of an elastic-plastic spherical stick contact, Proc. 57th ISTAM International Congress, 2012, Dec 17-20, Pune, pp. 177-182.
40. Chatterjee, B. and Sahoo, P., Shakedown behavior in multiple loading-unloading of an elastic-plastic spherical stick contact, 8th International Conference on Industrial Tribology, 2012, Dec 7-9, Pune, paper ID: TSI 812513, p. 17.
41. Bhowmik, S., Sahoo, P., Acharyya, S. K., Dhar, S., Comparative study of fracture toughness in ductile to brittle transition region of 20MnMoNi55 steel, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 66.
42. Roy, S. and Sahoo, P., Surface Roughness Optimization of Electroless Ni-P-W Coating Based on Taguchi Method, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 67.
43. Duari, S., Barman, T. K. and Sahoo, P., Friction and Wear Behavior of Electroless Ni-P Coatings under Lubrication, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 68.
44. Das M K, Kumar K, Barman T K and P Sahoo, Modeling of MRR in WEDM on EN 31 Tool Steel Using Response Surface Methodology, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 72.
45. Ghosh S, Sahoo P and Sutradhar G, Friction performance optimization of Al- 7.5% SiCp metal matrix composite using Taguchi method, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 84.
46. Bhowmik, S., Sahoo, P., Acharyya, S. K., Dhar, S., Effect of thickness, geometry and microstructure on fracture toughness for 20MnMoNi55 steel, Nat Symposium on Fatigue, Fracture and Integrity Assessment (FFIA) May 4-5, 2012, Jamshedpur, p. 47.

### **Tarun Kumar Naskar**

#### **Journal Papers:**

1. T.K.Naskar and R. Mishra., "Introduction of control points in B-splines for synthesis of ping finite optimized cam motion program", Journal of Mechanical Science and Techonology 26(2)(2012) 489-494.
2. Ruby Mishra, T.K.Naskar, S.K. Acharya., "Synthesis of 4R path generating chain with multiple joint clearances using DE algorithm", International Journal of Engineering Science and Technology, Vol.4.No.12.December 2012.

3. Ruby Mishra, T.K.Naskar, Sanjib Acharya., "Synthesis of coupler curve of a four bar linkage with joint clearances", International Journal of Engineering Research and Applications, Vol. 3, Jan-Feb 2013, pp.1193-1199.
4. Ruby Mishra, T.K.Naskar, Sanjib Acharya., "Synthesis of flexible 4-bar linkage considering deformation" International Journal of Engineering Research and Applications, accepted.

### **Conference Papers**

1. Ruby Mishra, T.K.Naskar, and Sanjib Acharya, "Path synthesis of 4-bar linkages with joint clearances using DE algorithm", Proceedings of the National Conference on Trends and Advances in Mechanical Engineering, YMCA University of science and Technology, Faridabad, Oct, 2012.
2. Ruby Mishra, T.K.Naskar and Sanjib Acharya., "Synthesis of 4-bar linkages with joint clearances using DE algorithm". Conference Proceedings: NASOME 2012, KIIT University BBSR.
3. Harsh Nahata and Tarun Kanti Naskar, Graphical assessment of workspace of a 6-axis robotic manipulator, Accepted in International Conference on Recent Trends in Mechanical Engineering, 16 November, 2013.

### **Gautam Majumder**

Title: Experimental Investigation on the effect of reinforcement particles on the forgeability and the mechanical properties of aluminum metal matrix composition

Author 's name : S.Das,R.Behera,A.Dutta, Gautam Majumdar, B.Oraon,G.Sutradhar

Page No.: 310-316

Name of the Journal : Materials science and application

Volume: November 2010

Title:An Experimental Investigation on the machinability of powder formed silicon carbide particle reinforced aluminum metal matrix composition

Author 's name : SujitDas,R.Behera,A.Dutta, Gautam Majumdar, B.Oraon,G.Sutradhar

Page No.: 1-10

Name of the Journal : International journal of scientific & engineering and research

Volume:Volume 2 Issue 7,July-2011

Title: Performacce measurement of distribution centre combining data envelopment analysis and analytic hierarchy process

Author 's name : P.S Chakraborty, Gautam Majumdar,B.Sarkar

Page No.: 117-128

Name of the Journal : Advances in Production Engineering & Management

Volume: Volume 6 Issue 2,2011

Title: Prediction of electroless Ni-Co-P coating using response surface method

Author 's name : T.Banerjee ,R.S.Sen,B.Oraon, Gautam Majumdar

Page No.:

Name of the Journal : International journal of advance manufacturing technology

Volume: 4 April 2012

Title: Taguchi approach followed by fuzzy linguistic reasoning for quality productivity optimization in machining operation: a case study

Author 's name : Kumar Abhishek,Saurav Dutta, ,Siba Sankar Mahapatra,Goutam Mandal and Gautam Majumdar

Page No.: 929-951

Name of the Journal :Journal of manufacturing technology management

Volume: Volume 24 Number 6, 2013

Title: Appraisalment and selection of third party logistics service providers in fuzzy environment

Author 's name : Saurav Dutta,Chitrasen Samantra,siba Sankar Mahapatra,Goutam Mandal and Gautam Majumdar

Page No.: 537-548

Name of the Journal :Benchmarking an international journal

Volume: Volume 20Number 4,2013

Title: Prediction of surface roughness and application of response surface methodology to develop a mathematical model

Author 's name : N.Biswas,J.De, R.S.Sen,B.Oraon, Gautam Majumdar

Page No.: 2771-2777

Name of the Journal :International journal of innovative research in science, engineering and technology

Volume: Volume,2 Issue 7,2013

Title: Estimation of noise of a moving passenger car

Author 's name : T.Roy,A.K.Mukhopadhyya,Sadhan K.Ghosh,Gautam Majumdar

Page No.: 459-464

Name of the Journal :Indian journal of environment protection

Volume: Volume 33Number 6, June 2013

Title: Influence of honking on the noisier situation( $L_{10}$ )

Author 's name : T.Roy,A.K.Mukhopadhyya,Sadhan K.Ghosh,Gautam Majumdar

Page No.:132-136

Name of the Journal :Noise control engineering journal.(Accoustical Society of America)

Volume: Volume 60 Number 2 April 2012

## **AVIJIT MUKHERJEE**

### **PAPER PUBLICATION IN INTERNATIONAL JOURNAL:**

1. Abhijit Mukhopadhyay, "Review on the Tribological State Test in some Metal Forming Operation in Industry", International Journal Mechanical Confab, Vol. 1, No. 3, Dec. 2012, pp. 29-39.
2. Abhijit Mukhopadhyay, "SEM/EDAX Studies of Pattern Abrasion of 'EPDM' Rubber Surfaces under Selected Parametric Combinations of Two-Body Abrasion in Controlled Laboratory Conditions", International Journal of Materials Science and Engineering, A 3(1), Jan. 2013, pp. 31-40.
3. Abhijit Mukhopadhyay, "Effect of Some Lubricants on the Flow Characteristics of 'EPDM' Rubber under Compressive Load", International Journal for Manufacturing Science and Production, Vol. 13, Issue 1-2, April 2013, pp. 1-6.

### **PAPER PUBLICATION IN THE PROCEEDINGS OF SEMINAR/CONFERENCE etc.:**

1. Abhijit Mukhopadhyay, "SEM/EDAX Studies of Pattern Abrasion of 'EPDM' Rubber Surfaces Under Selected Parametric Combinations of Two-Body Abrasion in Controlled Laboratory Conditions", Proceedings of National Seminar on 'Advancements in Manufacturing- Vision 2020', BIT, Mesra, Ranchi, 25-26 May, 2012, pp.1-12.



2. Abhijit Mukhopadhyay et.al., "Hysteresis in Rubber Metal Spring in Comparison with Steel Spring", Proceedings of 25<sup>th</sup>. All India Manufacturing Technology Design and Research (AIMTDR-2012) Conference, Jadavpur University, Dec. 2012, pp. 210-215.
3. Abhijit Mukhopadhyay, "Utility of Green Manufacturing for Business Sustainability: An Example of Quality Loss Consideration", Proceedings of the National Conference 'AEIC-2013', GLA University, Mathura, 19-20 January, 2013, pp.1-9.

#### REFRESHERS COURSE ATTENDED:

1. "National Seminar on Recent Trends in Heritage Conservation", Ministry of Culture (Govt. of India), Indian Museum, Kolkata, 28-29 March, 2012.
2. "Recent Advances in LASER Technology and its Application", School of Laser Sc. and Engg. and Academic Staff College, Jadavpur University, 20-22 March, 2013.
3. "Work Shop on Quartz Crystal Microbalance (QCM) and Surface Acoustic Wave (SAW) Sensors", IEE, Jadavpur University, Salt Lake Campus, 13-14 May, 2013.

#### PARTICIPATION AS DELEGATE:

1. Discussion Forum on "West Bengal – Towards Sustainable Growth: Perspectives on Energy Policy and Environmental Realities – A Balanced Approach", Williamson Magor Hall, BCCI, Kolkata, 12<sup>th</sup> April 2012.
2. 5<sup>th</sup>. Environment and Energy Conclave, ITC-Sonar, BCCI, Kolkata, 31<sup>st</sup>. Aug.-1<sup>st</sup>. Sept., 2012.
3. "EUROPEAN UNION: Awareness Raising and Information Campaign in India", European Business and Trade Corporation (EBTC), Park Hotel, Kolkata, 25<sup>th</sup>. Sep., 2012.
4. CII-SNC—3<sup>rd</sup>. National Seminar on "Leadership Through Manufacturing Excellence", CII-SNC Auditorium, Salt Lake, Kolkata, 26<sup>th</sup>. Sept., 2012.
5. Evening Lecture on "Meeting the Growing Clean Energy Needs of India – A New Paradigm for Prosperity", Prof. (Dr.) Bikash Sinha, The Palladian Lounge, BCCI, Kolkata, 18<sup>th</sup> Feb., 2013.

**APPOINTED AS "LABORATORY-IN-CHARGE", M/C-TOOLS LABORATORY, MECHANICAL ENGINEERING DEPARTMENT ON 22.12.2012 FOR A PERIOD OF TWO YEARS.**

**Prakash Chandra Roy**

**International Journal papers (1<sup>st</sup> April 2012 to 31<sup>st</sup> March 2013)**

1. Roy PC, Datta A, Chakraborty N. An assessment of different biomass feedstocks in a downdraft gasifier for engine application. *Fuel*, 2013, 106: 864-868.
2. Roy PC, Datta A, Chakraborty N. Kinetic model of the reduction zone of a downdraft biomass gasifier. *International Journal of Emerging Technology and Advanced Engineering*. 2013, 3(3):591-597.
3. Roy PC, Datta A, Chakraborty N. Role of biomass energy for sustainable development of Rural India: Case Studies. *International Journal of Emerging Technology and Advanced Engineering*. 2013, 3(3): 577-582.
4. Bhattyachatyya D, Roy PC. Hybrid Energy System Simulation for Sustainable Energy Utilization. *International Journal of Emerging Technology and Advanced Engineering*. 2013, 3(3): 622-627.
5. Ray S, Biswas N, Roy PC. Investigation of Newtonian Fluid Flow through a Two-dimensional Sudden Expansion and Sudden Contraction Flow Passage. *International Journal of Engineering Research and Development*. 2012, 1 (12): 01-09.

### International Conference Proceedings Papers

1. D. Bhattacharyya, P. C. Roy, N. Chakraborty, Simulation of Renewable Hybrid System to study the uncertainty of the system, International Symposium on Engineering under Uncertainty: Safety Assessment and Management (ISEUSAM-2012)2012, Published at Springer India. 2013, pp 1101-1116, DOI10.1007/978-81-322-0757-3\_76.

**A. Session Chaired / Co-Chaired :** (Name of the teacher, Type of participation, name of the Seminar/ Conference etc., Place, Duration).  
*Session co-chaired for the session "ENERGY SYSTEM MODELLING" in International Conference on Energy Resources and Technologies for Sustainable Development (ICERTSD-2013) on February 2013 at Bengal Engineering & Science University, Shibpur, Howrah, West Bengal, INDIA*

**B. Seminar / Workshop / Conference / Symposium Attended:**

*Attended International Conference on Energy Resources and Technologies for Sustainable Development (ICERTSD-2013) on February 2013 at Bengal Engineering & Science University, Shibpur, Howrah, West Bengal, INDIA*

### Book Published

1. B. B. Ghosh, S. Chakrabarti, S. Ghosh and P.C.Roy, ENGINEERING THERMODYNAMICS AND FLUID MECHANICS, Revised 3<sup>rd</sup> Edition, 2013, ISBN: 978-93-259-6393-1, Vikas Publishing House Pvt. Ltd.

### Dipak Laha

#### Publications:

#### Journals:

1. Laha, D., Gupta, J. N. D. and Sapkal, S. U. (2013) A penalty-shift-insertion based algorithm to minimize total flow time in no-wait flow shops. *Journal of the Operational Research Society*, DOI: 10.1057/jors.2013.118.
2. Sapkal, S. U. and Laha, D. (2013) A heuristic for no-wait flow shop scheduling. *International Journal of Advanced Manufacturing Technology*, 68 (5-8), 1327-1338.
3. Laha, D. and Sapkal, S. U. (2013) An improved heuristic to minimize total flow time for scheduling m-machine no-wait flow shop. *Computers & Industrial Engineering*, DOI: 10.1016/j.cie.2013.08.026

#### Conferences:

1. Laha, D. (2012) A simulated annealing heuristic for minimizing makespan in identical parallel machine scheduling. LNCS, Springer-Verlag, 7677, 198-205.
2. Laha, D. and Behera, D. (2013) Improved flow shop schedules with total completion time criterion. LNCS, Springer-Verlag, 7973, 258-270.

### RANA SAHA

#### [E] Publications:

1. M. K. Mondal, N. K. Manna and **R. Saha**, 2013, Study of Leakage Flow through a Spool Valve under Blocked-Actuator Port Condition – Simulation and Experiment, *Proc IMechE Part C: J Mechanical Engineering Science*, In press, DOI: 10.1177/0954406213507702.
2. B.K. Sarkar, P. Mandal, **R. Saha**, S. Mookherjee and D. Sanyal, "GA-optimized feedforward-PID tracking control for a rugged electrohydraulic system design," *ISA Trans.*, <http://dx.doi.org/10.1016/j.isatra.2013.07.008>, 2013.

3. B. K. Sarkar, J. Das, **R. Saha**, S. Mookherjee and D. Sanyal, 2013, Approaching servoclass tracking performance by a proportional valve-controlled system, *IEEE/ASME Trans. on Mechatronics*, vol. 18, pp. 1425–1430, 2013.
4. B. Halder, **R Saha** and D. Sanyal, 2012, Control-integrated design by theoretical simulation for a torque-actuated 6-SBU Stewart platform, *AMAE Int. J. Manufacturing and Material Science 2*, pp 13-21.
5. N. P. Mandal, **R. Saha** and D. Sanyal, 2012, Effects of flow inertia modeling and valve plate geometry on swash plate axial piston pump performance, *Proc. Inst. Mech. Engrs, Part I, J Systems Control Engg*, 226, pp 451-465.

#### [F] Projects

1. Name of Funding agency: ITR, Chandipur  
Project Title/PI or Co-I (Other Members): Design and Implementation of Two-Axis Direct Drive Tracking Mechanism/Co-I (with Kumardeb Bandyopadhyay, Kamalesh Majumdar, Sanjib Kumar Acharyya, Saikat Mookherjee, Sanjoy Saha, Dipankar Sanyal)  
Duration/Funding : 2013-2015Rs 10.0 lakh
2. Name of Funding agency: ER&IPR, DRDO, New Delhi  
Project Title/PI or Co-I (Other Members): Development of a Multiple Degree of Freedom Hydraulic Parallel Manipulator with Control for Motion Tracking/Co-I (with Dipankar Sanyal)  
Duration/Funding : 2012-2015Rs 43.91 lakh
3. Name of Funding agency: Aeronautics R&D Board, New Delhi  
Project Title/PI or Co-I (Other Members): Design of Low Noise Swash Plate axial Piston Pump/Co-I (with Dipankar Sanyal)  
Duration/Funding : 2012-2014Rs 14.86 lakh
4. Name of Funding agency: HAL, Lucknow  
Project Title/PI or Co-I (Other Members): Analysis of Pressure Compensator Design of LCA –130 lpm Main Hydraulic Pump by Modelling and Simulation/ Co-I (with Saikat Mookherjee & Dipankar Sanyal)  
Duration/Funding : 2012-13Rs 4.0 lakh
5. Name of Funding agency: Aeronautics R&D Board, New Delhi  
Project Title/PI or Co-I (Other Members): High-Frequency Real Time Tracking Control for Linear Servo Actuation System/PI (with Dipankar Sanyal)  
Duration/Funding : 2012-2014Rs 20.45 lakh

#### Nirmal K. Manna

##### List of Publications:

##### Journals:

1. Pallab S. Mahapatra, Nirmal K. Manna and Koushik Ghosh, **Hydrodynamic and thermal interactions of a cluster of solid particles in a pool of liquid of different Prandtl numbers using two-fluid model**, *Heat and Mass Transfer* (**Accepted**).
2. Pallab S. Mahapatra, Somnath De, Koushik Ghosh, Nirmal K. Manna and Achintya Mukhopadhyay, **Heat Transfer Enhancement and Entropy Generation in a Square Enclosure in the Presence of Adiabatic and Isothermal Blocks**, *Numerical Heat Transfer: Part A*, vol. 64 (7), pp 576-597, 2013

## Conferences:

### a. Papers

1. Pallab S. Mahapatra, Souvick Chatterjee Koushik Ghosh, Nirmal K. Manna, Swarnendu Sen and Achintya Mukhopadhyay, **Transient Interaction of Particles with Quiescent Water: Experimental and Numerical Analysis**, Indian Conference on Applied Mechanics (INCAM) 2013, 4-6 July, 2013, IIT Madras, Chennai, Paper ID: FM 22
2. Pallab S. Mahapatra, Koushik Ghosh, Nirmal K. Manna, Deb Mukhopadhyay and Hemant G. Lele, **Analysis of Void Buildup during Hot Particle and Coolant Interaction under Film Boiling Configuration**, 8<sup>th</sup> International Conference on Multiphase Flow (ICMF2013), 26-31 May, 2013, Jeju, Korea, Paper ID: ICMF2013-872

### b. Poster

1. Aayush Sharma, Pallab S. Mahapatra Souvick Chatterjee, Nirmal K. Manna, Koushik Ghosh and Achintya Mukhopadhyay, **Dynamic Analysis of Natural Convection in Grooved Channel**, Perspectives in Nonlinear Dynamics, University of Hyderabad, Hyderabad, 15-18 July, 2013
2. Pallab S. Mahapatra, Nirmal K. Manna and Koushik Ghosh, **Numerical Study of Fragmentation and Mixing of Particle Cluster in Quiescent Liquid in PHWR Configuration**, National Conference on Sustainable Development Through innovative Research in Science and Technology, Jadavpur University, Kolkata , 28-29 September, 2012
3. Aayush Sharma, Pallab S. Mahapatra and Nirmal K. Manna, **Study of Natural Convection in a Cavity with Additional Flow Passage at the Top**, National Conference on Sustainable Development Through innovative Research in Science and Technology, Jadavpur University, Kolkata , 28-29 September, 2012

## Sudip Simlandi

### Journals

1. Simlandi, S., Barman, N. and Chattopadhyay , H. (2012), Study on rheological behavior of A356 alloy during solidification in presence of stirring, *Transactions IIM*, 65(6) , 809-814
2. Simlandi S., Barman, N. and Chattopadhyay H. (2013), Study of thixotropic property of A356 alloy in semisolid state, *Solid State Phenomena* 192-193, 335-340
3. Simlandi , S., Barman, N. and Chattopadhyay , H. (2013), Studies on Transport Phenomena during Continuous Casting of an Al-Alloy in Presence of Electromagnetic Stirring, *Transactions IIM* 66: 141-146
4. Mukherjee S, Simlandi S, Barman N. (2012), Studies on thermal behavior for cooling of a building using phase change material. *International Journal of Earth Science and Engineering*; ISSN 0974-5904:695-701.
5. Kumar A, Mukherjee S, Simlandi S, Barman N. (2013), Study on optimum utilization of a phase change material for cooling of a building. *International Journal of Emerging technology and advance engineering*; 3: 299-304.

## Conferences :

1. Simlandi , S., Barman, N. and Chattopadhyay , H, (2013), Rheological Behaviour of Semisolid Alloy Slurry – an Overview, accepted for *Indian Foundry Congress* 27-29 January, Kolkata

## Activities of Teachers During 2011-12

## Annexure – II

Principal Investigator: Prof Sadhan K Ghosh, India Leader  
Acting PI-Co Investigators :Partners are Aston University, UK and IIT Kgp, ITRC, CSIR Lucknow.  
Name of the Research Project :Climate Change Issues and Environmental Performance of the Indian Small and Medium-sized Enterprises .  
Project Value in lakh in INR: 40,000 GBP

Funding Agency:UKIERI

Principal Investigator: Prof Sadhan K Ghosh,

Acting PI-Co Investigators : -

Name of the Research Project :Research Project for Developing DPR for modernization of EWS for repair and maintenance of submersible pumps for enhanced quality and productivity.

Project Value in lakh in INR:10.80 Laks

Funding Agency: KMC

Principal Investigator: Prof Sadhan K Ghosh,

Acting PI-Co Investigators : -

Name of the Research Project :Research Project for study of SWM status & developing detail Bio Gas Project Document for nine ULBs.

Project Value in lakh in INR: 3.00 Lakh

Funding Agency: Govt of West Bengal

Principal Investigator: Prof Sadhan K Ghosh,

Acting PI-Co Investigators : -

Name of the Research Project :Research Project on Study & developing 2<sup>nd</sup> generation DDP for 5 years planning for Howrah Municipal Corporation.

Project Value in lakh in INR: 6.62 Lakh

Funding Agency: HMC

Principal Investigator: Prof Sadhan K Ghosh,

Acting PI-Co Investigators : -

Name of the Research Project : Research Project – MSSE Cluster Development Initiative, Plastics, Govt of West Bengal.

Project Value in lakh in INR: 3.00 Lakh

Funding Agency: Govt of West Bengal,

Principal Investigator: Prof Sadhan K Ghosh,

Acting PI-Co Investigators : -

Name of the Research Project : Research Project for study & developing 5 year plan of Uluberia Municipality.

Project Value in lakh in INR: 3.26 Lakh

Funding Agency: UM, Govt of West Bengal,

Principal Investigator: Prof Sadhan K Ghosh,

Acting PI-Co Investigators : Dr Debasish RoyProf Asish Bandyopadhyay

Name of the Research Project : Development of High Speed Jute Ribboner, Phase I

Project Value in lakh in INR: Rs. 58.00 Lacs

Funding Agency: JTM, The Jute Corporation of India

Principal Investigator: Prof Sadhan K Ghosh,  
Acting PI-Co Investigators : Prof Asish Bandyopadhyay Prof Pradip Kumar Pal  
Name of the Research Project : Inventorisation of Plastics Recycling and processing units in West Bengal  
Project Value in lakh in INR: Rs. 5.84 Lacs  
Funding Agency: West Bengal Pollution Control Board

Principal Investigator: Prof Samir Kumar Saha  
Acting PI-Co Investigators :  
Name of the Research Project : History of Technical Education in India : 1900-2005  
Project Value in lakh in INR: Rs.4.5 Lakhs  
Funding Agency: Indian National Science Academy(INSA)

Principal Investigator: Prof Samir Kumar Saha  
Acting PI-Co Investigators :  
Name of the Research Project : Prasanta Chandra Mahalanobis – growth of Statistics & Statistical Organizations in India (PI)  
Project Value in lakh in INR: Rs.2.0 Lakhs/Yr.  
Funding Agency: Indian National Science Academy(INSA)

Principal Investigator: Prof Samir Kumar Saha  
Acting PI-Co Investigators :  
Name of the Research Project : Experimenting for sustainability : Urban Mobility in India (CO-PI)  
Project Value in lakh in INR: -  
Funding Agency: NOTRO – NOW, Netherlands

Principal Investigator: Prof Sankar Dhar  
Acting PI-Co Investigators : Sanjib Kumar Acharyya  
Name of the Research Project :Modelling and Finite Element Simulation of Uniaxial & Biaxial LCF and Ratchetting  
Project Value in lakh in INR: -**19.15**  
Funding Agency: BARC, Mumbai

Principal Investigator: Prof Dipankar Sanyal, Departmental ProjectCoordinator  
Acting PI-Co Investigators : -  
Name of the Research Project :Combustion Control and Hydraulic Servocontrol under SAP-DRS of UGC, New Delhi  
Project Value in lakh in INR:  
Funding Agency:UGC, New Delhi

Principal Investigator: Prof Achintya Mukhopadhyay  
Acting PI-Co Investigators : Prof Swarnendu Sen, Prof Dipankar Sanyal  
Name of the Research Project :Dynamic Characterization of Model Gas Turbine Combustors for Early Detection of Thermoacoustic Instability and Lean Blow-out  
Project Value in lakh in INR: Rs 14.95 Lakh  
Funding Agency:DRDO

Principal Investigator: Prof Achintya Mukhopadhyay  
Acting PI-Co Investigators : Prof Swarnendu Sen, Prof Dipankar Sanyal

Name of the Research Project : Fuel Effects on Performance and Emission Characteristics of Thermal Pulse Combustor

Project Value in lakh in INR: Rs. 11.87 Lakh

Funding Agency: CSIR

Principal Investigator: Prof Achintya Mukhopadhyay

Acting PI-Co Investigators : Prof Swarnendu sen Prof Amitava Datta Dr Koushik Ghosh

Name of the Research Project : Modeling and Experimental Validation of Spray Formation by Disintegration of Annular Swirling Liquid Sheets for Design of Advanced Fuel Injectors for Gas Turbine Combustors

Project Value in lakh in INR: Rs. 15.58 Lakh

Funding Agency: GTRE

Principal Investigator: Prof Achintya Mukhopadhyay

Acting PI-Co Investigators : Prof Swarnendu Sen, Prof Dipankar Sanyal

Name of the Research Project : Dynamic Characterization of Model Gas-Turbine Combustors for Early Detection of Thermo-acoustic Instability and Lean Blowout

Project Value in lakh in INR: Rs. 10 lakh

Funding Agency: ERIP/ER, New Delhi

Principal Investigator: Prof Swarnendu Sen

Acting PI-Co Investigators : Dr Saikat Mookherjee

Name of the Research Project : Large Scale Molten-Coolant Interaction Study

Project Value in lakh in INR: Rs. 95.71 Lakh

Funding Agency: BARC

Principal Investigator: Dr Sanjib Kumar Acharyya

Acting PI-Co Investigators : Rana Saha Dipankar Sanyal

Name of the Research Project : Measurement of Mass properties of Payloads

Project Value in lakh in INR: Rs. **9.95** Lakh

Funding Agency: **RCI Hyderabad**

Principal Investigator: Dr Sanjib Kumar Acharyya

Acting PI-Co Investigators : Prof Sankar Dhar

Name of the Research Project : Master Curve generation for fracture toughness of 20MnMoNi55 from lower shelf to upper shelf

Project Value in lakh in INR: Rs. **44.00** Lakh

Funding Agency: BARC, Mumbai

Principal Investigator: Dr Sanjib Kumar Acharyya

Acting PI-Co Investigators : Prof Sankar Dhar

Name of the Research Project : Fracture tests on 3 point bend specimens of material 20MnMoNi55 at room & subzero temperature to investigate Master Curve

Project Value in lakh in INR: Rs. **39.42** Lakh

Funding Agency: BARC, Mumbai

Principal Investigator: Dr Sanjib Kumar Acharyya  
Acting PI-Co Investigators : Prof Sankar Dhar  
Name of the Research Project :Fracture toughness test of 20MnMoNi55 steel from lower shelf to upper shelf  
Project Value in lakh in INR: Rs.52.00Lakh  
Funding Agency:BRNS

Principal Investigator: Dr Sanjib Kumar Acharyya  
Acting PI-Co Investigators : Prof Sankar Dhar  
Name of the Research Project :Fracture toughness test of 20MnMoNi55 steel from lower shelf to upper shelf  
Project Value in lakh in INR: Rs.52.00Lakh  
Funding Agency:BRNS

Principal Investigator: Dr H Chattopadhyay  
Acting PI-Co Investigators :  
Name of the Research Project :Facility for Rheo pressure die casting  
Project Value in lakh in INR: Rs.6 Lakh  
Funding Agency:DST

Principal Investigator: Dr Koushik Ghosh  
Acting PI-Co Investigators : Prof Dipankar Sanyal  
Name of the Research Project :Clad Behavior under Accident Condition  
Project Value in lakh in INR: Rs. 35.9 lakh  
Funding Agency:BARC, Mumbai

### **Annexure – III**

#### **4. A. Books/ Monographs etc. Published:**

**Prof. Sadhan K Ghosh**

##### **Edited Volume Published.**

1. "Waste Management" Vol I and Vol II - Proceedings of 2<sup>nd</sup> International Conference on SWM in November 2011, OPH, Kolkata.- Edited.
2. Total Quality Management in industries.

##### **Monographs Published.**

1. Green Manufacturing in India and UK SMEs, UKIERI Project
2. Detailed Project Report of CFC on Plastics Products, MSSE, Govt of West Bengal.

**Prof. Samir Kumar Saha**

1. Engineering Education in India : past, present and future [ISBN 978-81-7955-193-6] (307+xvii pp), Sahitya Samsad, January, 2012.

**Prof. Gautam Sutradhar**

**Book Published**



"Methoding of Castings" – New Age International (P) Limited , Publishers , New Delhi – Released in Feb'2012

#### **Editor**

1. Editing a Quarterly News Letter "Foundry Sambad" Published from The Institute of Indian Foundrymen in Bengali Version to educate the grass route people of Foundries.
2. Journal of Modeling and Simulation in Design and Manufacturing, Tribhuban Publications , Bhopal

#### **Prof Sujit Ghosal**

##### **Book Published**

1. Name of the book : HOTEL ENGINEERING; Oxford University Press, New Delhi, Year of publication 2011.

#### **Prof Achintya Mukhopadhyay**

1. "Chemically Reacting Flows at the Microscale" in "Microfluidics and Nanofluidics Handbook", S.K. Mitra and S. Chakraborty, eds., CRC Press, Taylor & Francis Group, LLC, 2011.

#### **Prof Sudipta De**

1. Energy and exergy analyses of clean coal technology, ISBN 978-3-8454-1135-4, **AV Akademikerverlag GmbH & Co. KG**, Germany.

#### **Prof. Prasanta Sahoo**

1. Co-authored the book "Fractal Analysis in Machining", Springer Verlag, Germany, 2011.
2. Authored chapter 1 (on Surface Topography) of the book "Tribology for Engineers" (Ed. J. Paulo Davim), Woodhead Publishing, Oxford, 2011, pp. 1-32.
3. Co-authored a chapter titled "Modeling fractal dimension in CNC milling of brass using Artificial Neural Network" in the book Machining and Forming Technologies, Vol 2 (Ed. J Paulo Davim), 2011, Nova Science, USA, pp. 263-282.
4. Co-authored a chapter titled "Artificial neural network modelling of fractal dimension in CNC turning and comparison with response surface model" in the book Machining and Forming Technologies, Vol 1 (Ed. J Paulo Davim), 2011, Nova Science, USA, pp. 241-262.
5. Co-authored a chapter titled "Taguchi Based Fractal Dimension Modeling of Surface Profile and Optimization in Cylindrical Grinding" in the book Manufacturing Technology Research, Vol. 1 (Eds. J Paulo Davim & Mark J Jackson) 2011, Nova Science, USA, pp.19-42.
6. Co-authored a chapter titled "Grey-Based Taguchi Analysis for Optimization in CNC Turning of Different Materials with Multiple Roughness Characteristics" in the book Manufacturing Technology Research, Vol. 1 (Eds. J Paulo Davim & Mark J Jackson) 2011, Nova Science, USA, pp.117-138.
7. Authored a chapter titled "Tribology Measurement" in the encyclopedia "Engineering Measurements" (Ed. Myer Kutz), Wiley, USA, 2012 (in press).
8. Authored a chapter titled "Tribo Performance of Electroless Ni-P coatings" in the book Materials and Surface Engineering: Research and Development (Ed. J. Paulo Davim), 2012, Woodhead, UK, pp. 163-206.
9. Co-authored a chapter titled "ANN Modelling of Fractal Dimension in Machining" in the book Mechatronics and Manufacturing Engineering (Ed. J. Paulo Davim), 2012, Woodhead, UK, pp. 159-226.

10. Co-authored a chapter in Dynamic Methods and Process Advancements in Mechanical, Manufacturing, and Materials Engineering, J P Davim (Ed.) IGI Global, Hershey, USA, 2012, Chapter 2: Large Amplitude Forced Vibration Analysis of Stiffened Plates under Harmonic Excitation (pages 25-61), A Mitra, P. Sahoo, K Saha
11. Co-authored a chapter in Dynamic Methods and Process Advancements in Mechanical, Manufacturing, and Materials Engineering, J P Davim (Ed.) IGI Global, Hershey, USA, 2012, Chapter 18: Roughness Optimization of Electroless Ni-B Coatings Using Taguchi Method (pages 302-319) S K Das, P. Sahoo
12. Co-authored a chapter titled "Tribology of Ceramics and Ceramic Matrix Composites" in the book "Tribology for Scientists and Engineers" (Ed. S Ingole et al), Springer, Germany, 2012 (in press).

### **Dr Prakash Chandra Roy**

#### **Book Published**

2. B. B. Ghosh, S. Chakrabarti, S. Ghosh and P.C.Roy, ENGINEERING THERMODYNAMICS AND FLUID MECHANICS, 2<sup>nd</sup> Edition, 2012, ISBN: 978-81-259-5305-0, Vikas Publishing House Pvt. Ltd.

#### **B. Articles Published in Journals/ Conferences:**

#### **Prof Sadhan K Ghosh**

1. Improvement of Service Quality by Reducing Waiting Time for Service, A Sarkar, A Mukherjee, **S K Ghosh**, International Journal of Simulation Modelling Practice and Theory, August 2011.
2. Selection of Critical Processes for "Process Improvement". A Sarkar, A Mukherjee, **S K Ghosh**, International Journal of Lean Six Sigma, Emerald, December 2011,
3. Comparison of Performance Appraisal Scores among Different Functions, A Sarkar, A Mukherjee, **S K Ghosh**, International Journal of Research and Practice in Human Resource Management, , December 2011.
4. Assessment of Engineering Colleges through the application of the six sigma metrics in a state of India, D P Choudhury, A Mukherjee, **S K Ghosh**, International Journal of Quality and Reliability Management, Emerald, Vol.28, Issue.9, August 2011.
5. Rebuilding C&D Waste Recycling Efforts in India, **S K Ghosh**, Sannidhya K Ghosh, Asit Aich, Waste Management World Journal, ISWA. Italy in April 2011.
6. Measurement System Analysis of Test Setup when Product is Pre-Mature and is Unstable, A Sarkar, A Mukherjee, **S K Ghosh**, Presented & published in NIQR conference in 2011 by ISI, New Delhi.
7. Addressing Environmental concern through Lean Six Sigma – a Greener Approach, A Sarkar, A Mukherjee, **S K Ghosh**, Published in the conference proceedings of 2nd International Conference on Solid Waste Management at Jadavpur University, Kolkata Nov 2011.
8. Management of Municipal Solid Waste in India, **S K Ghosh**, Published in the conference proceedings of 2nd International Conference on Solid Waste Management at Jadavpur University, Kolkata Nov 2011, P 10-16.
9. Source Segregation - A Positive Step towards Sustainable Solid Waste Management System in Indian Cities, A. Aich, **S K Ghosh**, Published in the conference proceedings of 2nd International Conference on Solid Waste Management at Jadavpur University, Kolkata Nov 2011, P 130-138.
10. Food Waste Management in Different Areas of Durgapur, India- Practices and Challenges, Anuradha Mukherjee, **S K Ghosh**, Published in the conference proceedings of 2nd International Conference on Solid Waste Management at Jadavpur University, Kolkata Nov 2011, P 812-821.

11. Construction Waste – Towards sustainable resource management in India., **S K Ghosh**, Proceedings of the International Conference on solid waste, Hong Kong Baptist University, Hong Kong, May 2-6, 2011.

### **Professor Simul Banerjee**

#### **Journal Paper**

1. Bijoy Mandal, Rajender Singh, Santanu Das, **Simul Banerjee**, *Improving grinding performance by controlling air flow around a grinding wheel*, International Journal of Machine Tools and Manufacture, 51/9 (2011) 670 – 676.

#### **Conference Paper**

1. Navin Kumar, Dipak Laha, **Simul Banerjee**, Subhash C Panja, *Artificial Neural Network Modeling for Predicting the Yield of Steel of a Steel Making Shop*, Proceedings of International Conference on Computational Methods in Manufacturing, ICCMM 2011, December 15-16, 2011, Indian Institute of Technology Guwahati, India, 363 – 368.

#### **Peer Review**

- International Journal of Advanced Manufacturing Technology, Springer, 2011 (12 numbers)
  - Machining Science and Technology, Taylor & Francis, 2011
  - International Journal of Precision Technology, Inder Science, 2011
  - International Journal of Microstructure and Materials Properties, Inder Science, 2011
  - Materials and Manufacturing Process, Taylor & Francis, 2011 (2 numbers)
- Publications of Prof. Simul Banerjee (1<sup>st</sup> April 2012 to 31<sup>st</sup> March 2013)  
Present "h index": 3
8. Bijoy Mandal, Rajender Singh, Santanu Das, **Simul Banerjee**, *Development of a grinding fluid delivery technique and its performance evaluation*, Materials and Manufacturing Processes, 27/4 (2012) 436 – 442.
  9. Sunil Hansda, **Simul Banerjee**, *Multiple performance characteristics optimization in drilling of glass fibre reinforced polyester composite at different weightage of performance by Grey relational analysis*, International Journal of Machining and Machinability of Materials, 12/1/2 (2012) 14 – 27.
  10. Asit Baran Puri, **Simul Banerjee**, *Multiple-response optimization of electrochemical grinding characteristics through response surface methodology*, International Journal of Advanced Manufacturing Technology, 64/5-8 (2013) 715 – 725.
  11. Ushasta Aich, Amit Kumar Pal, Dipak Laha, **Simul Banerjee**, *Searching for a pareto optimal multi-objective simulated annealing on RSM model*, Advanced Materials Research, 622-623 (2013) 51-55.
  12. Bijoy Mandal, Debashis Biswas, Anirban Sarkar, Santanu Das, **Simul Banerjee**, *Improving grindability of Inconel 600 using alumina wheel through pneumatic barrier assisted fluid application*, Advanced Materials Research, 622-623 (2013) 394-398.
  13. Haradhan Soren, Subhas Chandra Panja, Sunil Hansda, **Simul Banerjee**, *Analysis process capability of drilling on glass fiber reinforced polyester (GFRP) composites with Taguchi loss function*, Advanced Materials Research, 622-623 (2013) 1314-1319.

14. Bijoy Mandal, Debashis Biswas, Anirban Sarkar, Santanu Das, Simul Banerjee, *Experimental Observation on Grindability of Titanium Gr.1 Under Different Environment*, Proceedings of 4<sup>th</sup> International and 25<sup>th</sup> AIMTDR Conference, December 14 – 16, 2012, Jadavpur University, India, 2012, 357 – 362.

#### **Prof. Sankar Dhar**

1. *Cyclic plastic deformation and damage in 304LN stainless steel* Materials Science and Engineering: A, Volume 528, Issue 15, 15 June 2011, Pages 4873-4882 Surajit Kumar Paul, S. Sivaprasad, **S. Dhar**, S. Tarafder
2. *Estimation of fracture toughness of 20MnMoNi55 steel in the ductile to brittle transition region using master curve method* , Nuclear Engineering and Design, Volume 241, Issue 8, August 2011, Pages 2831-2838 S. Bhowmik, A. Chattopadhyay, T. Bose, S.K. Acharyya, P. Sahoo, J. Chattopadhyay, **S. Dhar**
3. *Cyclic plastic deformation behavior in SA333 Gr. 6 C–Mn steel* Materials Science and Engineering: A, Volume 528, Issue 24, 15 September 2011, Pages 7341-734 Surajit Kumar Paul, S. Sivaprasad, **S. Dhar**, S. Tarafder
4. *Key issues in cyclic plastic deformation: Experimentation* Mechanics of Materials, Volume 43, Issue 11, November 2011, Pages 705-720 Surajit Kumar Paul, S. Sivaprasad, **S. Dhar**, S. Tarafder

#### **Prof. Samir Kumar Saha**

1. Ghosh, Sandip, Mukhopadhyay Deb, Saha Samir Kumar – “An experimental analysis of subcooled leakage flow through slits from high pressure high temperature pipelines” – International Journal of Pressure Vessel & Piping 88 (2011), 281-289 pp.
2. Saha, Samir Kr., Ghosh Sangita : “Engineering Education in India : past, present and future”, Propagation (a journal of NCSM), Vol.2, No.2, pp. 111-119, July, 2011.
3. Saha Samir Kumar : “History of Technical Education in India : 1900-2005”, Indian Journal of History of Science, Vol.46, No.3, pp.551-568, Sept., 2011.
4. Samir Kr. Saha and Siddhartha Ray – “The Need for Study of History and Philosophy of Science and Technology”, Propagation, V3, No.1, pp.18-22, January, 2012.
5. Samir Kr. Saha : “Reports of the Education Commissions in India”, **to be published** in Indian Journal of History of Science, Vol. 47, No.1, March, 2012.
6. S.K. Saha et al. : “Thermodynamics – the different approaches : What do they mean?” **Communicated** to Indian Journal of Technical Education, April, 2012.
7. S.K. Saha & S. Ray – “The need for Study of History & Philosophy of Science & Technology”, Proceedings of the National Seminar on History and Philosophy of Science (47-53 pp) July, 2011, Kolkata, M.C. Chaki Centre for Mathematics & Mathematical Sciences.
8. S.K. Saha, Joyshree Roy et al., “Growing Mobility in India : How sustainable are the new efforts?” Paper presented in the Conference “Subversive Niches : Tracking mobility studies and Transitions in India and Bangladesh” at Kolkata, 28-29 December, 2011 org. by Global Change Programme, J.U.
9. Duke Ghosh, J. Roy, S.K. Saha – “Motorisation of Cycle Vans in India : Analysis of two experiments in West Bengal”, paper accepted for 3<sup>rd</sup> International Conference on sustainability transitions, August 29-31, 2012, Technical University of Denmark.

### **Prof. Dipankar Sanyal**

1. N. P. Mandal, R. Saha, and **D. Sanyal**, 2012, "Effects of flow inertia modelling and valve-plate geometry on swash-plate axial-piston pump performance", Proc. IMechE Part I: J. Systems and Control Engineering, vol. 226, pp.451-465.
2. A. Mukhopadhyay and **D. Sanyal**, Modeling of Evaporation and Combustion of Droplets in a Spray Using the Unit Cell Approach: A Review, *Heat Transfer Engineering*, 33, pp. 375–386, 2012.
3. B. K. Sarkar, P. Mandal, R. Saha, S. Mookherjee, **D. Sanyal**, 2011 "Comparison of a Combined PID Feedforward Controller with a Fuzzy Controller for an Electrohydraulic Actuation System" *38<sup>th</sup> National conference on Fluid mechanics and Fluid Power. MANIT Bhopal, 15<sup>th</sup> -17<sup>th</sup> December.*
4. N. Mondal, R. Saha, and **D. Sanyal**, 2011 "Design Analysis of Aerodynamic Thrust Bearing with Axial and Transverse Loading" *38<sup>th</sup> National conference on Fluid mechanics and Fluid Power. MANIT Bhopal, 15<sup>th</sup> -17<sup>th</sup> December.*
5. B. Halder, R. Saha, and **D. Sanyal**, 2011, "Control-Integrated Design by Theoretical Simulation for a Torque-Actuated 6-SBU Stewart Platform", *Proceedings of Second International Joint Conference on Advances in Engineering and Technology - AET 2011, December 20-21, Noida, India (Best Paper).*

### **Prof. Gautam Sutradhar**

1. Rabindra Behera, S Kayal, D Chatterjee, G. Sutradhar, "Solidification behavior and forgeability of stir-cast aluminum alloy metal matrix composites", Published in the Canadian Journal of pure & applied Sciences: An International Journal , vol. 5, No 2, June-2011.
2. Rabindra Behera, S. Kayal & G. Sutradhar, "Solidification behavior and detection of hotspots in aluminium alloy castings: Computer aided analysis and experimental validation". Pulished in International Journal of Applied Engineering Research, Dindigul, Vol.1, No 4, 2011.
3. T. Nandi, R. Behera, K. Majumdar & G. Sutradhar "Investigation on the solidification behavior of aluminium alloy casting by using computer aided simulation software". (Accepted in Metal Casting Technology, an International journal, Australia).
4. T Nandi , R. Behera , S kayal , A Chanda , G. Sutradhar "Study on Solidification Behavior of Aluminium alloy (LM6) Castings by using Computer aided Simulation software" Published in International Journal of Engineering Research and Applications (IJERA) Vol. 1, Issue 2, pp.157-164.
5. Rabindra Behera, S. Das, D. Chatterjee, G. Sutradhar, "Forgeability and Machinability of Stir Cast Aluminum Alloy Metal Matrix Composites "Journal of minerals & materials characterization & Engineering, Vol. 10, No. 10, pp 923-939, 2011.
6. Rabindra Behera, D. Chatterjee and G. Sutradhar "Machinability of LM6/SiCp metal matrix composites with tungsten carbide cutting tool inserts", ARPN Journal of Engineering and Applied Sciences, VOL. 7, NO. 2, FEBRUARY 2012, ISSN 1819-6608.
7. Rabindra Behera, Nihar Ranjan Mohanta, G. Sutradhar, "Distribution of SiC particulates in stir cast Aluminium alloy Metal matrix composites and its effect on mechanical properties" International Journal of Emerging trends in Engineering and Development ISSN 2249-6149 Issue 2, Vol.1 (January-2012).
8. Rabindra Behera, D Chatterjee, G Sutradhar, "Effect of reinforcement particles on the fluidity and solidification behavior of the stir cast aluminum alloy metal matrix composites", American Journal of Materials Science, p-ISSN: 2162-9382 e-ISSN: 2162-8424, 2012; 2(3): 53-61, doi: 10.5923/j.materials.20120203.04.

9. Sourav Ghosh, G.Sutradhar, P.Sahoo, "Wear performance of Al-5% SiC metal matrix composite using Taguchi method", Vol 2, No. 1, 2011, pp 33-40
10. Sujit Das, R. Behera, G. Majumdar, B. Oraon, G. Sutradhar "An experimental investigation on the machinability of powder formed silicon carbide particle reinforced aluminium metal matrix composites", International Journal of Scientific & Engineering Research Volume 2, Issue 7, July-2011, ISSN 2229-5518.
11. Sourav Kayal, Rabindra Behera and G Sutradhar "Effect of SiCp on fluidity of the LM6/SiCp metal matrix composites" International journal of emerging trends in engineering and development (IJETED).
12. Sourav Kayal, R. Behera, Nandi. T, and Sutradhar. G "Solidification behavior of stir cast Al alloy metal matrix composites" International journal of applied engineering research, DINDIGUL, Volume 2, No 2, 2011.

#### **Prof. Gautam Pohit**

1. Chatterjee, S., and Pohit, G., "Squeeze-film damping characteristics of cantilever micro-resonators under large electrostatic loading", *Mechanics of Advanced Materials and Structures*, 19:1-12, 2011.
2. Chatterjee, S., and Pohit, G., "Dynamics of electrostatically actuated micro-cantilevers under primary and superharmonic excitations", In Press, *Proceedings of the Institution of Mechanical Engineers, Part C, Journal of Mechanical Engineering Science*.
3. Kumar K. and Pohit, G., "Virtual Manufacturing of various types of Gears and the validation of the technique using Rapid Prototype." *Virtual and Physical Prototyping*, Vol. 7, No. 2, 2012, pp. 153-171.
4. Kumar K, and Pohit, G., "Virtual Manufacturing of Bevel Gear," *Proceedings of National Seminar ETME-2011*, pp. 198-209.
5. Jena, P. C., Parhi, D. R. and Pohit, G., "Study of faults detection of a single cracked beam through various techniques", *International Journal of Applied Artificial Intelligence in Engineering System*, Vol. 4, No. 1, 2012, pp. 51-58.

#### **Asish Bandyopadhyay**

1. Application of Taguchi-based gray relational analysis for evaluating the optimal laser cladding parameters for AISI1040 steel plane surface, 2012, *Int. J. of Adv. Manu. Tech.*, (published on line).
2. Multi-Attribute Group Decision Making for Supplier Selection Using Grey Analysis and Rough Set Theory, *Int. J of Business Insights and Transformation*, 2012, Vol 5, Issue 1, pp 60-70.
3. Ni-Cr-Mo Cladding on Mild Steel Plane Surface using High Power CO<sub>2</sub> Laser and Process Modeling with Response Surface Methodology(RSM), *International Journal of Engineering and Technology (IJEST)*, Vol.3 No.8 August 2011, pp 6805-6816.
4. Multi-objective optimization in laser cladding process using Utility Theory coupled with Taguchi Method, *International Journal of Advances in Science and Technology*, Vol. 4, No.3, 2012, pp-67-74

#### **Sujit Ghosal**

3. Kerf quality prediction and optimisation for pulsed Nd:YAG laser cutting of aluminium alloy sheets using GA-ANN hybrid model, Sudipto Chaki, Sujit Ghosal and Rabi Bath, *Int. J.*

*Mechatronics and Manufacturing Systems*- Special Issue on Lasers in Manufacturing, vol. 5, Nos. 3/4, pp 263-279, 2012

- Analytical Hierarchy Process & Scoring Model in Assessing Institutional Performance- A comparative Case Study, "The Alternative"-, *Sukanta kr. Naskar, Sujit Ghosal and Dipankar Bose*, Journal of Management Studies and Research, BIT, Mesra, ISSN 0973-0451, vol. XI, No.1, pp 5-27
- Application of an optimized SA-ANN hybrid model for parametric modeling and optimization of LASOX cutting of mild steel, *Sudipto Chaki and Sujit Ghosal*, J Production Engineering Research and Development, Springer, 2011, Vol 5, Issue 3, pp 251-2626. Optimisation of kerf Quality During Pulsed Nd-YAG Laser Cutting of Aluminium Alloy Sheet, *Sudipto Chaki and Sujit Ghosal*, Int. Virtual J. for Science, Technics and Innovations for Industries, Scientific-technical Union of Mechanical Engineering, 2011, 2012 8-11,ISSN 1313-0226-8-11
- AHP IN ASSESSING PERFORMANCE OF DIPLOMA INSTITUTES – A CASE STUDY, *Sukanta kr. Naskar, Sujit Ghosal and Dipankar Bose*, Journal of Technical Education and Training (JTET), Vol. 3, No.2| December 2011| ISSN 2229-8932 | 67-81 **Name of the Teacher: Prof. Swarnendu Sen**
- Shear Viscosity Enhancement in Water-nanoparticle Suspensions; B. Ganesh, S. Sen, I.K. Puri; Physics Letter A; Vol-376, 860-863, 2012.12. Effects of Inlet Conditions on Dynamics of a Thermal Pulse Combustor, S. Mondal, A. Mukhopadhyay, S. Sen; Combustion Theory and Modelling. Vol-16, 59-74, 2012.13. Characterization of a Ferrofluid-based Thermomagnetic Pump for Microfluidic Applications; S Pal, A. Datta, S. Sen, A. Mukhopadhyay, K. bandyopadhyay, R. Ganguly; Journal of magnetism and Magnetic Materials; Vol-323, 2701-2709, 2011.14. Prediction of Size and Velocity Distributions in Sprays Formed by the Breakup of Planar Liquid Sheets using Maximum Entropy Formalism; S. Nath, A. Datta, A. Mukhopadhyay, S. Sen, T. J. Tharakan; Atomization and Sprays; Vol-21, 483-501, 2011

### **Prof. Achintya Mukhopadhyay**

- N. Bis ps using Quadrature Method of Moments, *Atmospheric Research*, Vol.106, 61 – 70, 2012.
- S. Mondal, A. Mukhopadhyay and S. Sen, Effects of Inlet Conditions on Dynamics of a Thermal Pulse Combustor, *Combustion Theory and Modelling*, Vol.16, pp. 59 – 74, 2012
- A. Mukhopadhyay and D. Sanyal, Modeling of Evaporation and Combustion of Droplets in a Spray using Unit Cell Approach: A Review, *Heat Transfer Engineering*, Vol. 33 pp. 375 – 386, 2012.
- S. Nath, A. Datta, A. Mukhopadhyay, S. Sen and T.J. Tharakan, Prediction of Size and Velocity Distributions in Sprays Formed by the Break Up of Planar Liquid Sheets using Maximum Entropy Formalism, *Atomization and Sprays*, 21, 483 - 501, 2011.
- S.Pal, A. Datta, S. Sen, A. Mukhopadhyay, K. Bandyopadhyay and R. Ganguly, Characterization of a Ferrofluid-based Thermomagnetic Pump for Microfluidic Applications, *Journal of Magnetism and Magnetic Materials*, 323, 2701 – 2709, 2011.
- S. Banerjee, A. Mukhopadhyay, S. Sen and R. Ganguly, Effects of Magnetization Saturation on Thermomagnetic Convection in a Locally Heated Square Enclosure, *Numerical Heat Transfer Part A: Applications*, Vol. 59, pp. 693 - 718, 2011.

### **Prof. Prasanta Sahoo**

#### **Referred Journals**

- Ghosh, S., Sahoo, P. and Sutradhar, G., Friction performance of Al-10%SiCp metal matrix composites using Taguchi method, *ISRN Tribology*, 2012, ID 386861 (in press)

2. Roy, S and Sahoo, P., Friction performance optimization of chemically deposited Ni-P-W coating using Taguchi method, ISRN Tribology, 2012, ID 136740 (in press)
3. Sahoo, P., Barman, T. K. and Routara, B. C., Grey-based Taguchi analysis of cylindrical grinding process parameters with multiple roughness characteristics, International Journal of Production and Quality Engineering, 2012 (in press).
4. Roy, S and Sahoo, P., Optimization of multiple roughness characteristics of chemically deposited Ni-P-W coating using weighted principal component analysis, ISRN Mechanical Engineering, 2012, ID 495857, in press.
5. Chatterjee, B and Sahoo, P, Finite element based unloading of an elastic plastic spherical stick contact for varying tangent modulus and hardening rule, International Journal of Surface Engineering and Interdisciplinary Materials Science, 2012, in press.
6. Chatterjee, B and Sahoo, P, Unloading of an elastic plastic spherical stick contact under varying strain hardening-A finite element study, International Journal of Materials, Manufacturing and Design, 2012, in press.
7. Sahoo, P., Loading and unloading characteristics of rough surfaces in presence of soft coatings and adhesion, International Journal of Materials, Manufacturing and Design, 2012, in press.
8. Ghosh, S. and Sahoo, P., Friction behaviour of medium leaded brass UNS C34000 against steel using Taguchi method, International Journal of Materials, Manufacturing and Design, 2012, in press.
9. Roy, S and Sahoo, P., Potentiodynamic polarization behavior of electroless Ni-P-W coatings, ISRN Corrosion, 2012, ID 914867, 1-11.
10. Mitra, A., Sahoo, P. and Saha, K. N., Large displacement of crossbeam structure through energy method, International Journal of Automotive & Mechanical Engineering, 2012, 5, 520-544.
11. Mitra, A., Sahoo, P. and Saha, K. N., Forced vibration analysis of cross stiffened plates with simply supported boundary condition, Advances in Vibration Engineering, 2012, 12 (3) (in press)
12. Bhowmik S, Sahoo P, Acharyya S K, Chattopadhyay J and Dhar S, Application and comparative study of the master curve methodology for fracture toughness characterization of 20MnMoNi55 steel, Materials and Design, 2012, 39, 309-317.
13. Chatterjee, B and Sahoo, P, Effect of strain hardening on elastic-plastic contact of a deformable sphere against a rigid flat under full stick contact condition, Advances in Tribology 2012, ID 472794, 1-8.
14. Mitra, A, Sahoo, P and Saha K N, Effect of In-plane Boundary Conditions on Forced Vibration Analysis of Stiffened Plates with a Free Edge, Journal of Vibration and Control 2012 (in press) doi:10.1177/1077546311430106
15. Das, D, Sahoo, P and Saha K N, A numerical analysis of large amplitude beam vibration under different boundary conditions and excitation patterns, Journal of Vibration and Control 2011(in press) doi:10.1177/1077546311429147
16. Mitra, A., Sahoo, P. and Saha, K.N., Nonlinear vibration analysis of simply supported stiffened plates by a variational method, Mechanics of Advanced Materials and Structures, (in press) DOI:10.1080/15376494.2011.627640
17. Barman, T. K. and Sahoo, P., Prediction of fractal dimension in cylindrical grinding of brass using ANN, Journal of Machining and Forming Technologies, 2012, 4 (1-2) tbd-tbd.



18. Das, D, Sahoo, P and Saha K N, Dynamic analysis of rotating annular disk of variable thickness under uniform axial pressure, *International Journal for Computational Methods in Engineering Science & Mechanics*, 2012, 13, 37-59.
19. Chatterjee, B and Sahoo, P, Elastic-plastic Contact of a Deformable Sphere against a Rigid Flat for Varying Material Properties under Full Stick Contact Condition, *Tribology in Industry*, 2011, 33(4), 164 -172.
20. Das, S. K. and Sahoo, P., Electrochemical impedance spectroscopy of Ni-B coatings and optimization by Taguchi method and Grey relational analysis, *Portugaliae Electrochimica Acta*, 2011, 29(4), 211-231.
21. Das, S. K. and Sahoo, P., Study of Potentiodynamic Polarization Behaviour of Electroless Ni-B Coatings and Optimization using Taguchi Method and Grey Relational Analysis, *Journal of Minerals & Materials Characterization & Engineering*, 2011, 10(14), 1307-1327.
22. Ghosh, S., Sutradhar, G. and Sahoo, P., Wear performance of Al-5%SiC metal matrix composite using Taguchi method, *Journal of Tribology Research*, Vol 2, No1, 2011, 33-40.
23. Roy, S., Das, S. K., Pal, S. K. and Sahoo P., Friction performance optimization of electroless Ni-P coating, *Journal of Tribology Research*, Vol 2, No1, 2011, 41-50.
24. Sahoo, P. and Ghosh, S., Tribological behavior of aluminium metal matrix composites – a review, *Journal of Tribology Research*, Vol 2, No1, 2011, 1-14.
25. Chatterjee, B. and Sahoo, P., Finite element study of elastic-plastic hemispherical contact behavior against a rigid flat under varying contact conditions and material properties, *Journal of Tribology Research*, Vol 2, No1, 2011, 23-31.
26. Das, S. K. and Sahoo, P., Fractal characterization of electroless Ni-B coating and optimization of coating parameters, *International Journal of Computational Material Science and Surface Engineering* 2011, 4(4), 326-346.
27. Bhowmik, S., Chattopadhyay, A., Bose, T., Acharyya, S. K., Sahoo, P., Chattopadhyay, J., Dhar, S., Estimation of fracture toughness of 20MnMoNi55 steel in the ductile to brittle transition region using master curve method, *Nuclear Engineering and Design*, 2011, 241(8), 2831-2838.
28. Sahoo, P., Optimization of turning parameters for surface roughness using RSM and GA, *Advances in Production Engineering & Management*, 2011, 6 (3), 197-208.
29. Sahoo, P. and Routara, B. C., Multi-objective optimization for surface roughness in CNC turning of brass using Response surface method, *International Journal of Production and Quality Engineering*, 2011, 2(1), 43-48.
30. Mitra, A., Sahoo, P. and Saha, K.N., A multi asperity model of contact between a smooth sphere and a rough flat surface in presence of adhesion, *Tribology in Industry*, 2011, 33 (1), 3-10.
31. Mitra, A., Sahoo, P. and Saha, K.N., Large amplitude dynamic analysis of stiffened plates with free edges, *Journal of Mechanics of Materials and Structures*, 2011, 6 (6), 883-914.
32. Das, S. K. and Sahoo, P., Optimization of Tribological Performance of Electroless Ni-B Coating using Taguchi Method and Grey Relational Analysis, *Tribology - Materials, Surfaces & Interfaces*, 2011, 5 (1), 16-24.
33. Mitra, A., Sahoo, P. and Saha, K. N., Free vibration analysis of initially deflected stiffened plates for various boundary conditions, *Journal of Vibration and Control* 2011, 17(14), 2131-2157.
34. Das, S. K. and Sahoo, P., A parametric investigation of the friction performance of electroless Ni-B coatings, *Lubrication Science*, 23 (2), 2011, 81-97.

35. Das, S. K. and Sahoo, P., Tribological characteristics of electroless Ni-B coating and optimization of coating parameters using Taguchi based Grey relational analysis, *Materials and Design*, 32, 2011, 2228-2238.
36. Sahoo, P. and Das, S. K., Tribology of Electroless Nickel Coatings – A Review, *Materials and Design*, 32, 2011, 1760-1775.
37. Das, S. K. and Sahoo, P., Characterization of friction behaviour of electroless Ni-B coatings and optimization of coating parameters, *Journal of Manufacturing Technology Research*, 3(1-2), 2011.
38. Mitra, A., Sahoo, P. and Saha, K. N., Large amplitude forced vibration analysis of stiffened plates under harmonic excitation, *International Journal of Materials, Manufacturing and Mechanical Engineering*, 2011, 1(2), 62-98
39. Das, S. K. and Sahoo, P., Roughness optimization of electroless Ni-B coatings using Taguchi method, *International Journal of Materials, Manufacturing and Mechanical Engineering*, 2011, 1(3), 53-71.
40. Das, S. K. and Sahoo, P., Optimization of electroless Ni-B coatings based on multiple roughness characteristics, *Journal of Tribology and Surface Engineering*, 2011, 2 (1-2), 85-106.
41. Sahoo, P., Mitra, A. and Saha K.N., Elastic adhesive contact of rough surfaces based on multiple-point asperity model, *Journal of Tribology and Surface Engineering*, 2011, 2 (1-2), 1-20.
42. Barman, T. K. and Sahoo, P., ANN modeling of fractal dimension in grinding of mild steel and comparison with response surface model, *Journal of Mechatronics and Intelligent Manufacturing*, 2011, 2 (1-2), 41-52.

#### **Conference Proceedings**

1. Bhowmik, S., Sahoo, P., Acharyya, S. K., Dhar, S., Effect of thickness, geometry and microstructure on fracture toughness for 20MnMoNi55 steel, *Nat Symposium on Fatigue, Fracture and Integrity Assessment (FFIA) May 4-5, 2012, Jamshedpur*, p. 47.
2. Ghosh S, Sahoo P and Sutradhar G, Optimization of Tribological properties of Al-5%SiC using Taguchi Method, *Proc. National conference on Advances in Simulation & Optimization Techniques in Mechanical Engineering, Feb 18-19, 2012, Bhubaneswar, Nasome12-CP07*
3. Ghosh S and Sahoo P, Friction behaviour of medium leaded brass UNS C34000 against steel using Taguchi Method, *Proc. National conference on Advances in Simulation & Optimization Techniques in Mechanical Engineering, Feb 18-19, 2012, Bhubaneswar, Nasome12-CP06*
4. Roy S and Sahoo P, Hardness Optimization of Electroless Ni-P-W Coating by Taguchi Technique, *Proc. National conference on Advances in Simulation & Optimization Techniques in Mechanical Engineering, Feb 18-19, 2012, Bhubaneswar, Nasome12-CP02*
5. Das M K, Kumar K, Barman T K and P Sahoo, Modeling and analysis of process parameters on MRR in EDM of EN 31 tool steel using response surface methodology, *Proc. National conference on Advances in Simulation & Optimization Techniques in Mechanical Engineering, Feb 18-19, 2012, Bhubaneswar, Nasome12-CP01*.
6. Bhowmik, S., Chattopadhyay, A., Acharyya, S. K., Sahoo, P., Dhar, S., Chattopadhyay, J., Application of Master Curve methodology in the ductile to brittle transition region for the material 20MnMoNi55 steel, *21<sup>st</sup> International Conference on Structural Mechanics in Reactor Technology (SMiRT), New Delhi, 2011, Div II, Paper ID 238, pp 1-8*.
7. Barman, T K and Sahoo, P., Prediction of fractal dimension in aluminium milling using artificial neural network, *Proc. International Conference in Mechanical Engineering (ICME) Dhaka 2011, ICME11-AM-045*.

8. Mitra, A., Sahoo, P. and Saha, K. N., Theoretical and experimental study on bending of simply supported overhang beam, Proc. International Conference on Computational Methods in Manufacturing (ICMM) Guwahati, 2011, 420-425.
9. Chatterjee, B. and Sahoo, P., Effect of strain hardening on unloading of a deformable spherical contact under stick contact condition – A finite element study, Proc. International Conference in Mechanical Engineering (ICME) Dhaka 2011, ICME11-AM-029.
10. Mitra, A., Roy, D., Sahoo, P. and Saha, K. N., Experimental study and numerical analysis on vibration characteristics of simply supported overhang beam under large deformation, Proc. International Conference in Mechanical Engineering (ICME) Dhaka 2011, ICME11-AM-003.
11. Roy, S. and Sahoo, P., Electroless Ni–P–W coating: Preparation and characterization, Proc. International Conference in Mechanical Engineering (ICME) Dhaka 2011, ICME11-RT-014.
12. Bhowmik, S., Sahoo, P., Acharyya, S. K. and Chattopadhyay, J., Direct measurement of  $J_c$  from the load versus load-line displacement data for 20MnMoNi55 steel, Proc. International Conference in Mechanical Engineering (ICME) Dhaka 2011, ICME11-AM-008.
13. Chatterjee, B. and Sahoo, P., Unloading of an elastic plastic spherical stick contact under varying strain hardening-A finite element study, Proc. National Tribology Conference (NTC) Roorkee 2011, NTC1104, pp. 1-8.
14. Ghosh, S., Sahoo, P. and Sutradhar, G., Study of friction performance of Al-10% SiC metal matrix composite using Taguchi method, Proc. International Conference in Mechanical Engineering (ICME) Dhaka 2011, ICME11-AM-027.
15. Ghosh, S., Behera, R., Sutradhar, G. and Sahoo, P., Optimization of wear behaviour of Al-10%SiC metal matrix composite using Taguchi method, Proc. National Conference on Industrial Engineering, Kolkata, 2011, paper no. MMT2, pp. 1-5.
16. Mitra, A., Sahoo, P. and Saha, K. N., Nonlinear dynamic analysis of stiffened plates under different loading patterns, Proc. International Conference on Emerging Trends in Mechanical Engineering (ICETME), Patiala, 2011

#### **Prof. Buddhadeb Oraon**

1. Predicting electroless Ni-Co-P coating using Response Surface Method , B. Oraon, International Journal of Advanced Manufacturing Technology, Date of Publication: 04.04.2012, Volume : Accepted (Volume No. not assigned till date).

#### **Prof. Sudipta De:**

1. Barman, N.S., Ghosh, S. and De, S. (2012): "Gasification of biomass in a fixed bed downdraft gasifier – A realistic model including tar", **Bioresource Technology (Elsevier)**, 107, 505-511.
2. Majoumerd, M.M., De, S., Assadi, M. and Breuhaus, P., (2012): "An EU initiative for future generation of IGCC power plants using hydrogen-rich syngas: simulation results for the baseline configuration", **Applied Energy (Elsevier)**, 99, 280-290.

#### **Prof. Pradip Kumar Pal**

1. Ramesh Rudrapati, **Pradip kumar Pal** and Asish Bandyopadhyay "Multi - objective optimization in traverse cut cylindrical grinding process", Published in the international journal: **Advanced Materials, Manufacturing & Characterization**, Volume 3, Issue 1, 2013, pp. 335 – 33
2. John Deb Barma, Asish Bandyopadhyay and **Pradip Kumar Pal.:** "Parametric optimization of transmission laser welding process applying Taguchi method", Published in **Advanced Materials**

**Research** Volumes. 622-623 (2013) pp. 294-298, Online available since 2012/Dec/27 at [www.scientific.net](http://www.scientific.net)

3. Subrata Mondal, Bipan Tudu, Asish Bandyopadhyay, **Pradip K. Pal**, "*Optimal solution investigation in laser cladding operation through genetic algorithm approach*", Published in **International Journal of Computational Engineering Research (IJCER)**, ISSN: 2250–3005, Jan-Feb 2012, Volume. 2, Issue No.1, pp.-018-024
4. Subrata Mondal, John Deb Barma, Christ P. Paul, Asish Bandyopadhyay and **Pradip Kumar Pal**: "*Multi objective optimization in laser cladding operation using utility theory coupled with Taguchi method*"; Accepted in March, 2012, Published in **Int. Journal of Advances in Science and Technology (IJAST)**, pp.67-74
5. Subrata Mondal, C. P. Paul, L.M. Kukreja, Asish Bandyopadhyay, **Pradip Kumar Pal** "*Application of Taguchi based Grey Relational Analysis for evaluating the optimal Laser Cladding parameters for AISI1040 steel plane surface*", **International Journal of Advanced Manufacturing Technology (IJAMT)**, DOI 10.1007/s00170-012-4308-8
6. Ramesh Rudrapati, **Pradip kumar Pal** and Asish Bandyopadhyay "*Modeling of surface roughness in cylindrical grinding*" Published in **International Journal of Machining and Machinability of Materials**, Volume 12, Nos ½ , 2012, pp 28-36
7. **Pradip Kumar Pal**, Asish Bandyopadhyay and Tathagata Bhattacharya: "*Energy analysis in TIG welding process*", accepted for the journal **JMSP, Germany**, (Copyright © 2012 De Gruyter. DOI 10.1515/jmsp-2012-0010 Volume 12)
8. Ramesh Rudrapati, **Pradip Kumar Pal** and Asish Bandyopadhyay, "*Prediction of surface roughness in cylindrical grinding of glass fibre reinforced epoxy composite material using factorial design and response surface methodology*" International Journal of Advanced Manufacturing Technology, @Springer-Verlag London Limited, 2013 (**Under review**).
9. Nabendu Ghosh, **Pradip Kumar Pal**, Goutam Nandi and Ramesh Rudrapati: "*Experimental investigation of TIG welding of austenitic stainless steel with change in composition of filler material*" presented and published in the proceedings of **National conference on recent trends in manufacturing science & technology RTMST – 2013**, held at National Institute of Technical Teachers' Training & Research NITTTR, Kolkata during April 18-19, 2013, pp. 27-35
10. Tathagata Bhattacharyya, Asish Bandyopadhyay, **Pradip Kumar Pal**, : "*An investigation of temperature distribution of an ERW pipe during TIG welding*", **presented** and published in the proceedings of **National conference on recent trends in manufacturing science & technology RTMST – 2013**, held at National Institute of Technical Teachers' Training & Research : NITTTR, Kolkata during April 18-19, 2013, pp. 92-103
11. Ramesh Rudrapati, Asish Bandopadhyay, **Pradip Kumar Pal**; "*Determining the effect of grinding parameters on surface roughness in traverse cut cylindrical grinding using Taguchi method*": presented and published in the proceedings of **National conference on recent trends in manufacturing science & technology RTMST – 2013**, held National Institute of Technical Teachers' Training & Research NITTTR, Kolkata during April 18-19, 2013, pp. 114-124.
12. Ramesh Rudrapati, **Pradip kumar Pal** and Asish Bandyopadhyay "*Selection of an optimal parametric condition for achieving better surface finish and minimum vibration in cylindrical grinding process using grey relation analysis*", Proceedings of the **International Conference on Production and Industrial Engineering (CPIE-2013)**. NIT Jalandhar, 29-31 March 2013, pp. 852-858

13. Subrata Mondal, Asish Bandyopadhyay, **Pradip Kumar Pal** " *Multi-response optimization of laser cladding process using PCA based taguchi method*", Published in the Book of Abstracts, **4<sup>th</sup> International & 25<sup>th</sup> All India Manufacturing Technology, Design and Research conference (AIMTDR 2012)**, December 10-13, 2012, pp.86
14. S. Chatterjee and **P. K. Pal**, " *The slaughter house waste management*" Published in Sustainable waste management – municipal, industrial and agricultural ( Proceedings of the **International conference on solid waste management – IconSWM 2012**, held during July 30 – August 01, 2012, Mysore, pp. 759-765.
15. Benoy Kumar Biswas, Asish Bandyopadhyay and **Pradip Kumar Pal**: " *A study of weld quality in flux cored arc welding*" **4<sup>th</sup> International & 25<sup>th</sup> All India Manufacturing Technology , Design and Research Conference -AIMTDR 2012** ( held in Dec., 2012) Vol. 1, pp. 96 -101
16. Das, Soumen; Ghosh, Prabir Kumar; **Pal, Pradip Kumar** and Ghosh Nabendu," *Investigation of surface finish and vibration in gear hobbing*": Abstract accepted and included in the Book of Abstracts, **4<sup>th</sup> International & 25<sup>th</sup> All India Manufacturing Technology , Design and Research Conference( AIMTDR 2012)**
17. **Pal, Pradip Kumar**; Ghosh, Nabendu; Ghosh, Prabir Kumar and Jaiswal, Nawnit: " *Surface roughness in traverse cut cylindrical grinding of phosphor bronze – some experiments and analyses*", Abstract accepted and included in the Book of Abstracts, **4<sup>th</sup> International & 25<sup>th</sup> All India Manufacturing Technology , Design and Research Conference( AIMTDR 2012)** pp.565
18. Biswas, B. K., Bandyopadhyay, A. and **Pal, P. K.**, "Effect of Welding Parameters of Flux Cored Arc Welding on Deposition Rate", Conference on Challenges of Basic Research in Innovating Technologies CBRIT 2013, May 2013
19. Biswas, B. K., Bandyopadhyay, A. and **Pal, P. K.**, " *A Study on Quality of Weld in Flux Cored Arc Welding Process* ", International Journal of Precision Technology – communicated and under review
20. Ramesh Rudrapati, Asish Bandyopadhyay, **Pradip kumar Pal**. " *Application of RSM based simulated annealing algorithm approach for minimization of surface roughness in cylindrical grinding using factorial design*" International Conference on Advanced Engineering Optimization through Intelligent Techniques, SVNIT Surat, 1-3 July, 2013, pp.305-309
- 21, Ramesh Rudrapati, **Pradip Kumar Pal** and Asish Bandyopadhyay. " *Multi-objective optimization of traverse cut cylindrical grinding process using factorial design and desirability function approach*", International Conference on Mechanical Engineering (ICME-2013), Bangladesh University of Engineering and Technology (BUET), Dhaka, Bangladesh (**Communicated**)
22. Nikhil Kumar, **Pradip Kumar Pal** and Ramesh Rudrapati. Parametric optimization of through transmission laser welding of plastics. International Conference on Smart Technologies for Mechanical Engineering (STME-2013), Delhi College of Engineering, Delhi (**Communicated**).

#### **Dr Tarun Kumar Naskar**

1. **T. K. Naskar** and R. Mishra, Introduction of control points in B-splines for synthesis of ping finite optimized cam motion program, Journal of Mechanical Science and Technology, 26 (2) (2012) 489-494.
2. Suparno Bhattacharyya and **Tarun Kanti Naskar**, Analysis of the Effect of Number of Knots in a Trajectory on Motion Characteristics of a 3R Planar Manipulator, International Journal of Mechanical and Industrial Engineering (IJMIE), ISSN No. 2231 –6477, 1 (2)(2011) 51-56.

3. S. Bhattacharyya and **T. K. Naskar**, Analysis of the effect of number of knots in a trajectory on motion characteristics of 3R planar manipulator, International Conference on Computational Vision and Robotics, 13-14 August, 2011, IIMT, Bhubaneswar.
4. S. Bhattacharyya and **T. K. Naskar**, Effect of number of knots in a polynomial trajectory on motion characteristics of robotic planar manipulator, International Conference on Mechanical Engineering (ICME 2011), 19-21 December, 2011, BUET, Dhaka, Bangladesh
5. T.K.Naskar and R. Mishra., "Introduction of control points in B-splines for synthesis of ping finite optimized cam motion program", Journal of Mechanical Science and Technology 26(2)(2012) 489-494.
6. Ruby Mishra, T.K.Naskar, S.K. Acharya., "Synthesis of 4R path generating chain with multiple joint clearances using DE algorithm", International Journal of Engineering Science and Technology, Vol.4.No.12.December 2012.
7. Ruby Mishra, T.K.Naskar, Sanjib Acharya., "Synthesis of coupler curve of a four bar linkage with joint clearances", International Journal of Engineering Research and Applications, Vol. 3, Jan-Feb 2013, pp.1193-1199.
8. Ruby Mishra, T.K.Naskar, Sanjib Acharya., "Synthesis of flexible 4-bar linkage considering deformation" International Journal of Engineering Research and Applications, accepted.
9. Ruby Mishra, T.K.Naskar, and Sanjib Acharya, "Path synthesis of 4-bar linkages with joint clearances using DE algorithm", Proceedings of the National Conference on Trends and Advances in Mechanical Engineering, YMCA University of science and Technology, Faridabad, Oct, 2012.
10. Ruby Mishra, T.K.Naskar and Sanjib Acharya., "Synthesis of 4-bar linkages with joint clearances using DE algorithm". Conference Proceedings: NASOME 2012, KIIT University BBSR.
11. Harsh Nahata and Tarun Kanti Naskar, Graphical assessment of workspace of a 6-axis robotic manipulator, Accepted in International Conference on Recent Trends in Mechanical Engineering, 16 November, 2013.

#### **Dr. Snehamoy Majumder**

1. Pritam Das, Debajit Saha and **Snehamoy Majumder**, "Turbulent Fluid Flow Analysis In A Circular Axi-symmetric Duct Having Closed Inlet With Side Jet Flow", *International Journal of Engineering Science and Technology*, Vol. 3, No. 7, July, 2011, pp. 5578-5592.
2. Bhattacharjee, S., Debnath, R., Roy, D. and **Majumder, S.**, 2011 " An Experimental Study On Turbulent Flow through a Two Dimensional Rectangular Diffuser", *Journal of The Institution of Engineers, India*, vol. 92, July, pp. 3-7.

#### **Dr Dipak Laha**

1. **Laha, D.** and Chakravorty, A. (2011) A new heuristic for minimizing total completion time objective in permutation flow shop scheduling. *International Journal of Advanced Manufacturing Technology* (Springer), **53**, 1189-1197.
2. **Laha, D.** and Sapkal, S. U. (2011) An efficient heuristic algorithm for m-machine no-wait flow shops. *Lecture notes in Engineering and Computer Science*, **2188**, 132-136.
3. Sapkal, S. U. and **Laha, D.** (2011) An improved scheduling heuristic algorithm for no-wait flow shops on total flow time criterion. *Proceedings of 3<sup>rd</sup> International Conference on Electronics Computer Technology*, **3**, 159-163.

4. Sapkal, S. U. and **Laha, D.** (2011) Comparison of initial solutions of heuristics for no-wait flow shop scheduling. *Communications in Computer and Information Science, CCIS (Springer)*, **250**, 294-298.
5. Sapkal, S. U. and **Laha, D.** (2012) Application of VAM to manufacturing scheduling problems. *Advanced Materials Research*, **488-489**, 578-582.
6. **Laha, D.** Ghosh, I., Dan, P. K. and Sapkal, S. U. (2012) An improved immune algorithm for manufacturing scheduling. *Advanced Materials Research*, **488-489**, 1109-1113.
7. Sapkal, S. U. and **Laha, D.** (2012) Variants of no-wait flow shop scheduling: a survey. *Proceedings of 4<sup>th</sup> International and 25<sup>th</sup> All India Manufacturing Technology, Design & Research Conference, AIMTDR 2012 (Accepted)*.
8. **Laha, D.** (2012) A simulated annealing heuristic for minimizing makespan in identical parallel machine scheduling. *LNCS (Springer) (Accepted)*

#### **Journals:**

4. Laha, D., Gupta, J. N. D. and Sapkal, S. U. (2013) A penalty-shift-insertion based algorithm to minimize total flow time in no-wait flow shops. *Journal of the Operational Research Society*, DOI: 10.1057/jors.2013.118.
5. Sapkal, S. U. and Laha, D. (2013) A heuristic for no-wait flow shop scheduling. *International Journal of Advanced Manufacturing Technology*, 68 (5-8), 1327-1338.
6. Laha, D. and Sapkal, S. U. (2013) An improved heuristic to minimize total flow time for scheduling m-machine no-wait flow shop. *Computers & Industrial Engineering*, DOI: 10.1016/j.cie.2013.08.026

#### **Conferences:**

3. Laha, D. (2012) A simulated annealing heuristic for minimizing makespan in identical parallel machine scheduling. *LNCS, Springer-Verlag, 7677*, 198-205.
4. Laha, D. and Behera, D. (2013) Improved flow shop schedules with total completion time criterion. *LNCS, Springer-Verlag, 7973*, 258-270.

#### **Dr Arghya Nandi**

1. Vibration attenuation by a combination of a piezoelectric stack and a permanent magnet, A Nandi, S Neogy, S Bhaduri, H Irretier, Publication date 2012/1/1 Journal name : Shock and Vibration, Volume 19 Issue 4, Pages 719-734, Publisher IOS Press.

#### **Dr. Sanjib Kumar Acharyya**

1. S. Bhowmik , P. Sahoo , S.K. Acharyya , J. Chattopadhyay , S. Dhar 2012, "Application and comparative study of the master curve methodology for fracture toughness characterization of 20MnMoNi55 steel", *Materials and Design* ,39 (2012) 309–317
2. Bappa Acherjee, Arunanshu S. Kuar, Souren Mitra, Dipten Misra, Sanjib Acharyya, 2012, "Experimental investigation on laser transmission welding of PMMA to ABS via response surface modeling" *Optics and Laser Technology*, 44 (5) , pp. 1372-1383
3. SHIT, J., DHAR, S., ACHARYYA, S.K., GOYAL. S., 2012. "Modeling of uniaxial ratchetting behavior of SA333 carbon manganese steel", *International Journal of Pressure Vessels and Piping*, 92 , pp. 96-105
4. Bhowmik, S., Chattopadhyay, A., Bose, T., Acharyya. S.K., Sahoo, P., Chattopadhyay, J. and Dhar, S., 2011. Estimation of fracture toughness of 20MnMoNi55 steel in the ductile to brittle transition region using master curve method. *Nuclear Engineering and Design*, 241(8), pp. 2831-2838.

5. Acherjee, B., Misra, D., Bose, D., Acharyya, S., 2011, "Optimal process design for laser transmission welding of acrylics using desirability function analysis and overlay contour plots". *International Journal of Manufacturing Research*, volume 6, issue 1, year 2011, pp. 49 – 61.
6. N. Kumar, D.K. Mandal, S. C. Mondal, S. K. Acharyya, 2011, "Optimization of shell thickness in multilayer pressure vessel and study on effect of number of shells on maximum hoop stress", *International Journal of Engineering Science and Technology (IJEST)* Vol. 3 No. 4 April 2011
7. B. Joadder, J. Shit, S. Acharyya\*, S. Dhar, 2011, " Fatigue Failure of Notched Specimen—A Strain-Life Approach", *Materials Sciences and Applications*, 2011, 2, 1730-1740

#### **Dr. Himadri Chattopadhyay**

- 1 Loha, C., Chatterjee, P.K and Chattopadhyay, H. (2011), Performance of fluidized bed steam gasification of biomass – modeling and experiment, *Energy Conversion and Management*, **52**, 1583-1588.
- 2 Chattopadhyay, H. (2011), Solidification in investment casting process, *J. Advanced Manufacturing Technology*, **55**, 35-38.
- 3 Kadiyala, P.K. and Chattopadhyay, H. (2011), Optimal location of three heat sources on the wall of a square cavity using Genetic Algorithms integrated with Artificial Neural Network, *Int. Comm. Heat Mass Transfere*, **38**, 620–624
- 4 Loha, C., Chattopadhyay, H. and Chatterjee, P.K., (2011), Thermodynamic analysis of hydrogen rich synthetic gas generation from fluidized bed gasification of rice husk, *Energy*, **36**, 4063-4071
- 5 Samanta, S., Chattopadhyay, H. and Godkhindi, M, M. (2011), Modelling the powder-binder separation in injection stage of PIM, *Progress Computational Fluid Dynamics*, **11**, 292-304
- 6 Benim, A.C., Chattopadhyay, H., Navahandi, A. (2011), Computational analysis of turbulent forced convection in a channel with a triangular prism, *Int. J. Thermal Science*, **50**, 1973-1983
- 7 Chattopadhyay, H. and Benim, A.C., (2011), Turbulent Transport Over a Moving Surface due to Impinging Slot Jets, *ASME J. Heat Transfer*, **133**, 104502
- 8 Samanta, S.K, Chattopadhyay, H. and Godkhindi, M, (2011) Thermo-physical characterization of binder and feedstock for single and multiphase flow of PIM 316 L feedstock, *J. Materials Processing Technology*, **211**, 2114-2122.
- 9 Mandal, S. and Chattopadhyay, H. (2011), Studies on Swirl Hole Nozzle using ANOVA, *Int J. Fluid Mechanics Research*, **38**, **509-521**.
- 10 Biswas, G., Chattopadhyay, H. and Sinha, A. (2012), Augmentation of Heat Transfer by Creation of Stream-wise Longitudinal Vortices using Vortex Generators, *Heat Transfer Engineering*, **33**, 506-524.
- 11 Chattopadhyay, H., Kundu, A., Saha, B.K. and Gangopadhyay, T, (2012) Analysis of flow structure inside a spool type pressure regulating valve, *Energy Conversion and Management*, **53**, 196-204
- 12 Loha, C., Chattopadhyay, H. and Chatterjee, P.K. (2012), Simulation of bubbling fluidized bed using different drag models, *Chemical Engineering Science*, **75**, 400-407
- 13 Rawat, M., Das, L.G., Chattopadhyay, H., Neogi, S. (2012), An Experimental Investigation on Thermoelectric Refrigeration System: A Potential Green Refrigeration Technology, *J. Environmental Research Development*, **6**, 1031-1037

#### **Conferences:**



1. Samanta, S., Das, P., Lohar, A., Chattopadhyay, H. Dutta P., Formation of semi solid slurry using cooling slope, accepted for ISHMT-ASME Heat Mass Transfer Conf., 28-30 December, 2011, Chennai
2. Loha., C, Chattopadhyay, H., Karmakar, M. and Chatterjee, P.K., Parametric study and thermodynamic analysis of allothermal biomass gasification in a fluidized bed reactor, accepted for ISHMT-ASME Heat Mass Transfer Conf., 28-30 December, 2011, Chennai
3. Sinha, A., Chattopadhyay, H. and Biswas, G., Heat transfer in a representative module of fin-tube heat exchanger, accepted for ISHMT-ASME Heat Mass Transfer Conf., 28-30 December, 2011, Chennai
4. Kadiyala, P. and Chattopadhyay, H., Enhancement of thermo-hydraulic performance of Laminar thea transfer with twisted tapes, accepted for ISHMT-ASME Heat Mass Transfer Conf., 28-30 December, 2011, Chennai
5. Samanta, S., Das, P., Lohar, A., Chattopadhyay, H. Dutta P, Semisolid forming and the Indian scenario, Indian Foundry Congress, 2-4 March, 2012, Bangalore.

#### **Dr. Himadri Chattopadhyay**

- 14 Biswas, G., Chattopadhyay, H. and Sinha, A. (2012), Augmentation of Heat Transfer by Creation of Stream-wise Longitudinal Vortices using Vortex Generators, *Heat Transfer Engineering* , 33, 506-524.
- 15 Chattopadhyay, H., Kundu, A., Saha, B.K. and Gangopadhyay, T, (2012) Analysis of flow structure inside a spool type pressure regulating valve, *Energy Conversion and Management*, **53**, 196-204
- 16 Loha, C., Chattopadhyay, H. and Chatterjee, P.K. (2012), Simulation of bubbling fluidized bed using different drag models, *Chemical Engineering Science*, **75**, 400-407
- 17 Rawat, M., Das, L.G., Chattopadhyay, H., Neogi, S. (2012), An experimental investigation on thermoelectric refrigeration system: a potential green refrigeration technology, *J. Environmental Research Development*, **6**, 1031-1037
- 18 Das, P., Samanta , S.K., Chattopadhyay, H, Sharma, B.B., Datta, P. (2012) , Effect of Pouring Temperature on Semi Solid Slurry Generation Process in a Cooling Channel, *Acta Metallurgica Sinica*, **25**, 329-339
- 19 Nandi, T. and Chattopadhyay, H. (2012), Simultaneously developing flow in microchannels under pulsating inlet flow condition, *Int. J. Transport Phenomena*, **13**, 111-20.
- 20 Das, P., Samanta , S.K., Chattopadhyay, H, Sharma, B.B., Datta, P. (2012), Microstructural evolution of A356 Al alloy during flow along a Cooling Slope, *Transactions IIM*, **65(6)**, 669-672
- 21 Simlandi , S., Barman, N. and Chattopadhyay , H. (2012), Study on rheological behavior of A356 alloy during solidification in presence of stirring, *Transactions IIM*, **65(6)** , 809-814
- 22 Das, P., Samanta , S.K., Chattopadhyay, H., Barman, N., Datta, P. (2013), Rheological characterization of semi-solid A356 aluminium alloy, *Solid State Phenomena* **192-193**, 329-334
- 23 Simlandi , S., Barman, N. and Chattopadhyay , H. (2013), Study of thixotropic property of A356 alloy in semisolid state, *Solid State Phenomena* **192-193**, 335-340
- 24 Das, P., Samanta , S.K., Chattopadhyay, H, Datta, P. (2013), Studies on rheocasting using cooling slope, *Solid State Phenomena*, **192-193**, 341-346
- 25 Sinha, A., Ashoke Raman, K., A., Biswas, G., Chattopadhyay H. (2013),, Effects of Different Orientations of Winglet Arrays on the Performance of Plate-Fin Heat Exchangers, *Int. J. Heat Mass Transfer*, **57**, 202-214

- 26 Ghosh., A., Barman, N.K., , Chattopadhyay, H. Hloch, S. (2013), A Study on thermal Behaviour during Submerged Arc Welding, *Strojniški vestnik - Journal of Mechanical Engineering*, **59**: 333-338
- 27 Das, P., Samanta , S.K., Chattopadhyay, H, Datta, P. (2013), Eulerian Two Phase Flow Simulation and experimental validation of semisolid slurry generation process using cooling slope, *Materials Science and Technology*, **29**:83-92
- 28 Simlandi , S., Barman, N. and Chattopadhyay , H. (2013), Studies on Transport Phenomena during Continuous Casting of an Al-Alloy in Presence of Electromagnetic Stirring, *Transactions IIM* **66**: 141-146
- 29 Loha, C., Chattopadhyay, H. and Chatterjee, P.K., Euler-Euler CFD modeling of fluidized bed: influence of specular coefficient on hydrodynamic behavior, *Particology (in press)*
- 30 Rawat M.K., Chattopadhyay, H., Neogy, S. (2013) Review on developments of thermoelectric refrigeration and air conditioning systems : a novel potential green R& AC technology, *Int J. Emerging Tech Advanced Engg*, **3**: 362-367
- 31 Ghosh., A., Barman, N.K., , Chattopadhyay, H , Bag, S.(2013), Modeling of Heat Transfer in Submerged Arc Welding Process, *Proc. Instt Mechanical Engineers Pat B J. Engg. Manufacture*,
- 32 Ghosh, A. and Chattopadhyay, H., Mathematical Modeling of Moving Heat Source Shape for Submerged Arc Welding Process, *Advanced Manufacturing Technology, in press*
- 33 Nandi, T. and Chattopadhyay, H. , Numerical Investigations of Simultaneously Developing Flow in Wavy Microchannels under Pulsating Inlet Flow Condition, *Int Comm Heat Mass Transfer*, In press

#### Conferences:

7. Nandi, T., Chattopadhyay, H., Numeicla investigation of microchannel flow under pulsaing inlet, accepted National Conf. for Fluid Mechanics Fluid Power, Surat November 2012
8. Loha, C., Chattopadhyay, H., Numerical simulation of bubble formation in a jetting fluidized bed accepted National Conf. for Fluid Mechanics Fluid Power, Surat November 2012
9. Bit, A., Chattopadhyay, H., Non-newtonian flows in stenosed channel, accepted for Indian Scince Congress, 3-7 January 2013
10. Nandi, T., Chattopadhyay, H, Development of flow and thermal field in wavy microchannels under inlet pulsations, accepted for Indian Scince Congress, 3-7 January 2013
11. Simlandi, S., Barman, N. and Chattopadhyay , H, Rheological Behaviour of Semisolid Alloy Slurry – an Overview, acepetd for Indian Foundry Congress 27-29 January, 2013, Kolkata
12. Rawat M.K., Chattopadhyay, H., Neogy, S Review on developments of thermoelectric refrigeration and air conditioning systems : a novel potential green R& AC technology, International Conference on Energy Resources and Technologies for Sustainable DevelopmentI, Feb 7-9, 2013, Howrah India

#### Dr Prabir Kumar De

**Consultancy:** Fluid Transient and Noise Generation due to Valve-Slamming at Bokaro Steel Plant – Rs. 1,50,000/- (January, 2011 – May, 2011)

#### Dr. Nirmal Kumar Manna

1. Pallab S. Mahapatra, **Nirmal K. Manna**, Koushik Ghosh, Achintya Mukhopadhyay, Swarnendu Sen, Deb Mukhopadhyay, Hemant G. Lele, Study of Premixing Phase of Fuel Coolant Interaction

in Presence of Channels, 4th National Conference on Nuclear Reactor Technology, 4-6 March, 2011, BARC, Mumbai.

2. Pallab S. Mahapatra, **Nirmal K. Manna**, Koushik Ghosh, Deb Mukhopadhyay, Hemant G. Lele, CFD Based Analysis of Thermo-Hydraulic Aspects of Falling Particles in Quiescent Liquid in Presence of Obstruction, Proceedings of the 38th National Conference on Fluid Mechanics and Fluid Power December 15-17, 2011, MANIT, Bhopal, India
3. Pallab S. Mahapatra, Koushik Ghosh, **Nirmal K. Manna**, Achintya Mukhopadhyay, Swarnendu Sen, Study Of Dispersion and Cooling of a Cluster of Solid Spherical Particles in Quiescent Liquid of Different Prandtl Numbers, Proceedings of the 21st National & 10TH ISHMT-ASME Heat and Mass Transfer Conference December 27-30, 2011, IIT Madras, India
4. Pallab S. Mahapatra, **Nirmal K. Manna**, Koushik Ghosh, Achintya Mukhopadhyay, Swarnendu Sen, Deb Mukhopadhyay, Hemant G. Lele, Numerical Simulation of Film Boiling For Hot Premixing Phase of Fuel Coolant Interaction Studies, Phase-change Thermal Systems (PCTS-2012) IIT Kanpur, Kanpur, India, March 19-20, 2012
5. Pallab S. Mahapatra, Nirmal K. Manna and Koushik Ghosh, **Hydrodynamic and thermal interactions of a cluster of solid particles in a pool of liquid of different Prandtl numbers using two-fluid model**, Heat and Mass Transfer (**Accepted**).
6. Pallab S. Mahapatra, Somnath De, Koushik Ghosh, Nirmal K. Manna and Achintya Mukhopadhyay, **Heat Transfer Enhancement and Entropy Generation in a Square Enclosure in the Presence of Adiabatic and Isothermal Blocks**, Numerical Heat Transfer: Part A, vol. 64 (7), pp 576-597, 2013
7. Pallab S. Mahapatra, Souvick Chatterjee Koushik Ghosh, Nirmal K. Manna, Swarnendu Sen and Achintya Mukhopadhyay, **Transient Interaction of Particles with Quiescent Water: Experimental and Numerical Analysis**, Indian Conference on Applied Mechanics (INCAM) 2013, 4-6 July, 2013, IIT Madras, Chennai, Paper ID: FM 22
8. Pallab S. Mahapatra, Koushik Ghosh, Nirmal K. Manna, Deb Mukhopadhyay and Hemant G. Lele, **Analysis of Void Buildup during Hot Particle and Coolant Interaction under Film Boiling Configuration**, 8<sup>th</sup> International Conference on Multiphase Flow (ICMF2013), 26-31 May, 2013, Jeju, Korea, Paper ID: ICMF2013-872

**b. Poster**

4. Aayush Sharma, Pallab S. Mahapatra Souvick Chatterjee, Nirmal K. Manna, Koushik Ghosh and Achintya Mukhopadhyay, **Dynamic Analysis of Natural Convection in Grooved Channel**, Perspectives in Nonlinear Dynamics, University of Hyderabad, Hyderabad, 15-18 July, 2013
5. Pallab S. Mahapatra, Nirmal K. Manna and Koushik Ghosh, **Numerical Study of Fragmentation and Mixing of Particle Cluster in Quiescent Liquid in PHWR Configuration**, National Conference on Sustainable Development Through innovative Research in Science and Technology, Jadavpur University, Kolkata , 28-29 September, 2012
6. Aayush Sharma, Pallab S. Mahapatra and Nirmal K. Manna, **Study of Natural Convection in a Cavity with Additional Flow Passage at the Top**, National Conference on Sustainable Development Through innovative Research in Science and Technology, Jadavpur University, Kolkata , 28-29 September, 2012

**Dr. Rana Saha**

1. N. P. Mandal, **R. Saha**, and D. Sanyal, 2012, "Effects of flow inertia modelling and valve-plate geometry on swash-plate axial-piston pump performance", Proc. IMechE Part I: J. Systems and Control Engineering, vol. 226, pp.451-465.
2. B. K. Sarkar, P. Mandal, **R. Saha**, S. Mookherjee, D. Sanyal, 2011 "Comparison of a Combined PID Feedforward Controller with a Fuzzy Controller for an Electrohydraulic Actuation System" 38<sup>th</sup> National conference on Fluid mechanics and Fluid Power. MANIT Bhopal, 15<sup>th</sup> -17<sup>th</sup> December.
3. N. Mondal, **R. Saha**, and D. Sanyal, 2011 "Design Analysis of Aerodynamic Thrust Bearing with Axial and Transverse Loading" 38<sup>th</sup> National conference on Fluid mechanics and Fluid Power. MANIT Bhopal, 15<sup>th</sup> -17<sup>th</sup> December.
4. B. Halder, **R. Saha**, and D. Sanyal, 2011, "Control-Integrated Design by Theoretical Simulation for a Torque-Actuated 6-SBU Stewart Platform", *Proceedings of Second International Joint Conference on Advances in Engineering and Technology - AET 2011, December 20-21, Noida, India* (Best Paper).

#### **Dr B. Kundu**

1. D. Bhanja, **B. Kundu**, Thermal analysis of a constructal T-shaped porous fin with radiation effects, *International Journal of Refrigeration*, Vol. 34(6), pp. 1483–1496, 2011.
2. **B. Kundu**, D. Barman, An analytical prediction for performance and optimization of an annular fin assembly of trapezoidal profile under dehumidifying Conditions, *Energy*, Vol. 36(5), pp. 2572–2588, 2011.
3. **B. Kundu**, K.S. Lee, Optimum configurations of vertical fins under condensation of saturated vapor, *International Journal of Refrigeration*, Vol. 34(4), pp. 1048–1056, 2011.
4. **B. Kundu**, K.-S. Lee, Thermal design of an orthotropic flat fin in fin-and-tube heat exchanger operating in dry and wet environments, *International Journal of Heat and Mass Transfer*, Vol. 54, pp. 5207–5215, 2011.
5. **B. Kundu**, K.S. Lee, Decomposition method for thermal design analysis of vertical straight fins under condensation of quiescent and flowing steam, *Heat and Mass Transfer*, Vol. 47, pp. 1261–1274, 2011.
6. **B. Kundu**, S. Simlandi, P.K. Das, Analytical techniques for analysis of fully developed laminar flow through rectangular channels, *Heat and Mass Transfer*, Vol. 47, pp. 1289–1299, 2011.
7. D. Bhanja, **B. Kundu**, Radiation effect on optimum design analysis of a constructal T-shaped fin with variable thermal conductivity, *Heat and Mass Transfer*, Vol. 48, pp. 109–122, 2012.
8. **B. Kundu**, K. Ryu, K.-S. Lee, AN analytic evaluation of exponential fin performance under simultaneous heat and mass transfer, International Symposium on Transport Phenomena-22, Delft University, Netherlands, 2011.

#### **Sudip Simlandi**

##### **Journals Papers :**

1. Balaram Kundu, **Sudip Simlandi**, Prasanta K. Das, "Analytical techniques for analysis of fully developed laminar flow through rectangular channels", *Heat and Mass Transfer*, 2011, Volume 47, Issue 10, pp 1289-1299
2. S. Mukherjee, **S. Simlandi** and N. Barman, "Studies on Thermal Behavior for Cooling of a Building using Phase Change Material", *International Journal of Earth Sciences and Engineering*, ISSN 0974-5904, 2012, pp 695-701

### Conference Papers:

1. **Sudip Simlandi**, Nilkanta Barman, "Studies on Transport Phenomena during Continuous Casting of an Al-Alloy in Presence of Electromagnetic Stirring", 3<sup>rd</sup> International Conference on Advances in Solidification Processes, 2011, Rolduc/Aachen, Germany

### Dr Prakash Chandra Roy

1. S. Ray, N. Biswas, P. C. Roy, A numerical investigation of flow through a sudden expansion: effect of expansion ratio, G. Journal of Mechanical Engineering and Computational Sciences– ISSN 2249-3468, March 2012: 2 (1), pp. 31-37

### International Journal Papers (1<sup>st</sup> April 2012 to 31<sup>st</sup> march 2013)

6. Roy PC, Datta A, Chakraborty N. An assessment of different biomass feedstocks in a downdraft gasifier for engine application. *Fuel*, 2013, 106: 864-868.
7. Roy PC, Datta A, Chakraborty N. Kinetic model of the reduction zone of a downdraft biomass gasifier. *International Journal of Emerging Technology and Advanced Engineering*. 2013, 3(3):591-597.
8. Roy PC, Datta A, Chakraborty N. Role of biomass energy for sustainable development of Rural India: Case Studies. *International Journal of Emerging Technology and Advanced Engineering*. 2013, 3(3): 577-582.
9. Bhattyachatyaa D, Roy PC. Hybrid Energy System Simulation for Sustainable Energy Utilization. *International Journal of Emerging Technology and Advanced Engineering*. 2013, 3(3): 622-627.
10. Ray S, Bisaws N, Roy PC. Investigation of Newtonian Fluid Flow through a Two-dimensional Sudden Expansion and Sudden Contraction Flow Passage. *International Journal of Engineering Research and Development*. 2012, 1 (12): 01-09.

### International Conference Proceedings Papers :

2. D. Bhattacharyya, P. C. Roy, N. Chakraborty, Simulation of Renewable Hybrid System to study the uncertainty of the system, International Symposium on Engineering under Uncertainty: Safety Assessment and Management (ISEUSAM-2012)2012, Published at Springer India. 2013, pp 1101-1116, DOI10.1007/978-81-322-0757-3\_76.

**A. Session Chaired / Co Chaired :** (Name of the Teacher, Type of Participation, Name of the Seminar/ Conference etc., Place, Duration).

- *Session co-chaired for the session "ENERGY SYSTEM MODELLING" in International Conference on Energy Resources and Technologies for Sustainable Development (ICERTSD-2013) on February 2013 at Bengal Engineering & Science University, Shibpur, Howrah, West Bengal, INDIA*

### **B. Seminar / Workshop / Conference / Symposium Attended:**

- *Attended International Conference on Energy Resources and Technologies for Sustainable Development (ICERTSD-2013) on February 2013 at Bengal Engineering & Science University, Shibpur, Howrah, West Bengal, INDIA*

### Book Published

3. B. B. Ghosh, S. Chakrabarti, S. Ghosh and P.C.Roy, *ENGINEERING THERMODYNAMICS AND FLUID MECHANICS, Revised 3<sup>rd</sup> Edition, 2013, ISBN: 978-93-259-6393-1, Vikas Publishing House Pvt. Ltd.*

### List of Publications of Dr. Koushik Ghosh

#### Journals:

3. Pallab S. Mahapatra, Nirmal K. Manna and Koushik Ghosh, **Hydrodynamic and thermal interactions of a cluster of solid particles in a pool of liquid of different Prandtl numbers using two-fluid model**, Heat and Mass Transfer (**Accepted**).
4. Pallab S. Mahapatra, Somnath De, Koushik Ghosh, Nirmal K. Manna and Achintya Mukhopadhyay, **Heat Transfer Enhancement and Entropy Generation in a Square Enclosure in the Presence of Adiabatic and Isothermal Blocks**, Numerical Heat Transfer: Part A, vol. 64 (7), pp 576-597, 2013

#### Conferences:

##### a) Papers

3. Pallab S. Mahapatra, Souvick Chatterjee, Koushik Ghosh, Nirmal K. Manna, Swarnendu Sen and Achintya Mukhopadhyay, **Transient Interaction of Particles with Quiescent Water: Experimental and Numerical Analysis**, Indian Conference on Applied Mechanics (INCAM) 2013, 4-6 July, 2013, IIT Madras, Chennai, Paper ID: FM 22
4. Pallab S. Mahapatra, Koushik Ghosh, Nirmal K. Manna, Deb Mukhopadhyay and Hemant G. Lele, **Analysis of Void Buildup during Hot Particle and Coolant Interaction under Film Boiling Configuration**, 8<sup>th</sup> International Conference on Multiphase Flow (ICMF2013), 26-31 May, 2013, Jeju, Korea, Paper ID: ICMF2013-872

##### b) Poster

7. Aayush Sharma, Pallab S. Mahapatra Souvick Chatterjee, Nirmal K. Manna, Koushik Ghosh and Achintya Mukhopadhyay, **Dynamic Analysis of Natural Convection in Grooved Channel**, Perspectives in Nonlinear Dynamics, University of Hyderabad, Hyderabad, 15-18 July, 2013
8. Pallab S. Mahapatra, Nirmal K. Manna and Koushik Ghosh, **Numerical Study of Fragmentation and Mixing of Particle Cluster in Quiescent Liquid in PHWR Configuration**, National Conference on Sustainable Development Through innovative Research in Science and Technology, Jadavpur University, Kolkata , 28-29 September, 2012

#### LIST OF PUBLICATION

##### Sudipta De

##### Journals

6. Simlandi, S., Barman, N. and Chattopadhyay , H. (2012), Study on rheological behavior of A356 alloy during solidification in presence of stirring, *Transactions IIM*, 65(6) , 809-814
7. Simlandi S., Barman, N. and Chattopadhyay H. (2013), Study of thixotropic property of A356 alloy in semisolid state, *Solid State Phenomena* 192-193, 335-340
8. Simlandi , S., Barman, N. and Chattopadhyay , H. (2013), Studies on Transport Phenomena during Continuous Casting of an Al-Alloy in Presence of Electromagnetic Stirring, *Transactions IIM* 66: 141-146
9. Mukherjee S, Simlandi S, Barman N. (2012), Studies on thermal behavior for cooling of a building using phase change material. *International Journal of Earth Science and Engineering*; ISSN 0974-5904:695-701.
10. Kumar A, Mukherjee S, Simlandi S, Barman N. (2013), Study on optimum utilization of a phase change material for cooling of a building. *International Journal of Emerging technology and advance engineering*; 3: 299-304.

#### Conferences :

2. Simlandi , S., Barman, N. and Chattopadhyay , H, (2013), Rheological Behaviour of Semisolid Alloy Slurry – an Overview, accepted for *Indian Foundry Congress 27-29 January, Kolkata*

## PUBLICATIONS

### DR. SAIKAT MOOKHERJEE

1. B.K. Sarkar, P. Mandal, R. Saha, **S. Mookherjee** and D. Sanyal, GA-optimized feedforward-PID tracking control for a rugged electrohydraulic system design, *ISA Trans.*, <http://dx.doi.org/10.1016/j.isatra.2013.07.008>, 2013.
2. B. K. Sarkar, J. Das, R. Saha, **S. Mookherjee** and D. Sanyal, *Trans. on Mechatronics*, vol. 18, pp. 1425–1430, 2013.
3. N. P. Mandal, R. Saha, **S. Mookherjee** and D. Sanyal, 2013, Pressure compensator design for an axial piston pump, *Tans. ASME Dynamic Systems Measurements Controls*, Accepted for publication (manuscript no. DS-12-1356.)

## Annexure – IV

### Prof Sadhan K Ghosh

1. **Distinguished Visiting Fellow awarded by Royal Academy** : Invitation received for consent as Distinguished Visiting Fellow awarded by Royal Academy of Engineering, UK for working on “Energy Recovery from Municipal Wastes” in UK in 2012.
2. **Patent**: Patent applied for “Automatic High Speed Jute Ribboning Machine and the process there of”. Patent number: 32/KOL/2010 in India, Bangladesh and PCT International has been examined in Bangladesh in January – February, 2012.
3. Convenor, ISO TC 61 WG 24, Geneva, Guidance on environmental provisions in plastics standards.
4. Member, ISO TC 207 WG 7, Geneva, Environment Management Systems.
5. Member of Indian Delegation in Kuala Lumpur for ISO TC 61 meeting in September 2011.
6. Reviewer and Editor : Reviewer and Editor of a number of International Journals.
7. Member, Syllabus Committee of Mechanical Engineering, West Bengal Public Service Commission.

### Prof Sujit Ghosal

A few important industrial projects undertaken are as follows.

- i. Carried out consultancy work related to KMC sewerage and storm water pumping system
- ii. Carried out consultancy work related to design optimization of tea dryers for M/s Kilburn Engg. Ltd.
- iii. Done design vetting for stability of crane for use in railbridge over Hoogly river at Naihati
- iv. Designed and developed test rigs for hydraulic characterization of DI pipe manufactured by M/s Tata Metaliks at their premises at Kharagpur
- v. Designed and developed test rigs for hydraulic characterization of DI pipe manufactured by M/s Balaji Industries at their premises at Durgapur
- vi. Designed support system for underground GRP sewerage pipe for M/s Angerlehner, Hoch-und Tiefbau Gessellschaft mBH, Germany

- vii. Designed and developed high pressure high temperature pneumatic test facility for aircraft components being installed at Air India premises, Kolkata

#### **Prof Samir Kumar Saha**

a) Interviews taken as experts

1. Expert for Faculty Section on 22.06.11 at VSS University of Technology, Odisha.
2. Expert Faculty Selection on 2<sup>nd</sup> July, 2011 at NIT, Aizawl, Mizoram.
3. Expert Faculty Selection at Arka – IGNOU Community College, Kolkata on 11<sup>th</sup> September, 2011.
4. Expert, Faculty Selection at Biju Patnaik University of Technology, Bhubaneswar, Odisha on 15<sup>th</sup> January, 2012.
5. Nominated Chairpersons of various Assessment Committees of National Council of Science Museums, GOI.

b) Member of National Level Committees /Other Important Assignments :

1. Member, Engineering Accreditation Evaluation Committee of NBA, AICTE, GOI for 2 years from June 2011. Attended 7 meetings and cleared evaluation of 200 Engineering Colleges.
2. UGC expert member of DRS Programme of Mechanical Engg. Deptt. of BITS, Pilani. Attended meeting on 12<sup>th</sup> March, 2012.
3. Executive Committee Member of Central Research & Training Laboratory, NCSM, Govt. of India for 2 years from January, 2012.
4. Governing Body Member of MCKVIE, a reputed Pvt. Engg. College for last 10 years.
5. Member, Board of Studies & Ph.D. Committee of Mechanical Engg. of West Bengal University of Technology. Actively involved in syllabus making and Ph.D. examination till date.
6. Member, Syllabus Committee of Mechanical Engineering, West Bengal Public Service Commission.
7. Evaluation of M. Tech. Thesis, Mechanical Engg. (Heat Power), IIT Kharagpur, 2012.
8. Member, Ph.D. Research Committee of Adult, Continuing Education and Extension Deptt., JU.
9. Convenor, Safety Committee Member of BARC/DAE projects in the Mechanical Engg. Deptt., J.U. (Project worth Rs.3 Crores).
10. Member, Appellate Committee, West Bengal Pollution Control Board for two years from March, 2012.

c) **Reviewer of Papers :**

1. Reviewer of papers for the Journal of the Institution of Engineers, India.
2. Reviewer of Paper for the Journal of NCSM, Propagation.

#### **Prof Asish Bandyopadhyay**

1. One PG student under the supervision of Asish Bandyopadhyay, has been sanctioned an amount of Rs 50,000/- for his PG thesis work by IE(I).

#### **Prof Swarnendu Sen**

1. DAAD Research Stay, worked on "Identification of Flame Transfer Functions in Pulse Combustors" at Lehrstuhl für Thermodynamik, Technical University, Munich during 4<sup>th</sup> July – 31<sup>st</sup> August, 2011

#### **Prof Achintya Mukhopadhyay**



2. Alexander von Humboldt Fellowship for Experienced Researchers, worked at Lehrstuhl für Thermodynamik, Technical University, Munich from 1<sup>st</sup> May – 31<sup>st</sup> July, 2011

## **Prof Prasanta Sahoo**

### **BOOK Chapters**

Tribology for Scientists and Engineers (Eds. Sudeep Ingole et al.), 2013, Springer, USA, Sahoo, P. and Davim, J. P., Tribology of ceramics and ceramic matrix composites (in press).

Handbook of Measurement in Science and Engineering, (Ed. Myer Kutz), 2013, Wiley, USA; ISBN: 978-1-1183-8463-3, Sahoo, P.: Tribology measurements (Chapter 32), pp. 981-1006.

Dynamic Methods and Process Advancements in Mechanical, Manufacturing, and Materials Engineering, J P Davim (Ed.) IGI Global, Hershey, USA, 2012

Chapter 2: Large Amplitude Forced Vibration Analysis of Stiffened Plates under Harmonic Excitation (pages 25-61), A Mitra, P. Sahoo, K Saha

Dynamic Methods and Process Advancements in Mechanical, Manufacturing, and Materials Engineering, J P Davim (Ed.) IGI Global, Hershey, USA, 2012

Chapter 18: Roughness Optimization of Electroless Ni-B Coatings Using Taguchi Method (pages 302-319) S K Das, P. Sahoo

Materials and Surface Engineering: Research and Development (Ed. J. Paulo Davim), 2012, Woodhead, UK, Chapter 6, P. Sahoo: Tribo Performance of Electroless Ni-P coatings, pp. 163-206.

Mechatronics and Manufacturing Engineering: Research and Development (Ed. J. Paulo Davim), 2012, Woodhead, UK, Chapter 5, P. Sahoo and T K Barman: ANN Modelling of Fractal Dimension in Machining, pp. 159-226.

### **RESEARCH Publications (most recent first)**

#### **2013**

##### **Referred Journals**

1. Chatterjee, B and Sahoo, P, Shakedown behavior in multiple normal loading-unloading of an elastic-plastic spherical stick contact, Tribology in Industry, 2013, 35(1), 3-18.
2. Das, M. K., Kumar, K, Barman, T. K. and Sahoo, P., Optimization of material removal rate in EDM using Taguchi method, Advanced Materials Research, 2013, 626, 270-274.
3. Bhowmik S, Acharyya S K, Sahoo P, Dhar S and Chattopadhyay J, Estimation and comparative study of JIC using different methods for 20MnMoNi55 steel, Materials and Design, 2013, 46, 680-687.
4. Chatterjee, B and Sahoo, P, Finite element based multiple normal loading-unloading of an elastic-plastic spherical stick contact, ISRN Tribology, 2013, ID 871634, 1-13.
5. Mitra, A., Sahoo, P. and Saha, K. N., Forced vibration analysis of cross stiffened plates with simply supported boundary condition, Advances in Vibration Engineering, 2013, 12 (3) 303-310.
6. Mitra, A, Sahoo, P and Saha K N, Effect of In-plane Boundary Conditions on Forced Vibration Analysis of Stiffened Plates with a Free Edge, Journal of Vibration and Control 2013, 19(2), 234-261.

7. Mitra, A., Sahoo, P. and Saha, K.N., Nonlinear vibration analysis of simply supported stiffened plates by a variational method, *Mechanics of Advanced Materials and Structures*, 2013, 20(5), 373-396.
8. Chatterjee, B and Sahoo, P, Finite element based unloading of an elastic plastic spherical stick contact for varying tangent modulus and hardening rule, *International Journal of Surface Engineering and Interdisciplinary Materials Science*, 2013, 1(1), 13-32.

#### **Contribution in Conference Proceedings:**

9. Sudeepan J, Kumar K, Barman T K and Sahoo, P., Study of tribological and mechanical properties of ABS/CaCO<sub>3</sub> composites, Proc. 4<sup>th</sup> International Conference on Recent Advances in Composite Materials (ICRACM-2013), Feb 18-21, Goa, 2013.
10. Sudeepan J, Kumar K, Barman T K and Sahoo, P., Study of tribological and mechanical properties of compression molded ABS/TiO<sub>2</sub> composites, Proceedings of International Conference on Innovations in Materials and Product Development, Lucknow, India, 1-3 March, 2013, paper ID 86, pp. 1-4.
11. Sudeepan J, Kumar K, Barman T K and Sahoo, P., Comparative studies on tribological and mechanical properties of ABS/CaCO<sub>3</sub> and ABS/TiO<sub>2</sub> composites, Proc. 2<sup>nd</sup> International Conference on Advanced Manufacturing and Automation (INCAMA-2013), 28-30 March, 2013, Krishnankoil, pp. 179-183.
12. Roy, S and Sahoo, P., Tribological performance optimization of electroless Ni-P-W coating using weighted principal component analysis, Proc. 2<sup>nd</sup> International Conference on Advanced Manufacturing and Automation (INCAMA-2013), 28-30 March, 2013, Krishnankoil, pp. 174-178.
13. Ghosh, S., Sahoo, P. and Sutradhar, G., Wear behaviour optimization of Al-7.5%SiC metal matrix composite using Taguchi method, Proc. 2<sup>nd</sup> International Conference on Advanced Manufacturing and Automation (INCAMA-2013), 28-30 March, 2013, Krishnankoil, pp. 184-188.
14. Das, M. K., Kumar, K, Barman, T. K. and Sahoo, P., Optimization of EDM process parameters using Grey-Taguchi Technique, Proc. 2<sup>nd</sup> International Conference on Advanced Manufacturing and Automation (INCAMA-2013), 28-30 March, 2013, Krishnankoil, pp. 521-525.

#### **2012 (since April)**

##### **Referred Journals**

15. Roy, S and Sahoo, P., Corrosion Study of Electroless Ni-P-W Coatings using Electrochemical Impedance Spectroscopy, *Portugalia Electrochimica Acta*, 2012, 30(3), 203-220.
16. Ghosh, S., Sahoo, P. and Sutradhar, G., Wear Behaviour of Al-SiCp Metal Matrix Composites and Optimization using Taguchi Method and Grey Relational Analysis, *Journal of Minerals & Materials Characterization & Engineering*, 2012, 11(11), 1085-1094.
17. Das, S. K. and Sahoo, P., Influence of process parameters on microhardness of electroless Ni-B coatings, *Advances in Mechanical Engineering*, 2012, ID 703168, pp. 1-11.
18. Roy, S and Sahoo, P., Multiple roughness characteristics of chemically deposited Ni-P-W coatings, *Tribology in Industry*, 2012, 34 (4), 186-197.
19. Ghosh, S., Sahoo, P. and Sutradhar, G., Friction performance of Al-10%SiCp metal matrix composites using Taguchi method, *ISRN Tribology*, 2012, ID 386861, 1-9.
20. Roy, S and Sahoo, P., Friction performance optimization of chemically deposited Ni-P-W coating using Taguchi method, *ISRN Tribology*, 2012, ID 136740, 1-9.

21. Sahoo, P., Barman, T. K. and Routara, B. C., Grey-based Taguchi analysis of cylindrical grinding process parameters with multiple roughness characteristics, *International Journal of Production and Quality Engineering*, 2012 (in press).
22. Roy, S and Sahoo, P., Optimization of multiple roughness characteristics of chemically deposited Ni-P-W coating using weighted principal component analysis, *ISRN Mechanical Engineering*, 2012, ID 495857, 1-7.
23. Chatterjee, B and Sahoo, P, Unloading of an elastic plastic spherical stick contact under varying strain hardening-A finite element study, *International Journal of Materials, Manufacturing and Design*, 2012, 1 (1), 107-126.
24. Sahoo, P., Loading and unloading characteristics of rough surfaces in presence of soft coatings and adhesion, *International Journal of Materials, Manufacturing and Design*, 2012, 1(1), 89-105.
25. Ghosh, S. and Sahoo, P., Friction behaviour of medium leaded brass UNS C34000 against steel using Taguchi method, *International Journal of Materials, Manufacturing and Design*, 2012, 1(1), 77-87.
26. Roy, S and Sahoo, P., Potentiodynamic polarization behavior of electroless Ni-P-W coatings, *ISRN Corrosion*, 2012, ID 914867, 1-11.
27. Mitra, A., Sahoo, P. and Saha, K. N., Large displacement of crossbeam structure through energy method, *International Journal of Automotive & Mechanical Engineering*, 2012, 5, 520-544.
28. Bhowmik S, Sahoo P, Acharyya S K, Chattopadhyay J and Dhar S, Application and comparative study of the master curve methodology for fracture toughness characterization of 20MnMoNi55 steel, *Materials and Design*, 2012, 39, 309-317.
29. Chatterjee, B and Sahoo, P, Effect of strain hardening on elastic-plastic contact of a deformable sphere against a rigid flat under full stick contact condition, *Advances in Tribology 2012*, ID 472794, 1-8.
30. Das, D, Sahoo, P and Saha K N, A numerical analysis of large amplitude beam vibration under different boundary conditions and excitation patterns, *Journal of Vibration and Control* 2012, 18(12), 1900-1915.
31. Barman, T. K. and Sahoo, P., Prediction of fractal dimension in cylindrical grinding of brass using ANN, *Journal of Machining and Forming Technologies*, 2012, 4 (1-2), 85-106.
32. Das, D, Sahoo, P and Saha K N, Dynamic analysis of rotating annular disk of variable thickness under uniform axial pressure, *International Journal for Computational Methods in Engineering Science & Mechanics*, 2012, 13, 37-59.

### **Contribution in Conference Proceedings**

33. Mitra, A., Sahoo, P. and Saha, K. N., Experimental Investigation of Static Deflection and Loaded Natural Frequencies of Stiffened Plates, *Proceedings of the IASTED International Conference Engineering and Applied Science (EAS 2012) December 27-29, 2012 Colombo, Sri Lanka*, pp. 6-13.
34. Das M K, Kumar K, Barman T K and Sahoo, P., Surface roughness modeling in wire electrical discharge machining (WEDM) using response surface methodology, *Proc. International Conference on Advances in Mechanical Engineering and its Interdisciplinary Areas, Kolaghat, 27-28 Dec, 2012*, pp. 186-191.
35. Roy, S. and Sahoo, P., Friction performance optimization of electroless Ni-P-W coating using Taguchi design of experiments, *Proc. International Conference on Advances in Mechanical Engineering and its Interdisciplinary Areas, Kolaghat, 27-28 Dec, 2012*, pp. 207-213.

36. Das M K, Kumar K, Barman T K and P Sahoo, Optimization of surface roughness in EDM of EN31 tool steel using Taguchi method, 8th International Conference on Industrial Tribology, 2012, Dec 7-9, Pune, paper ID: TSI 812507, p. 9.
37. Roy, S. and Sahoo, P., Wear performance optimization of electroless Ni-P-W coating parameters using Taguchi method, 8th International Conference on Industrial Tribology, 2012, Dec 7-9, Pune, paper ID: TSI 812541, p. 50.
38. Ghosh, S., Sahoo, P. and Sutradhar, G., Tribological performance of Al-5%SiC metal matrix composite using Taguchi based grey relational analysis, 8th International Conference on Industrial Tribology, 2012, Dec 7-9, Pune, paper ID: TSI 812540, p. 49.
39. Chatterjee, B. and Sahoo, P., Finite element based cyclic loading-unloading of an elastic-plastic spherical stick contact, Proc. 57th ISTAM International Congress, 2012, Dec 17-20, Pune, pp. 177-182.
40. Chatterjee, B. and Sahoo, P., Shakedown behavior in multiple loading-unloading of an elastic-plastic spherical stick contact, 8th International Conference on Industrial Tribology, 2012, Dec 7-9, Pune, paper ID: TSI 812513, p. 17.
41. Bhowmik, S., Sahoo, P., Acharyya, S. K., Dhar, S., Comparative study of fracture toughness in ductile to brittle transition region of 20MnMoNi55 steel, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 66.
42. Roy, S. and Sahoo, P., Surface Roughness Optimization of Electroless Ni-P-W Coating Based on Taguchi Method, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 67.
43. Duari, S., Barman, T. K. and Sahoo, P., Friction and Wear Behavior of Electroless Ni-P Coatings under Lubrication, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 68.
44. Das M K, Kumar K, Barman T K and P Sahoo, Modeling of MRR in WEDM on EN 31 Tool Steel Using Response Surface Methodology, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 72.
45. Ghosh S, Sahoo P and Sutradhar G, Friction performance optimization of Al- 7.5% SiCp metal matrix composite using Taguchi method, National Conference on Sustainable Development through Innovative Research in Science and Technology, Sept 28-29, 2012, Jadavpur, P 84.
46. Bhowmik, S., Sahoo, P., Acharyya, S. K., Dhar, S., Effect of thickness, geometry and microstructure on fracture toughness for 20MnMoNi55 steel, Nat Symposium on Fatigue, Fracture and Integrity Assessment (FFIA) May 4-5, 2012, Jamshedpur, p. 47.

### **Peer Reviewer Invitation**

Invited in 2011-12 as peer reviewer in the following international journals:

Journal of Physics D: Applied Physics (IOP)

Nanotechnology (IOP)

Materials & Design (Elsevier)

International Journal of Materials, Manufacturing and Mechanical Engineering (IGI Global)

Journal of Adhesion Science and Technology (Elsevier)

International Journal of Science and Technology Education Research (Academic Journals)

International Journal of Computer Applications in Technology (Inderscience)  
Journal of Vibration and Control (Sage)  
Material Science and Engineering A (Elsevier)  
International Journal of Solids and Structures (Elsevier)  
Industrial & Engineering Chemistry Research (ACS Publications)  
Journal of Mechanical Science and Technology (Springer)  
International Journal of Surface Engineering and Interdisciplinary Materials Science (IGI Global)  
Applied Materials & Interfaces (ACS Publications)  
ISRN Tribology (Hindawi)  
Indian Journal of Engineering & Materials Science (NISCAIR)

### **Editorial Contribution**

Appointed Editor-in-Chief, International Journal of Materials, Manufacturing and Design (Academic Research Journals, India)  
Appointed editorial board member in International Journal of Surface Engineering and Interdisciplinary Materials Science (IGI Global, USA)  
Appointed editorial board member in ISRN Tribology (Hindawi, USA)

### **Prof. Sudipta De**

1. Visited **Lund University Sweden and University of Stavanger, Norway** as Invited Professor during May-June 2011.
2. Member of **UGC Expert Panel** for assessment of University/Institute.
3. Regular **reviewer** of many reputed international journals.

### **Dr Dipak Laha**

1. Prof. J. N. D. Gupta, College of Business Administration, University of Alabama
2. **Best Paper Award:** Laha, D. and Sapkal, S. U. (2011) IAENG International Conference on Artificial Intelligence and Applications (Hong Kong, 16-18 March, 2011).

### **Dr Kaushik Ghosh**

#### **List of Publications**

#### **Journals:**

5. Pallab S. Mahapatra, Nirmal K. Manna and Koushik Ghosh, **Hydrodynamic and thermal interactions of a cluster of solid particles in a pool of liquid of different Prandtl numbers using two-fluid model**, Heat and Mass Transfer (**Accepted**).
6. Pallab S. Mahapatra, Somnath De, Koushik Ghosh, Nirmal K. Manna and Achintya Mukhopadhyay, **Heat Transfer Enhancement and Entropy Generation in a Square Enclosure in the Presence of Adiabatic and Isothermal Blocks**, Numerical Heat Transfer: Part A, vol. 64 (7), pp 576-597, 2013

#### **Conferences:**

##### **a) Papers**

5. Pallab S. Mahapatra, Souvick Chatterjee, Koushik Ghosh, Nirmal K. Manna, Swarnendu Sen and Achintya Mukhopadhyay, **Transient Interaction of Particles with Quiescent Water:**

**Experimental and Numerical Analysis**, Indian Conference on Applied Mechanics (INCAM) 2013, 4-6 July, 2013, IIT Madras, Chennai, Paper ID: FM 22

6. Pallab S. Mahapatra, Koushik Ghosh, Nirmal K. Manna, Deb Mukhopadhyay and Hemant G. Lele, **Analysis of Void Buildup during Hot Particle and Coolant Interaction under Film Boiling Configuration**, 8<sup>th</sup> International Conference on Multiphase Flow (ICMF2013), 26-31 May, 2013, Jeju, Korea, Paper ID: ICMF2013-872

**b) Poster**

9. Aayush Sharma, Pallab S. Mahapatra Souvick Chatterjee, Nirmal K. Manna, Koushik Ghosh and Achintya Mukhopadhyay, **Dynamic Analysis of Natural Convection in Grooved Channel**, Perspectives in Nonlinear Dynamics, University of Hyderabad, Hyderabad, 15-18 July, 2013
10. Pallab S. Mahapatra, Nirmal K. Manna and Koushik Ghosh, **Numerical Study of Fragmentation and Mixing of Particle Cluster in Quiescent Liquid in PHWR Configuration**, National Conference on Sustainable Development Through innovative Research in Science and Technology, Jadavpur University, Kolkata , 28-29 September, 2012

**11. Sponsored Project Work Done:**

Name of the Project: Clad Behaviour under Accident Conditions  
Sponsor: Bhabha Atomic Research Centre, India, Mumbai, India  
Worked as: Principal Investigator  
Project Status: Ongoing  
Cost :Rs. 35,90,700/-

Name of the Project: Modeling and Experimental Validation of Spray Formation by Disintegration of Annular Swirling Liquid Sheets for Design of Advanced Fuel Injectors for Gas Turbine Combustors  
Sponsor: GATET, GTRE, India  
Worked as: Co- Investigator  
Project Status: Ongoing  
Cost : Rs. 15,58,000/-

Name of the Project: Conjugate Heat Transfer Modeling with Gas Radiation for Gas Turbine Combustors/Afterburner Linings  
Sponsor: GATET, GTRE, India  
Worked as: Co- Investigator  
Project Status: Ongoing  
Cost :Rs. 17,01,333/-

## **METALLURGICAL & MATERIAL ENGINEERING**

Phone : + 91-33-2414-6940  
Int. : 2457-2325  
H.O.D : Dr. Rajib Dey  
E-mail : hod@metal.jdvu.ac.in

- 1. A. Courses Offered:** 4 - Year BE degree in Metallurgical Engg.

Metallurgy 2 - Year ME degree in Industrial  
Engineering 2 - Year M.Tech degree in Material

Undergraduate Students: 34 Nos.

ME degree in Industrial Metallurgy Students: 10 Nos.

M.Tech degree in Material Engineering Students: 18 Nos.

1. **B. Number of Faculty Members:** 14 Nos.

2. **A.** Nano Materials, Melting & Solidification, Corrosion behavior of Metal & Material, Deformation Fatigue & fracture of materials, Welding Technology, Thermodynamics and Kinetics of Metallurgical processes, Material Processing, Ceramics, Archaeo Metallurgy , Waste utilization. Chemical Processing, Characterization of Materials.

2. **B. Major Research Project:**

1. Title of Project/Facilities: Study on Friction stir welding of aluminium alloy to zinc coated steel sheet  
Funding and Collaborated Agency: CSIR, New Delhi  
Period: 2011-2013  
Amount (Lakh): 17.48  
Named by: Prof. T.K.Pal
2. Title of Project/Facilities: Development of High Energetic Electrode Materials and Characterization of Bioelectrochemical Fuel Cell  
Funding and Collaborated Agency: PURSE  
Period: 2010-2012  
Amount (Lakh): 14.5  
Named by: Prof. S.Paul
3. Title of Project/Facilities: Investigation of Lubricating Properties of Automotive Oil & Grease with Addition of CNT & Metal Oxide  
Funding and Collaborated Agency: Balmer Lawrie & Co. Ltd  
Period: 2007 – till date  
Amount (Lakh): 10.1 Lacs  
Named by: Prof. S.Mukherjee & Prof. G.C.Das
4. Title of Project/Facilities: Financial assistance for PG Teaching Program in Nanoscience & Technology  
Funding and Collaborated Agency: DST- Nano Mission  
Period: 2008 – till date  
Amount (Lakh): 4 Crore  
Named by: Prof. S.Mukherjee & Prof. G.C.Das
5. Title of Project/Facilities: Prepared Burden (Steel Nugget) for Solid State Reduction and subsequent Melting in EF as an Alternative Route for Steel Making  
Funding and Collaborated Agency: RINL  
Period: 2009 – till date

- Amount (Lakh): 16 Lacs  
Named by: Dr. R.Dey, Prof. M.K.Mitra & Prof. S.Mukherjee Prof. G.C.Das
6. Title of Project/Facilities:Scientific Collaboration to jointly ... simulated nuclear reactor environment'  
Funding and Collaborated Agency: BARC, Mumbai  
Period:2009 – till date  
Amount (Lakh): 98.524 Lacs  
Named by: Prof. P.K.Mitra, Prof. M.K.Mitra Prof. S.Paul Prof. P.Majumder Dr.(Mrs.) S.Banerjee
7. Title of Project/Facilities:Investigation on the electron field emission from doped and functionalised carbon nano tubes.  
Funding and Collaborated Agency: UGC  
Period:2010 – till date  
Amount (Lakh): 7 Lacs  
Named by: Prof. G.C.Das
8. Title of Project/Facilities:Low Cycle fatigue,Ratcheting and theirinteraction in twoautomotive grade sheet steel  
Funding and Collaborated Agency:TATA Steel Ltd  
Period:2009-2012  
Amount (Lakh): 14.95 lakhs  
Named by:Prof. P.C.Chakraborti
9. Title of Project/Facilities:Investigation of deformation and damagemechanism in bare andcoated automotive steelsthrough insitu scanningelectron microscopy  
Funding and Collaborated Agency:Ministry of steeland TATA Steel Ltd  
Period:2010 – till date  
Amount (Lakh): Rs. 363.30 lakhs  
Named by: Prof. P.C.Chakraborti
10. Title of Project/Facilities:Investigation of deformation and damagemechanism in bare andcoated automotive steelsthrough insitu scanningelectron microscopy  
Funding and Collaborated Agency: TATA Steel Ltd  
Period:2012 – till date  
Amount (Lakh): Rs. 20.00 lakhs  
Named by: Prof. P.C.Chakraborti
11. Title of Project/Facilities: Identification of key crystallographic factors responsible for damage initiation and progression in Advanced high StrengthSteels (AHSS) using exsitu 2 dimensional (2D) Electron Back Scattered Diffraction (EBSD) Analysis  
Funding and Collaborated Agency: TATA Steel Ltd  
Period:2012 – till date  
Amount (Lakh): Rs. 20.00 lakhs  
Named by: Prof. P.C.Chakraborti
12. Title of Project/Facilities:Processing of Titanium bearing magnetite for the recovery of Metal values  
Funding and Collaborated Agency: Ministry of Steel SDF  
Period: 2010-till date



- Amount (Lakh): Rs. 69.6 lacs  
Named by: Prof. S.Mukherjee & Dr. R.Dey
13. Title of Project/Facilities: Energy Conservation through Archaeological Practices  
Funding and Collaborated Agency: DST- PURSE  
Period: New Delhi 2009 on  
Amount (Lakh): 3.5 lakh  
Named by: Prof. P.K.Datta
  14. Title of Project/Facilities: Recovery of Precious & Scattered Metals from e-waste  
Funding and Collaborated Agency: UGC-MRP  
Period: 2012-15  
Amount (Lakh): 11.2 Lakh  
Named by: Prof S.Mukherjee & Dr.(Mrs.) M.G.Chaudhuri
  15. Title of Project/Facilities: Synthesis of MgO-CNT Refractory for Steel Making  
Funding and Collaborated Agency: SAIL-RDCIS  
Period: 2013-15  
Amount (Lakh): 24 Lakh  
Named by: Prof. S.Mukherjee /Prof.M.K.Mitra/ Prof. G.C.Das / Prof. K.K.Chattopadhyay
  16. Title of Project/Facilities: Development of coated electrode introducing nano-particles for welding/repair welding of Austempered Ductile iron  
Funding and Collaborated Agency: DST, New Delhi  
Period: 2013-2016  
Amount (Lakh): 24.91  
Named by: Prof. T.K.Pa I (on going)
  17. Title of Project/Facilities: Development of suitable gas metal arc welding (GMAW) procedure for high performance weld joints of modified ferritic stainless steel and low-nickel austenitic stainless steel  
Funding and Collaborated Agency: Ministry of Steel and Titagarh wagons Ltd.  
Period: 2012-2015  
Amount (Lakh): 79.86  
Named by: Prof. T.K.Pa I (on going)
  18. Title of Project/Facilities: Hydrogen Coreduction of Metal Oxides  
Funding and Collaborated Agency: DST-PURSE  
Period: 2009 onwards  
Amount (Lakh): Rs. 4 lakh  
Named by: Prof. Dinabandhu Ghosh
  19. Title of Project/Facilities: Capture and Analyze : The Behavioural Abnormalities of Children with Special Need Through Skill Development Programme  
Funding and Collaborated Agency: UGC  
Period: 2009 onwards  
Amount (Lakh): 0.5 Lakhs  
Named by: Dr. R.Dey & Dr. P. S. Bhattacharya

20. Title of Project/Facilities: Prepared Burden (Steel Nugget) for Solid-state Reduction and Subsequent Smelting in Electric Furnaces  
Funding and Collaborated Agency:RINL  
Period: 2010 Onwards  
Amount (Lakh):15.81 Lakhs  
Named by: Dr. R.Dey, Prof. M.K.Mitra Prof. S.Mukherjee Prof. G.C.Das
21. Title of Project/Facilities: Identification of key crystallographic factors responsible for damage initiation and progression in Advanced High Strength Steels (AHSS) using ex-situ 2-dimensional (2D) Electron Back Scattered Diffraction (EBSD) analysis'  
Funding and Collaborated Agency: TATA Steel Ltd  
Period: 2012 – till date  
Amount (Lakh):Rs. 20.00 lakhs  
Named by: Prof. P.C.Chakraborti

### **3. A. Invited Lectures Delivered/Sessions Chaired:**

#### **Dr.(Mrs.) S.Banerjee:-**

An invited technical talk on Heat treatment on Steels at BITM, Kolkata on Feb 10, 2012 for the National Workshop organized by IIM, Kolkata Chapter.

### **3. B. Seminar/Workshop/Conference/Symposium Attended:**

#### **Prof. S.Mukherjee**

1. Confocal microscopy application and development, 21<sup>st</sup> September, 2012, at Kolkata.
2. International Conference on Optimization of Iron & Steel operation, 3<sup>rd</sup>-4<sup>th</sup> September, 2012 at Kolkata.

#### **Dr.(Mrs.) S.Banerjee**

1. Confocal microscopy application and development, 21<sup>st</sup> September, 2012, at Kolkata
2. Metallix-2013 at Kolkata.

### **3. C. Seminar/Workshop/Conference/Symposium Organized:**

1. Title: National Symposium on "Corrosion in Oil & Gas Sector -Problems & Mitigation" : Metallix – 12 National Student Metallurgists' Meet  
Organiser:Department of Metallurgical & Material Engineering, Jadavpur University  
Type of Seminar: National  
Place: Jadavpur University  
Year: 2012
2. Title:Workshop on Advancement in Welding Technology  
Organiser:IITW Kolkata Branch & Department of Metallurgical & Material Engineering  
Type of Seminar: National  
Place: Jadavpur University  
Year: 2012
3. Title: National Symposium on "Construction Steel for the Twenties" : Metallix – 13 National Student Metallurgists' Meet

Organiser: Department of Metallurgical & Material Engineering, Jadavpur University  
Type of Seminar: National  
Place: Jadavpur University  
Year: 2013

3. Title: National Seminar on "Iron & Steel making in India : Process, Opportunities & Threats"  
Organiser: Department of Metallurgical & Material Engineering, Jadavpur University  
Type of Seminar: National  
Place: Jadavpur University  
Year: 2013

### **3. E. Orientation Courses/Refresher Courses Organized:**

**Prof. S.Mukherjee**

**UGC-ASC Course**

- i) Instrumental Analysis 2013
- ii) Nanoscience & Technology, 2013

### **4. A. Books/Monographs etc. Published:**

**B. Articles Published in Journals:**

**Prof. P.K.Mitra**

1. P K Mitra, M Ghosh Chaudhuri, S Paul & B Duari, "Use of Computerized numerical to set a relation between current and potential for a cathodically protected structure", Vol. 3, April/May 2012 issue of Coatings and Anticorrosion Engineering Review.
2. P K Mitra, M Ghosh Chaudhuri, S Paul, Sk A Hossain & B Duari, "Kinetic studies of Localized Corrosion of 204 steel in Chloride solution", May/June 2012, No. 107, issue of Corrosion Management a journal of Institute of Corrosion, 11-13
3. P K Mitra, Shampa Dhar, B Duari, "Corrosion behavior of hydroxyapatite coatings on borate and phosphate passivated 316L Stainless steel in Ringer's Solution" June 2012 issue of Paint India Journal.
4. P K Mitra & Shampa Dhar, "Electrochemical behavior of hydroxyapatite coatings on phosphate passivated 316L Stainless Steel in Ringer's solution", ICASTOR journal of Engineering, Vol.5, No.3 (2012), 155-162
5. P K Mitra, M Ghosh Chaudhuri, S Paul & B Duari, "Establishment of A Mathematical Relation Between Current & Potential of A Steel Structure in Different Corrosion Environment" in Coating Maintenance.
6. P K Mitra, Shampa Dhar & Risin Dey, "Anodizing of Aluminium – Exploring possibilities", ICASTOR journal of Engineering, Vol.6, No.1 (2013), 11-26
7. P K Mitra, Somnath Mukherjee and B duari, "Strength, Corrosion correlation of thermomechanically treated low carbon value-added steel" Vol.3, Issue 5, May, 2013 issue of International Journal of Computational Engineering Research, pages 16 – 22.
8. P K Mitra & Sreeparna Ghosh, "Effectiveness of Dicalcium Phosphate Dihydrate as Biocompatible Coatings on 316L and 316LN stainless steel", J Material Science Engineering 2013, 2:1.

**Prof. S.Paul**

**International:**

- Biocompatibly Coated 304 Stainless Steel as Superior Corrosion Resistant Implant Material to 316L Steel, Subir Paul and Chandranath Mandal, , Journal Material Engineering and Performance,

ASM International, published online May 2013, JMEPEG ASM International DOI: 10.1007/s11665-013-0590-3

- Mitigation of Mild steel Corrosion in Acid by Green Inhibitors : Yeast, Pepper, Garlic and Coffee ,Subir Paul and Bikash Kar, ISRN Corrosion,Volume 2012 (2012), Article ID 641386, 8 pages doi:10.5402/2012/641386
- Development and Characterization of Electrodeposited Ni-Co and Ni-Co-Fe Alloy on Al Electrodes Materials for Methyl Alcohol Fuel cell , Subir Paul and Sk Naimuddin, Material Engineering and Performance, accepted for publication,2013
- Study of Bioelectrochemical Fuel cell Fabricated with Agriculture wastes and surface modified electrodes, Subir Paul, JOURNAL OF Fuel cell and Technology ASME, 2012, Vol 9 April 2012, pp. 021013-1-021013-9
- Modeling to Study the Effect of Environmental Parameters on Corrosion of Mild Steel in Seawater Using Neural Network, Subir Paul, International Scholarly Research Network ,ISRN Metallurgy, Volume 2012 (2012), Article ID 487351, 6 pagesdoi:10.5402/2012/487351

#### **National:**

- DEVELOPMENT OF HIGH ENERGETIC NANOPOROUS ELECTRODE BY CONTROLLED ANODIZATION OF ALUMINUM, Subir Paul and Rakib Baidya, Research and Reviews in Electrochemistry, 2013, vol.4,No.1, pp1-6
- SCOPE OF NON CONVENTIONAL ENERGY BY FORMATION OF FUEL CELL THROUGH UTILIZATION OF BIOMASS, Subir Paul, Research and Reviews in Electrochemistry, 2013, vol.4,No.1, pp13-19.
- Study of Passivation, Repassivation and Metastable pitting of 316L steel Implant in Bone Solution, Subir paul and Nisha Prasad, Research and Reviews in Electrochemistry, 2013, vol.4,No.1, pp.7-12.

#### **Prof. G.C.Das**

1. Anomaly in structural noncentrosymmetry around TN in bulk and nanoscale BiFeO<sub>3</sub>, S. Goswami, Dipten Bhattacharya, G.N Iles, B. Ghosh, A.A. Pryutialiak, B. Malard, Gopes C Das, B. Ouladdiaf and T. Chatterjee, (Accepted) Powder Diffraction, 2013.
2. Spontaneous exchange bias in a nanocomposite of BiFeO<sub>3</sub>-Bi<sub>2</sub>Fe<sub>4</sub>O<sub>9</sub>, Tuhin Maity, Sudipta Goswami, Dipten Bhattacharya, Gopes C. Das and Saibal Roy, J. appl. Phys. 113, 17D916, 2013.
3. Role of Cr<sub>2</sub>O<sub>3</sub> on the formation of reaction sintered dense ZrO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub>-SiO<sub>2</sub> based refractory material, Cand. Met. Ort. J. (accepted), 2013.
4. Studies on Corundum rich zirconia-mullite composite with TiO<sub>2</sub> as additive, D. Chandra, G.C. Das, U. Sengupta and S. Maitra, Ceramic International (Accepted), 2013.
5. A mechanistic study of initial stage sintering of sol-gel derived silica nanoparticles, A. Pramanik, K. Bhattacharjee, M.K. Mita, G.C. Das and B. bhaduri, Int. J. Mod. Engg. Res., 3(2) 2013.
6. Mechanochemical synthesis of BaTiO<sub>3</sub> and Mn doped BaTiO<sub>3</sub>, S. Mukharjee, S. Ghosh, G.C. Das, M.K. Mitra, Inter Ceram, 2013, 45-49.
7. A novel method of synthesis of nanostructured AlN through sol-gel route by in situ generation of nitrogen, M. Ghoshchoudhury, J. Basu, G.C. Das, S. Mukharjee, M.K. Mitra, J.Am.Cer.Soc, 1(6) 2012.
8. Influence of Al<sub>2</sub>O<sub>3</sub>/MgO ratio on the expansion behavior of a Al<sub>2</sub>O<sub>3</sub>-MgO-C refractory, S. Mukhopadhyay, A. K. Chattopadhyay, G.C. Das, S. Maitra, Int. Ceram. Refractories, 04/2012, P 205-209.

9. In situ synthesis of nano structured WC-Co within silica gel matrix, A.D. Thakur, M. Ghoshchoudhury, G.C. Das, M.K. Mitra, S. Mukharjee, Int. J. Appl. Ceram. Tech. (in press) 2013.
10. Ni-Zn ferrite-loaded superparamagnetic amorphous carbon nanotubes through a facile route, Colloid Polym Sci, doi.07/s00396-013-3002-1. 2013
11. The mechanism of climb in dislocation-nano void interaction, A. Dutta, M. Bhattacharya, N. Gayathri, **G.C. Das** & P. Barat, Acta Materialia vol-60, (2012) 3789.13. Cited by 1.
12. In silico determination of surface entropy of 1-D Copper nanostructure A. Dutta, M. Bhattacharya, N. Gayathri, **G.C. Das** & P. Barat, Appl NanoScience, (2012) doi 10.1007/s13204-20070-3.14.
13. Evolution of chlorophyll/poly aniline nanorod network with enhanced electro-optic property, J. S. Manna, S. Basu, M.K. Mitra, S. Mukherjee, **G.C. Das**, Mater. Let 76 (2012) 147-150.15.

#### **Prof. S.Mukherjee:-**

1. A novel method of synthesis of nonostructured aluminium nitride through sol-gel route by in situ generation of nitrogen, M.Ghosh Chauhuri, J.Basu, S.Mukherjee, G.C.Das, M.K.Mitra, Journal of American Ceramic Society, JACERS-31819, 1.6. 2012.
2. Synthesis and Characterization of different structured ZnO nanomaterials through Polyethelene Glycol along with antibacterial activity study by direct attachment to the EColi Dh 5 and saureus ATCC 25923 bacteria cell membrane, P.Bhadra, S.Mukherjee, R.Dey, G.C.Das, M.K.Mitra, IJEST 2012 Accepted for publication.
3. Microbial leaching of Chromite overburden from Sukinda Mines Orissa, S.Biswas, S.Samanta, R.Dey, S.Mukherjee, International Journal of Materials, Metallurgy & Materials, Accepted in 2012.
4. Monte Carlo simulation of influence of reheat temperature on austenite grain growth in C-Mn steel". S.Hore, S.K.Das, S.Banerjee, S. Mukherjee, Materials Science & Technology, 28, 6, (2012), 711-718.
5. Evolution of chlorophyll/poly aniline nanorod network with enhanced electro-optic property, J. S. Manna, S. Basu, M.K. Mitra, **S. Mukherjee**, G.C. Das, **Mater. Letters** 76 (2012) 147-150.
6. Synthesis and Characterization of NiO doped strontium titanate ceramics, M.Banerjee, S.Maitra, ceramics, S.Mukherjee Ceramica, 2012, 58, 99-104
7. Transparent Eu<sup>3+</sup> doped Ferroelectric Bismuth Titanate Glass-Ceramic Nanocomposites : Fabrication & Properties A.R.Molla, A.Tafader, S.Mukherjee & B.Karmakar, JACS 2012( Accepted for publications) .
8. Creep behavior of Mg-Sn & Mg-Sn-Si alloys, P.Poddar, S.Mukherjee, K.L.Sahoo, Materials Science & Engineering A, 2012, 1-25.
9. Induction Furnaces-An Overview, S.Sen, S.Mukherjee, R.Dey, JPC bulletin, XII (2012), 9, 18-26
10. Synthesis and optimization of silica- Ni Nanocomposite, A.K.Pramanick, M.K.Mitra, S.Mukherjee, G.C.Das & B.Duari, Indian Science Cruiser, 26, 5, 2012, 13-17.
11. A comparative study of pure and rare earth transition metal doped bismuth ferrite, Soumya Mukherjee, S.Chakraborty, S.Mukherjee, International journal of current engineering & technology, Accepted in 2012.
12. Induction Furnaces An Overview, S. Sen, R.Dey, S.Mukherjee, JPC Bulletin, Vol-12, 9, 2012, 18-26.
13. Synthesis & characterization of lanthalam doped bismuth ferrite, , Soumya Mukherjee, S.Chakraborty, S.Mukherjee, International Journal of nanodimension Accepted in 2012.

14. Microbial extraction of cobalt and nickel from lateritic chromite overburden using aspergillus wentii", S.Biswas, R.Dey, P.C.Bandyapadhyay,S.Mukherjee, **Res J Pharm Biol Chem Sci** ,4,2,2013, 739-750.
15. Three Dimensional Ag<sub>2</sub>O/TiO<sub>2</sub> Type-II (p-n) Nanohetrojunctions for superior Photocatalytic Activity, D. Sarkar, Chandan K. Ghosh, S.Mukherjee and K.K. Chattopadhyay, Applied Materials & Interfaces, 5.2013, 331-337.
16. Synthesis,characterization and high natural sunlight photocatalytic performance of cobalt doped TiO<sub>2</sub> nanofibers, D.Sarkar, S.Mukherjee, K.K.Chattopadhyay, Physica E , 50, 2013, 37-43.
16. Processing & Properties of Eu+3 doped barium bismuth titanate glass-ceramicnanocomposites, A.Molla,B.N.Karmakar,S.Mukherjee, JACS,Accepted in 2013.
17. "Bioleaching of Nickel and Cobalt from Lateritic Chromite Overburden Using the Culture Filtrate of Aspergillus niger", S.Biswas,S.Mukherjee, P.C.Banerjee,R.Dey, Journal of Applied Biochemistry and Biotechnology,Accepted in 2013.
18. Mineralogy of vanadium bearing titaniferrous magnetite ore of Eastern India & its carbothermal behavior, S.Samanta,S.Biswas,S.Mukherjee,R.Dey, T.K.Baidya, Internatinal Journal of Minerals, Metallurgy and Materials, Accepted in 2013.
19. In situ synthesis of Nanostrucrued WC-Co within Silica matrix, A.Dalapati,S.Mukherjee,R.Dey, G.C.Das, M.K.Mira, Accepted for publication in International Journal of Applied Ceramic Technology in 2013.

**Dr. R.Dey:**

1. Microbial extraction of cobalt and nickel from lateritic chromite overburden using aspergillus wentii", S.Biswas, R.Dey, P.C.Bandyapadhyay,S.Mukherjee, **Res J Pharm Biol Chem Sci** ,4,2,2013, 739-750.
2. "Bioleaching of Nickel and Cobalt from Lateritic Chromite Overburden Using the Culture Filtrate of Aspergillus niger", S.Biswas,S.Mukherjee, P.C.Banerjee,R.Dey, Journal of Applied Biochemistry and Biotechnology,Accepted in 2013.
3. Mineralogy of vanadium bearing titaniferrous magnetite ore of Eastern India & its carbothermal behavior, S.Samanta,S.Biswas,S.Mukherjee,R.Dey, T.K.Baidya, Internatinal Journal of Minerals, Metallurgy and Materials, Accepted in 2013.
4. In situ synthesis of Nanostrucrued WC-Co within Silica matrix, A.Dalapati,S.Mukherjee,R.Dey, G.C.Das, M.K.Mira, Accepted for publication in International Journal of Applied Ceramic Technology in 2013.
5. Studies on the corrosion characteristics of a few coated reinforced TMT bars used in concrete structure" Dhurjyoti Banerjee, Buddhadeb Duari, Rajib Dey, Bimal Chaudhuri, D Sarkar, Paintindia Vol LX II - No 4, April 2012, Page 49 – 53
6. "Study of the Release Mechanism of Terminalia Chebula Extract from Nanoporous Slica Gel"Suparna Chakraborty, Manoj Kumar Mitra, Mahua Ghosh Chaudhuri, Biswanath sa, Satadal Das, Rajib Dey, Applied Biochem Biotechnol DOI 10 1007/s12010-012-9916-0, Received 29/5/12, Accepted 3/10/12, Published Online 18/10/12
7. "Quantification of Valuable Metals from E-waste" U Agarwal, M Ghosh Chaudhuri, S Samanta, S Mukherjee, R Dey, Indian Science Cruiser, Volume 27, Number 1, January 2013
8. Synthesis and Characterization of different structured ZnO nanomaterials through Polyethelene Glycol along with antibacterial activity study by direct attachment to the EColi Dh 5 and saureus

ATCC 25923 bacteria cell membrane, P.Bhadra,S.Mukherjee,R.Dey,G.C.Das,M.K.Mitra,IJEST 2012 Accepted for publication.

9. Microbial leaching of Chromite overburden from Sukinda Mines Orissa,S.Biswas,S.Samanta, R.Dey,S.Mukherjee, International Journal of Materials, Metallurgy & Materials, Accepted in 2012.
10. Induction Furnaces An Overview, S. Sen,R.Dey,S.Mukherjee, JPC Bulletin,Vol-12,9,2012,18-26.

#### **Prof. A.K.Pramanik**

1. A.k.Pramanick, M.K.Mitra, S.Mukherjee, G.C.Das & B.Duari,"Synthesis and Optimization of Silica-Ni nanocomposite" September 2012, Volume 26, Number 5 , Indian Science Cruiser
2. A.k.Pramanick, K. Bhattacharjee, M.K.Mitra, G.C.Das & B.Duari,"A mechanistic study of the initial stage of the sintering of sol-gel derived silica nanoparticles" March-April 2013, vol. 3, Issue 2, pp-1066-1070, International journal of Modern Engineering Research.
3. A.k.Pramanick, M.K.Mitra, S.Mukherjee, G.C.Das & B.Duari," Optimization of process parameters for the synthesis of Silica-Ni nanocomposite by design of experiment" accepted 28-01-2013

#### **Prof. P.K.Datta**

1. P.K.Datta-Aesthetics of Dhokra Castings (Dhokra Silper Charukala) (2012), Lokashruti (J. of Folk and Tribal Art & Culture Centre, Govt. of West Bengal

#### **Prof. Dinabandhu Ghosh:-**

##### **International Publications:**

1. Ritayan Chatterjee and Dinabandhu Ghosh: "Characterization of Cu-SiO<sub>2</sub> Composite Synthesized by Hydrogen Reduction of Chalcopyrite Concentrate Followed by Acid Leaching"; Published Online in Metall. Mater. Trans. B, 2013, June 26.
2. J. Pal, S. Ghorai, M. C. Goswami, D. Ghosh, and D. Bandyopadhyay, S. Ghosh: "Behavior of Fluxed Lime-Iron Oxide Pellets in Hot Metal Bath during Melting and Refining";International Journal of Minerals, Metallurgy and Materials, 2013, vol. 20, issue 4, 329-337.

##### **National Publications :**

1. Ritayan Chatterjee, Sabyasachi Banerjee, Sayan Banerjee, Dinabandhu Ghosh: "Reduction of Nickel Oxide Powder and Pellet by Hydrogen": Trans. Indian Inst. of Metals, 2012, vol. 65, no. 3, pp. 265-273.

#### **Prof. T.K.Pal**

1. Manidipto Mukherjee, **Tapan Kumar Pal**, " Role of microstructural constituents on surface crack formation during hot rolling of standard and low nickel austenitic stainless steel", Acta Metallurgica Sinica (English letter), 2013, 26, 206-216.
2. S. Basak, **T.K.Pal**, M. Shome and J. Maity, "GMA Brazing of Galvannealed Interstitial – Free Steel", Welding Journal, 2013, vol. 92, February, pp. 29-s to 35-s.
3. Hrishikesh Das, Sushovan Basak, Goutam Das, **Tapan Kumar pal**, "Parameter optimization in Al6061/HIF GA steel friction stir lap welds", Advanced Materials Research Vol. 628 (2013) pp 199-205.
4. Manidipto Mukherjee, **Tapan Kumar Pal**, " Effect of modes of metal transfer and microstructure on corrosion behavior of welded modified ferritic stainless steel in acidic environments" Journal of applied electrochemistry, 2013, 43,347-365.

5. Manidipto Mukherjee, **Tapan Kumar Pal**, "Influence of heat input on martensite formation and impact property of ferritic – austenitic dissimilar weld metals" *Journal of material science and technology*, 2012, 28,343-352.
6. Manidipto Mukherjee, **Tapan Kumar Pal**, "Influence of Mode of Metal Transfer on Microstructure and Mechanical Properties of Gas Metal Arc Welded Modified Ferritic Stainless Steel", *Metallurgical and Materials Transactions A*,2012, 43, 1791-1808.
7. Biplab Kumar Mondal, **Tapan Kumar Pal** and Joydeep Maity, "Microstructural characterization and fatigue performance evaluation of MIG-welded ship hull steel", *Steel Research International*, 2012, Vol. 83, DOI: 10.1002/srln.201100095
8. Rajesh Kr. Gupta, Hrishikesh Das and **Tapan Kumar Pal** "Influence of processing parameters on induced energy, mechanical and corrosion properties of FSW butt joint of 7475 aluminium alloy", *International journal of Material Engineering and Performance*, DOI: 10.1007/s11665-011-0074-2.
9. Hrishikesh Das & Sushovan Basak & Goutam Das & **Tapan Kumar Pal**, "Influence of energy induced from processing parameters on the mechanical properties of friction stir welded lap joint of aluminium to coated steel sheet", *International Journal of Advanced Manufacturing technology*, 2013,64,1653-1661.
10. H. Das and **T. K. Pal**, "Corrosion Fatigue behavior of Submerged Arc Welded high strength steel used in Naval Structures", *Indian Welding Journal* Volume 45 No. 2 April ,2012.
11. Mousumi Das, **T.K.Pal**, Goutam Das; "Effect of aging and cryo rolling on microstructural characterization and mechanical properties of precipitation hardenable 6063Al alloy", *Materials Science and Engineering A* 552 (2012) 31–35,

#### **Prof. S.K.Ray(Steel Chair Professor)**

1. Low cycle fatigue life prediction of 316 L(N) stainless steel based on cyclic elasto-plastic response, S.C. Roy, S. Goyal, R. Sandhya, S.K. Ray, *Nuclear Engineering and Design*, Vol 253, 2012, Pages 219-225
2. Low Cycle Fatigue Behaviour of a Cu-Cr-Zr-Ti Alloy, A. Biswas, A. Nagesha, G. Sukumaran, P. Parameswaran, A.K. Asraff, R. Sandhya, S.K. Ray, 6th International Conference on Creep, Fatigue and Creep-Fatigue Interaction, *Procedia Engineering* Volume 55, 2013, Pages 171–175.
3. Analysis of Hysteresis Loops of 316L(N) Stainless Steel under Low Cycle Fatigue Loading Conditions, Samir Chandra Roy, Sunil Goyal, R. Sandhya, S.K. Ray, 6th International Conference on Creep, Fatigue and Creep-Fatigue Interaction, *Procedia Engineering* Volume 55, 2013, Pages 165–170

#### **Prof. M.K.Mitra**

1. Precipitation behavior investigated through positron annihilation in Sc-doped Al-6Mg followed by the effects of Zr-addition R. Sen, P.M.G. Nambissan, M.K. Mitra, M.K.Banerjee **Physics Procedia** 35 ( 2012 ) 34 – 39
2. Evolution of chlorophyll/polyaniline nanorod network with enhanced electro-optic property Jhimli Sarkar Manna , S. Basu , Monoj Kumar Mitra , Siddhartha Mukherjee, Gopesh Chandra Das **Materials Letters** 76 (2012) 147–150
3. Any Effect of Processing History on Precipitation Hardening of Metastable Austenitic Stainless Steels S. Saha, K. Datta, M. K. Mitra, L-E. Lindgren and J. Post **Key Engineering Materials Vols. 504-506 (2012) pp 851-856**



4. Electronic structure and optical properties of CuAlO<sub>2</sub> under biaxial strain C K Ghosh, D Sarkar, M K Mitra and K K Chattopadhyay **J. Phys.: Condens. Matter** **24 (2012) 235501 (9pp)**
5. A facile synthetic strategy for Mg–Al layered double hydroxide material as nanocarrier for methotrexate Manjusha Chakraborty, Sudip Dasgupta, Somoshree Sengupta, Jui Chakraborty, Swapankumar Ghosh, Jiten Ghosh, Manoj Kumar Mitra, Akhilesh Mishra, Tapan Kumar Mandal, Debabrata Basu **Ceramics International** **38 (2012) 941–949**
6. HIGH DIELECTRIC CONSTANT COMPOSITE BASED ON CHLOROPHYLL A ENTRAPPED NANOPOROUS SILICA GEL J. S. MANNA, M. K. MITRA, S. MUKHERJEE, G. C. DAS Journal of Advanced Dielectrics, Volume 02, Issue 03, July 2012, 1250016 (9 pages)
7. A mechanistic study of initial stage sintering of sol-gel derived silica nanoparticles, A. Pramanik, K. Bhattacharjee, M.K. Mita, G.C. Das and B. bhaduri, *Int. J. Mod. Engg. Res.*, 3(2) 2013.
8. Mechanochemical synthesis of BaTiO<sub>3</sub> and Mn doped BaTiO<sub>3</sub>, S. Mukharjee, S. Ghosh, G.C. Das, M.K. Mitra, *Inter Ceram*, 2013, 45-49.
9. In situ synthesis of nano structured WC-Co within silica gel matrix, A.D. Thakur, M. Ghoshchoudhury, G.C. Das, M.K. Mitra, S. Mukharjee, *Int. J. Appl. Ceram. Tech.* (in press) 2013.
10. A novel method of synthesis of nonostructured aluminium nitride through sol-gel route by in situ generation of nitrogen, M.Ghosh Chauhuri, J.Basu, S.Mukherjee, G.C.Das, M.K.Mitra, *Journal of American Ceramic Society, JACERS-31819*, 1.6. 2012.
11. Synthesis and Characterization of different structured ZnO nanomaterials through Polyethelene Glycol along with antibacterial activity study by direct attachment to the EColi Dh 5 and saureus ATCC 25923 bacteria cell membrane, P.Bhadra, S.Mukherjee, R.Dey, G.C.Das, M.K.Mitra, *IJEST* 2012 Accepted for publication.
12. Evolution of chlorophyll/poly aniline nanorod network with enhanced electro-optic property, J. S. Manna, S. Basu, M.K. Mitra, **S. Mukherjee**, G.C. Das, **Mater. Letters** **76 (2012) 147-150**.
13. Synthesis and optimization of silica- Ni Nanocomposite, A.K.Pramanick, M.K.Mitra, S.Mukherjee, G.C.Das & B.Duari, *Indian Science Cruiser*, 26,5,2012, 13-17
14. "Study of the Release Mechanism of Terminalia Chebula Extract from Nanoporous Slica Gel" Suparna Chakraborty, Manoj Kumar Mitra, Mahua Ghosh Chaudhuri, Biswanath sa, Satadal Das, Rajib Dey, *Applied Biochem Biotechnol* DOI 10 1007/s12010-012-9916-0, Received 29/5/12, Accepted 3/10/12, Published Online 18/10/12
15. A facile synthetic strategy for Mg–Al layered double hydroxide material as nanocarrier for methotrexate, M.Chakroborty, S.Dasgupta, S.Sengupta, J.Chakroborty, S.K.Ghosh, J.Ghosh, M.K.Mitra, A.Mishra, T.K.Mondol, D.Basu, *Cer Int*, 2012, Vol 38, pp 941-949
16. Electronic structure and optical properties of CuAlO<sub>2</sub> under biaxial strain, C.K.Ghosh, D.Sarkar, M.K.Mitra, K.K.Chattopadhyay, *J. Phys.: Condens. Matter*, 2012, Vol 24, 235501 (9pp)
17. Any Effect of Processing History on Precipitation Hardening of Metastable Austenitic Stainless Steels, S.Saha, K.Datta, M.K.Mitra, L.E.Lindgren, J.Post, *Key Engineering Materials Vols, 2012, Vol. 504-506, pp 851-856*
18. Precipitation behavior investigated through positron annihilation in Sc-doped Al-6Mg followed by the effects of Zr-addition, R.Sen, P.M.G.Nambisan, M.K.Mitra, M.K.Banerjee – *Phys Proc*,

2012, Vol 35, pp 34-39

19. Magnetic and dielectric properties of sol-gel derived nanoparticles of double perovskite  $Y_2NiMnO_6$ , J. Appl. Phys., 2012, Vol 112, 044311 ; doi.10.1063/1.4748058 (6 pages)
20. Microstructural characterization of recrystallised Zircaloy-2 after pilgering using X-ray Diffraction Line Profile Analysis - JI Nuclear Materials, 2013, Vol 434, Issues 1-3, pp 24-30
21. Mechanochemical synthesis of barium titanate and Mn-doped barium titanate – Interceram, 2013, Vol 62, No 1, pp 45-49
22. Synthesis and characterization of bismuth ferrite - cobalt ferrite multiferroic nanocomposite, S.Mukherjee, S.Ghosh, C.Ghosh, M.K.Mitra, Int JI Adv Sci Tech, 2013, Vol 6, No 1, pp 15-21
23. Polyaniline/Vanadium Oxide composites : an effective control in morphology by varying reactant concentrations, S.Goswami, M.K.Mitra, K.K.Chattopadhyay, Mat Chem Phys, 2013, Vol 138, Issue 1, pp 319-326
24. Energy transfer from polyaniline to chlorophyll a supramolecular assembly in nano-hybrid, J.S.Manna, D.Das, M.K.Mitra, JI Phys Chem C, 2013, Accepted for publication, DOI: 10.1021/jp4014288, pub date (web) 18 Apr
25. Drug delivery using nanosized layered double hydroxide, an anionic clay J. Chakraborty, M. Chakraborty, S.K. Ghosh, M. K. Mitra *Key Engineering Materials Vol. 571 (2013) pp 133-167*

**Prof. P.C.Chakraborti:-**

1. Ratcheting Behavior of a Titanium-Stabilized Interstitial Free Steel: De, P.S., Chakraborti, P.C., Bhattacharya, B., Shome, M., Bhattacharjee, D. : Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science , pp. 1-15.
2. Understanding the Shape-Memory Behavior in Ti-(~49 At. Pct) Ni Alloy by Nanoindentation Measurement: Sinha, A., Datta, S., Chakraborti, P.C., Chattopadhyay, P.P. : Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science , pp. 1-8.
3. *Effect of Strain Rate on the Low Cycle Fatigue Behavior of 316L(N) Stainless Steel Weld Joints*, Sayan Kalyan Chandra, Vani Shankar , K. Mariappan, R. Sandhya, P.C. Chakraborty, 6th International Conference on Creep, Fatigue and Creep-Fatigue Interaction—Procedia Engineering Volume 55, 2013, Pages 176–180

**6. Major Achievements:**

Selected as '**Centre of Excellence**' under TEQIP Scheme on "**Phase Transformation and Product Characterization**"

**PHARMACEUTICAL TECHNOLOGY**

Phone : + 91-33-2414-6967  
Int. : 2457-2274  
H.O.D : Prof. Tanmoy Bera  
E-mail : hod@pharma.jdvu.ac.in

1. A. **Courses Offered:**

<b>Name of Course :</b>	<b>Duration of the Course (in year):</b>	<b>No. of Students Enrolled:</b>
B. Pharm	4	70
M.Pharm	2	25+ QIP
Ph. D.		12
M. Pharm in clinical Pharmacy & Pharmacy Practice	2	8

1. B. **No. of Faculty Members:**

Professor	Associate Professor	Asst. Professor
9	8	2

2. A. **Departmental Research Activities: (Broad Areas)**

**B. Major Research Projects:**

Name of the Teacher: Dr. Kunal Roy

Name of the Project: Development of AChE-inhibitor for Alzheimer's Disease- Screening Designing Synthesis and Biological validation using Chemical Library & North-East Indian Plants

Funding Agency: Department of Biotechnology (Twinning Programme)

Sanctioned Date: 2012

Name of the Teacher: Dr. Kunal Roy

Name of the Project: In silico modeling of ecotoxicological hazards of chemicals using advanced chemometric tools

Funding Agency: Council of Scientific and Industrial Research

Sanctioned Date: 2012

Name of the Teacher: Dr. Kunal Roy

Name of the Project: Exploring Quantitative Structure-Activity Relationships (QSARs) of Selected Classes of Antimalarial Compounds for Development of Predictive Models

Funding Agency: UGC

Sanctioned Date: 2011

Name of the Teacher: Dr. Biswajit Mukherjee

Name of the Project: Insulin like growth factor II (IGF II) phosphorothioate antisense oligomers in search for a potential future drug of liver cancer

Funding Agency: Indian Council of Medical Research

Sanctioned Date: 2010

Name of the Teacher: Dr. Biswajit Mukherjee

Name of the Project: Anti diabetic potential of Apigenin- pharmacokinetics and mechanistic approach and correlation with hepatocellular carcinoma (Individual : C.M. Hossain)

Funding Agency: Department of Science and Technology

Sanctioned Date: 2010

Name of the Teacher: Dr. Biswajit Mukherjee

Name of the Project: Preparation and invitro evaluation of Phosphatidylethanolamine conjugated Tamoxifen citrate loaded nanoparticles for the breast cancer therapy (Individual : R. Majhi)  
Funding Agency: Indian Council of Medical Research  
Sanctioned Date: 2011

Name of the Teacher: Dr. Biswajit Mukherjee  
Name of the Project: Development of nano-scale Liposomal targeted delivery of an anti cancer agent (Individual : Bhawani Shankar Satapathy)  
Funding Agency: Department of Science and Technology  
Sanctioned Date: 2011

Name of the Teacher: Dr. Biswajit Mukherjee  
Name of the Project: Tamoxifen Citrate loaded in nanoliposomes tagged with monoclonal antibody for targeting in breast cancer (Individual : Niladri Shekahr De)  
Funding Agency: Indian Council of Medical Research  
Sanctioned Date: 2011

Name of the Teacher: Dr. Biswajit Mukherjee  
Name of the Project: Pulmonary delivery of nanoparticles of an antifungal agent using nebulizer or dry powder inhaler  
Funding Agency: Department of Biotechnology  
Sanctioned Date: 2012

Name of the Teacher: Dr. Tanmoy Bera  
Name of the Project: Preparation, characterization and evaluation of polymersome nanoparticles, based on preferential macrophage membrane recognition for resistant antileishmanial drug delivery  
Funding Agency: Indian Council of Medical Research  
Sanctioned Date: 2012

Name of the Teacher: Dr. Pulok Kumar Mukherjee  
Name of the Project: Synergistic interaction of anti-bacterial natural products from medicinal plants of North East India: An effort in developing multi drug resistance natural antibiotic  
Funding Agency: Department of Biotechnology (Twinning Programme)  
Sanctioned Date: 2011

Name of the Teacher: Dr. Pulok Kumar Mukherjee  
Name of the Project: Novel Drug Discovery and Development Approaches For The Pharmacological Immune Enhancers In Immune Compromised Individuals  
Funding Agency: Dept. of Science & Technology (DST): India-Brazil-South Africa (IBSA) Trilateral Cooperation Program  
Sanctioned Date: 2010

Name of the Teacher: Dr. Tuhinadri Sen  
Name of the Project: Novel Drug Discovery and Development Approaches for the Pharmacological Immune Compromised Individuals  
Funding Agency: IBSA (DST India International cooperation)  
Sanctioned Date: 2011

Name of the Teacher: Dr. Amalesh Samanta

Name of the Project: Experimental studies on the efficacies of natural materials as binder, emulgent, prebiotics and antimicrobials obtained from a single plant *Odina woder* (Family: Anacardiaceae)

Funding Agency: UGC

Sanctioned Date: 2012

Name of the Teacher: Dr. Tapan Kumar Maity

Name of the Project: Design, Synthesis, and Pharmacological Screening of Hybrid Urea/Thiourea Derivatives as Potential Antihyperglycemics

Funding Agency: Council of Scientific and Industrial Research

Sanctioned Date: 2012

### 3. A. Invited Lecturers Delivered/ Session Chaired:

#### National:

- Dr. Tanmoy Bera- Delivered invited lecture on Modern Trends to combat life threatening diseases- National Seminar on "Strategies to combat diseases threatening the Nations health"- Gupta College of Technological Sciences, Asansol- 2013 (One day).
- Dr. Pulok Kumar Mukherjee- Invited Speaker- Panacea 2012-5<sup>th</sup> Natural Products India- World Centre, Mumbai- 2012
- Dr. Biswajit Mukherjee- Delivered Invited Lecturer on Nanoparticles as Transdermal Drug Delivery Systems- National Seminar on Polymer research in drug delivery- Gupta College of Technological Sciences, Asansol- 2012 (One day).
- Dr. Biswajit Mukherjee- Delivered Invited Lecturer on Nanoparticles as Drug Delivery Systems for Anti fungal drug- National Seminar on drug delivery- Dr. B. C. Roy College of Pharmacy and Allied Health Sciences- 2012 (One day).
- Dr. Biswajit Mukherjee delivered an invited lecture on a **International** Seminar on 'Pharmaceutical Sciences: A Global Approach'' at Department of Pharmacy, University of Sciences and Technology, Chittagong (USTC), on 26<sup>th</sup> February, 2013.
- Dr. Biswajit Mukherjee delivered an invited lecture on a National Seminar on 'Recent Advances in Pharmaceutical research'' at College of Pharmaceutical Sciences, Puri, on 13<sup>th</sup> April, 2013.
- Dr. Biswajit Mukherjee delivered three guest lectures for M.Parm courses (Clinical Pharmacy & Pharmacy practice) at Department of Pharm. Tech, Jadavpur University, Kolkata.
- Dr. Biswajit Mukherjee delivered a guest lecture at Department of Chemistry, Aliah University, Kolkata in the autumn Semestar 2013.
- Dr. Biswajit Mukherjee delivered a guest lecture at Department of Chemistry, Aliah University, Kolkata in the spring Semestar 2013.

### 3. B. Seminar/ Workshop/ Conference/ Symposium Attended:

S. Mondal, P. Ghosh, S. Ghosh, **T. Bera**- Generation of adenosine triphosphate in *Leishmania donovani* amastigote forms- National Seminar on "Strategies to combat diseases threatening the Nations health"- Gupta College of Technological Sciences, Asansol- 2013

J. J. Roy, S. Mondal, S. Das, **T. Bera**- ATP Formation in *Leishmania Donovanii* amastigote through substrate level phosphorylation- National Seminar on "Strategies to combat diseases threatening the Nations health"- Gupta College of Technological Sciences, Asansol- 2013

S. Pandit, S. M. Ahmed, K. Mukherjee, N. K. Nema, N. Maity, S. Bhadra, **P. Mukherjee**- Safety evaluation of *Andrographis paniculata* and isolated andrographolide through Cytochrome P450 inhibition assay- 12<sup>th</sup> International Congress of Ethnopharmacology "ISE 2012"- Science City, Jadavpur University, Kolkata- 2012

S. Yamamoto, H. Mizuguchi, I. M. Nurul, M. Shahriar, P. Venkatesh, K. Maeyama, **P. K. Mukherjee**, M. Hattori, M.S.K. Choudhuri, N. Takeda, H. Fukui- Albizia lebbeck alleviated allergy symptoms by inhibiting histamine signaling at the Transcriptional level - 12<sup>th</sup> International Congress of Ethnopharmacology "ISE 2012"- Science City, Jadavpur University, Kolkata- 2012

N. Maity, S. Pandit, N.K.Nema, S. K. Chaudhary, **P. K. Mukherjee**- Development of RP- HPLC method for the estimation of  $\bar{U}$ - Amyrin and Syringic acid from marigold flower- International Congress on Natural Product Research (ICNPR- 2012)- Grand Hyatt, New York, USA- 2012

B. Mukherjee, M. K. Ghosh- Treatment of Antisense Insulin like growth factor II controlling the development of hepatocellular carcinoma in rats- The International Liver Congress TM 2012- 47<sup>th</sup> annual meeting of the European Association for the study of the Liver (EASL)- Barcelona, Spain- 2012

### 3. C. Orientation Courses/ Refresher Courses Organized:

- Name of the Teacher: Dr. Biswajit Mukherjee
- Title of the Course: AICTE sponsored QIP refresher course on "Future direction of Pharmaceutical Studies and Research".
- Duration: One Month, 27<sup>th</sup> June to 24<sup>th</sup> July 2012
- Place: Department of Pharmaceutical Technology, Jadavpur University, Kolkata.
- Name of the Teacher: Dr. Biswajit Mukherjee
- Title of the Course: AICTE sponsored QIP refresher course on "Innovation and Excellence in Pharmaceutical Science".
- Duration: 2<sup>nd</sup> July to 29<sup>th</sup> July 2013
- Place: Department of Pharmaceutical Technology, Jadavpur University, Kolkata.

### 4. A. Books/ Monographs etc. Published

#### Dr. Pulok Kumar Mukherjee-

- [1] "Traditional Medicines and Globalization–The Future of Ancient Systems of Medicine"- **Pulok K. Mukherjee** [Edited], Maven Publication, Kolkata, 2013, ISBN 978-81-926243-0-3.
- [2] "Natural Matrix-Metallo-proteinase Inhibitors -Leads from Herbal Resources" **Pulok K. Mukherjee**, Niladri Maity, Neelesh K. Nema, Birendra K. Sarkar in: Studies in Natural Products Chemistry (Bioactive Natural Products), Elsevier Science Publishers – Amsterdam, 2013, pp. 91-113.
- [3] "Indian Medicinal Plants with Hypoglycemic Potential" **Pulok K. Mukherjee**, Neelesh K. Nema, Subrata Pandit and Kakali Mukherjee in Bioactive Food as Dietary Interventions for Diabetes Elsevier Science Publisher, Amsterdam. Editor: Ronald R. Watson, San Diego: Academic Press. dx.doi.org/10.1016/B978-0-12-397153-1.00022-6., 2013, pp. 235-264.
- [4] "Botanicals as Angiotensin Converting Enzyme (ACE) inhibitors Useful in Hypertension" **Pulok K. Mukherjee**, Sushil K. Chaudhary, Neelesh K. Nema in: Nutritional and Therapeutic Interventions for Heart Disease, Eds.; Dr Nilanjana Maulik, CRC Press, LLC, Florida, 2013, pp 541 -559.

## Dr. Biswajit Mukherjee-

- [1] **Biswajit Mukherjee**, Miltu Kumar Ghosh, Chowdhury Mobaswar Hossain. Book Chapter titled: Chemically induced hepatocellular carcinoma: Stages of development with some biochemical and genetic modulation with a special reference to IGF- II and Raf in Hepatocellular Carcinoma: Basic Research- 2012- In Tech Publisher. Pg. no. 201-218.
- [2] **Biswajit Mukherjee**, Saikat Ghosh, Samrat Roy Chowdhury and Anandamoy Rudra- Tungsten Cofactors, Binding Proteins, and Transporters in Biological System. Encyclopedia of Metalloproteinase- Springer 2013. Pg. No. 2263-2274
- [3] **Biswajit Mukherjee**, Sefali Halder, Miltu Kumar Ghosh, R. Manasadeepa Vanadium ions and vanadium proteins: distribution, metabolism and their biological significance. Encyclopedia of Metalloproteinase- Springer 2013. Pg. No. 2306-2316.

## B. Articles Published in Journals:

Das S, Roy P, Mondal S, **Bera T**, Mukherjee. A. One pot synthesis of gold nanoparticles and application in chemotherapy of wild and resistant type visceral Leishmaniasis. *Colloids Surf B Biointerfaces*. 2013, 107, 27-34.

Bhatia S, Rathee P, Sharma K, Chaugule B B, Kar N, **Bera T**. Immuno-modulation effect of sulphated polysaccharide (porphyran) from *Porphyra vietnamensis*. *Int J Biol Macromol*. 2013, 57, 50-56.

Bhatia S, Sharma K, Nagpal k, Kavale M, **Bera T**. Investigation of the antifungal activity and mechanism of action of alkali modified Porphyran derived from low tide sample of *Porphyra vietnamensis*. *Carbohydrate Polymers*. 2013 (In- Press).

Pattnaik G, Sinha B, Mukherjee B, Ghosh S, Basak S, Mondal S, **Bera T**. Submicron- size biodegradable polymer- based didanosine particles for treating HIV at early stage: an in vitro study. *J Microencapsul*. 2012, 29, 666-676

Sushil Kumar Chaudhary, Niladri Maity, Santanu Bhadra, Neelesh Kumar Nema, B. P. Saha. **Pulok K. Mukherjee** Angiotensin Converting Enzyme inhibition activity from the essential oils of Indian spices Natural Product Communications 2013, 8 (5), 671 - 672

Neelesh K. Nema, Niladri Maity, Birendra K. Sarkar and **Pulok K. Mukherjee**. Matrix Hyaluronidase & Metalloproteinase, Elastase Inhibitory Potential of Standardized extract of *Centella asiatica* (L.), *Pharmaceutical Biology*, 2013, 51(9), 1182-1187

Mukherjee, H., Ojha, D., Bag, P., Chandel, H.S., Bhattacharyya, S., Chatterjee, T.K., **Mukherjee, P.K.**, Chattopadhyay, D. Anti-herpes virus activities of *Achyranthes aspera*: An Indian ethnomedicine, and its triterpene acid, *Microbiological Research*, 168(4) 2013, 238-44.

**Pulok K. Mukherjee**, Neelesh K. Nema, Niladri Maity, B. Sarkar Phytochemical and Therapeutic Potential of Cucumber. *Fitoterapia Elsevier Science*, 2013, 84, 227-236.

Mukherjee, H., Ojha, D., Bag, P., Chandel, H.S., Bhattacharyya, S., Chatterjee, T.K., **Mukherjee, P.K.**, Chattopadhyay, D. Anti-herpes virus activities of *Achyranthes aspera*: An Indian ethnomedicine, and its triterpene acid *Microbiological Research*, 2013 6; 168(4):238-44.

**Pulok K. Mukherjee**, Neelesh K. Nema, P. Venkatesh, Pratip K. Debnath, Changing scenario for promotion and development of Ayurveda - way forward, *Journal of Ethnopharmacology* 2012, 143(2):424-34.

Niladri Maity, Neelesh K. Nema, Birendra K. Sarkar, **Pulok K. Mukherjee**, Standardized Clitoria ternatea Leaf Extract as Hyaluronidase, Elastase and Matrix-metalloproteinase-1 Inhibitor, Indian Journal of Pharmacology, 2012, 44(5), 584-587.

S. K. Chaudhary, **Pulok K. Mukherjee**, Neelesh Kumar Nema, Santanu Bhadra, B. P. Saha. ACE inhibition activity of standardized extract and fractions of Terminalia bellerica. Oriental Pharmacy & Experimental Medicine 2012, 12, 273–277.

Gantait, A., Maji, A., Barman, T., Banerji, P., Venkatesh, P., **Mukherjee, P.K.** Estimation of capsaicin through scanning densitometry and evaluation of different varieties of capsicum in India, Natural Product Research, 2012, 26 (3), 216-222.

S. Pandit, **Pulok. K. Mukherjee**. K Mukherjee, Rahul Gajbhiye, M. Venkatesh, S. Ponnusankar, Santanu Bhadra. Cytochrome P450 Inhibitory Potential of Selected Indian Spices-Possible Food Drug Interaction, Food Research International, 2012, 45 (1), 69–74

---

Sinha B, **Mukherjee B**, **Pattnaik G**. Poly-lactide-co-glycolide nanoparticles containing voriconazole for pulmonary delivery: in vitro and in vivo study. *Nanomedicine*. 2013 Jan; 9(1):94-104.

**Biswajit Mukherjee**, Chowdhury M. Hossain, Laboni Mondal, Paramita Paul and Miltu K. Ghosh. Obesity and Insulin Resistance: An Abridged Molecular Correlation. *Lipid Insights* 2013;6, 1–11

Santanu Bhadra, **Pulok K. Mukherjee**, A. Bandyopadhyay, Cholinesterase inhibition activity of Marsilea quadrifolia Linn. an edible leafy vegetable from West Bengal, India, Natural Product Research, 2012, 26 (16) , 1519-1522

---

Basu S, Mukherjee B, Chowdhury SR, Paul P, Choudhury R, Kumar A, Mondal L, Hossain CM, Maji R. Colloidal gold-loaded, biodegradable, polymer-based stavudine nanoparticle uptake by macrophages: an in vitro study. *Int J Nanomedicine*. 2012; 7: 6049-61.

Ali KA, Mukherjee B, Bandyopadhyay AK. Formulation development and in vitro evaluation of solidified self-microemulsion in the form of tablet containing atorvastatin calcium. *Drug Dev Ind Pharm*. 2012

B. Mukherjee, M.K. Ghosh, Treatment of antisense insulin-like growth factor II controlling the development of hepatocellular carcinoma in rats, *Journal of Hepatology*, 2012, 56, 114

Pattnaik G, Sinha B, Mukherjee B, Ghosh S, Basak S, Mondal S, Bera T. Submicron-size biodegradable polymer-based didanosine particles for treating HIV at early stage: an in vitro study. *J Microencapsul*. 2012;29(7):666-76.

Sinha B, Mukherjee B. Development of an inhalation chamber and a dry powder inhaler device for administration of pulmonary medication in animal model. *Drug Dev Ind Pharm*. 2012; 38(2):171-9.

---

Probir Kumar Ojha, **Kunal Roy**. Exploring Structural Requirements for a Class of Nucleoside Inhibitors (PfdUTPase) as Antimalarials: First Report on QSAR, Pharmacophore Mapping and Multiple Docking Studies. *Combinatorial chemistry & high throughput screening* , 2013

Kunal Roy, **Rudra Narayan Das**. **QSTR with extended topochemical atom (ETA) indices. 16. Development of predictive classification and regression models for toxicity of ionic liquids towards Daphnia magna. Journal of hazardous materials, 2013; 254-255C:166-178**

---

Probir Kumar Ojha, Indrani Mitra, Supratik Kar, Rudra Narayan Das, **Kunal Roy**. Lead Hopping for PfdHODH Inhibitors as Antimalarials Based on Pharmacophore Mapping, Molecular Docking and



Comparative Binding Energy Analysis (COMBINE): A Three-Layered Virtual Screening Approach Molecular Informatics. 2012; 31(10-31):711-718.

Jitendra N Pande, B.K.Gupta, **L.K. Ghosh**, Debanjan Sen. Andrographolide Analogues: Pharmacophore Modeling and 3D QSAR analysis", International Journal of Pharmaceutical Research and Allied Sciences: 2012; 2 (4): 89-93.

**L.K. Ghosh**: A brief discussion of epilepsy with special reference to carbamazepine: Pharmawave: 2012; 5: 45-52.

**L.K. Ghosh**. Epilepsy and its Management: A Review: Journal of PharmaSciTech: 2012; 1(2): 20-26.

**L.K. Ghosh**: Designing of amino acids and their interactions in to unique tripeptide conformations for developing new peptide pharmaceuticals using Ramachandran plot: PharmacologyOnline: 2013; 1:77-88.

**L.K. Ghosh**: Matrix tablets of 5-aminosalicylic acid for possible treatment of inflammatory bowel diseases affecting the small and large intestines: International Journal of PharmTech Research: 2013; 5(2): 712-717.

Sunil Kumar, M. Das, K. S. Gupta, R. Kumar, A. Chongdar, **L. K. Ghosh**. Design, development, optimization and evaluation of gastro-retentive floating tablets of atenolol: Der Pharmacia Lettre: 2013; 5 (3): 436-456.

M.Das, **L.K. Ghosh**. Evaluation of polymers for compression coating of 5-aminosalicylic acid matrix tablets for colon targeting: Int. J. Pharm. Pharm. Sci.: 2013; 5(3): 122-125.

**Samanta, Amalesh**; Chattopadhyay, Debprasad; Sinha, Chandrima; Dulal Jana, Ananda; Ghosh, Soma; Mandal, Anurup; Banerjee, Ananya; Hendricks, Oliver; B. Christensen, Jorn; Elisabeth Kristiansen, Jette Evaluation of In Vivo and In Vitro Antimicrobial Activities of a Selective Serotonin Reuptake Inhibitor Sertraline Hydrochloride Anti-Infective Agents, 2012, 10(2), 95-104.

**Amalesh Samanta**, Paramita Bera, Mahamuda Khatun, Chandrima Sinha, Pinaki Pal, Asif Lalee, Anurup Mandal. An investigation on heavy metal tolerance and antibiotic resistance properties of bacterial strain Bacillus sp. isolated from municipal waste J. Microbiol. Biotech. Res., 2012, 2 (1):178-189.

**Amalesh Samanta**, Pinaki Pal, Anurup Mandal, Chandrima Sinha, Asif Lalee, Mousumi Das, Sudipta Kaity, Debmalya Mitra. Estimation of biosurfactant activity of an alkaline protease producing bacteria isolated from municipal solid waste Central European Journal of Experimental Biology, 2012, 1 (1):26-35

Krishnendu B. Sahu, Soma Ghosh, Maitreyee Banerjee, Arindam Maity, Shyamal Mondal, Rupankar Paira, Pritam Saha, Subhendu Naskar, Abhijit Hazra, Sukdeb Banerjee, **Amalesh Samanta**, Nirup B. Mondal. Synthesis and in vitro study of antibacterial, antifungal activities of some novel bisquinolines, Medicinal Chemistry Research, 2013, 22 (1), 94-104.

Ghosh S, Samanta A, Mandal NB, Bannerjee S, Chattopadhyay D. Evaluation of the wound healing activity of methanol extract of Pedilanthus tithymaloides (L.) Poit leaf and its isolated active constituents in topical formulation. J Ethnopharmacol. 2012 Aug 1; 142(3):714-22.

Dewanjee, S., Gangopadhyay, M., Sahu, R., Karmakar, S.. Cadmium induced pathophysiology: Prophylactic role of edible jute (Corchorus olitorius) leaves with special emphasis on oxidative stress and mitochondrial involvement. *Food and Chemical Toxicology*. 2013, 60,188-198.

Mansoor, T.A., Borralhoa, P.M., **Dewanjee, S.**, Mulhovod, S., Rodrigues, C.M.P., Ferreira, M-J.U.. Monoterpene bisindole alkaloids, from the African medicinal plant Tabernaemontana elegans,

induce apoptosis in HCT116 human colon carcinoma cells. *Journal of Ethnopharmacology*. 2013, 149, 463-470.

Sahu, R., Dewanjee, S., Gangopadhyay, M.. Bioproduction and optimization of Rosmarinic acid production in *Solenostemon scutellarioides* through media manipulation and conservation of high yielding clone via encapsulation. *Natural product Communications*. 2013 (Accepted).

\_\_\_\_ Dewanjee, S., Gangopadhyay, M., Sahu, R..Cadmium induced pathophysiology: Prophylactic role of edible jute (*Corchorus olitorius*) leaves with special emphasis on oxidative stress and mitochondrial involvement. *Food and Chemical Toxicology*. 2013, 60, 188-198.

Dewanjee, S., Dua, T.K., Sahu, R.. Potential anti-Inflammatory effect of *Leea macrophylla* Roxb. leaves: a wild edible plant. *Food and Chemical Toxicology*. 2013, 59, 514-520.

Sahu, R., Gangopadhyay, M., Dewanjee, S.. Elicitor-induced rosmarinic acid accumulation and secondary metabolism enzyme activities in *Solenostemon scutellarioides*. *Acta Physiologiae Plantarum*. 2013, 35, 1473-1481.

Dewanjee, S., Sahu, R., Karmakar, S., Gangopadhyay, M.. Toxic effects of lead exposure in Wistar rats: Involvement of oxidative stress and the beneficial role of edible jute (*Corchorus olitorius*) leaves. *Food and Chemical Toxicology*. 2013, 55,78-91.

Deuschländer, M.S., Lall, N., Van de Venter, M., Dewanjee, S.. The hypoglycemic activity of *Euclea undulata* Thunb. var. *myrtina* (Ebenaceae) root bark evaluated in a streptozotocin-nicotinamide induced type 2 diabetes rat model. *South African Journal of Botany*. 2012, 80, 9-12.

Sahu, R., Dewanjee, S., Dua, T.K., Gangopadhyay, M., Das, A.K., Dey, S.P.. Dereplication coupled with in vitro antioxidant assay of two flavonoid glycosides from *Diospyros peregrina* fruit. *Natural Product Research*. 2012, 26, 454-459.

Sahu, R., Dewanjee, S.. Differential physiological and biochemical responses under variable culture conditions in micro-propagated *Solenostemon scutellarioides*: an important ornamental plant. *Natural Products and Bioprospecting*. 2012, 2, 160-165.

Sarkar L, Bhuvanewari N, Samanta SK, Islam MN, Sen T, Fukui H, Mizuguchi H, Karmakar S.A report on anti-oedemogenic activity of *Byttneria herbacea* roots – Possible involvement of histamine receptor (type I). *J. Ethnopharmacol*. 2012,140(2), 443– 446.

Mani Senthil Kumar KT, Puia Z, Samanta SK, Barik R, Dutta A, Gorain B, Roy DK, Adhikari D, Karmakar S, Sen T. The gastroprotective role of *Acanthus ilicifolius* - a study to Unravel the underlying mechanism of anti-ulcer activity. *Scientia Pharmaceutica*. 2012, 80 (3): 701-717.

Rajib Barik, Ratul Sarkar, Prova Biswas, Ashok Pattnaik, Samir Kumar Samanta, KT Manisenthilkumar, Murari Pal, Sanmoy Karmakar, Tuhinadri Sen Inhibition of arachidonic acid metabolism and pro-inflammatory cytokine production by *Bruguiera gymnorrhiza* leaf. *Orient Pharm Exp Med*. 2013, 13(1), 41-50

Dipak Kumar Nayak, Rinku Baishya, Kamal Krishna Halder, Tuhinadri Sen, Bharat R. Sarkar, Shantanu Ganguly, M. K. Das, Mita Chatterjee Debnath. Evaluation of <sup>99m</sup>Tc(I)-tricarboxyl complexes of fluoroquinolones for targeting bacterial infection. *Metallomics*, 2013, 4(11), 1197-208

Karmakar S, Padman A, Swamy Mane N, Sen T. Hypokalaemia- A potent risk for QTc prolongation in clarithromycin treated rats. *Eur. J. Pharmacol*. 2013, 709, 80-84

Dipak Kumar Nayak, Kamal Krishna Halder, Rinku Baishya, Tuhinadri Sen, Partha Mitra, Mita Chatterjee Debnath. Tricarboxyltechnetium(I) and tricarboxylrhenium(I) complexes of amino acids: crystal and molecular structure of a novel cyclic dimeric Re(CO)<sub>3</sub>-amino acid complex

comprised of the OON donor atom set of the tridentate ligand. Dalton Transactions, 2013, 42, 13565-13575

Lipi Sarkar, Rammohan Bera, Tuhinadri Sen, Sanmoy Karmakar. Comparative study of the fractions of a relatively unexplored Plant - *Byttneria herbacea* on histaminergic inflammation. Int. J. Pharm. *Pharmaceutical Sciences*, 2013, 5(3), 862-866

#### 5. Collaborative Programme:

**Dr. Biswajit Mukherjee** jointly with Dr. G C Majumder- Anti- Sticking factor from caprin epididymal plasma: Biochemical identity, role in sperm function and tumour biology with special reference to metastasis- DBT- 2010- 2013.

**Dr. Biswajit Mukherjee** jointly with Dr. Bhaskar Majumder- Pulmonary delivery of nanoparticles of an antifungal agent using nebulizer or dry powder inhaler- DBT- 2012- 2014.

**Dr. Kunal Roy** with NEHU, Shillong -Development of AChE-inhibitor for Alzheimer s Disease- Screening Designing Synthesis and Biological validation using Chemical Library & North-East Indian Plants- DBT (Twinning Programme)- 2012- 2015

#### 6. Major Achievements:

Dr. Kunal Roy recipients of Marie Curie International incoming Fellowship 2012.

Dr. Biswajit Mukherjee is Section Editor of Encyclopedia of Metalloproteinase, by Springer.

#### 7. Editor/ Editorial Board Members of International/ National Peer Reviewed Journals:

##### Dr. Kunal Roy

- Associate Editor, Molecular Diversity (Springer) (<http://www.springeronline.com/journal/11030/>) [Impact Factor 2.861 (2012)]
- Member of the Editorial Advisory Board, European Journal of Medicinal Chemistry (Elsevier, <http://www.elsevier.com/locate/ejmech/>) [Impact Factor 3.499 (2012)]
- Co-Guest Editor, Special issue of Current Drug Safety (<http://www.benthamscience.com/cds/>) on "In Silico Modeling for Prediction of Drug-Induced Adverse Reactions and Environmental Hazards Using QSAR Tools" [Vol 7, No. 4, 2012]
- Guest Editor, Special Issue of Molecular Diversity (<http://www.springeronline.com/journal/11030/>) on "Topological Descriptors in Drug Design and Modeling Studies" [Vol. 8, No. 4, 2004]
- Guest Editor, Special Issue of Molecular Diversity (<http://www.springeronline.com/journal/11030/>) on "Ecotoxicological Modeling and Risk Assessment Using Chemometric Tools" [Vol. 10, No. 2, 2006]

##### Dr. Pulok Kumar Mukherjee-

- **Associate Editor, J. Ethnopharmacology**, International journal on botanical research, published by Elsevier Science, the Netherlands 2003 onwards.
- **Guest editor of Indian Journal of Traditional Knowledge**, special issue on "Traditional knowledge of the Northeast India", January, 2009 published from, National Institute of Science Communication and Information Resources [NISCAIR], CSIR, New Delhi.
- **Guest editor of Drug Information Journal**, special issue on "Natural Health Products", September, 2010 published from, Drug Information Association [DIA], Philadelphia, USA.

- **Member of the Editorial Board of *International Journal of Chinese Herbal Medicine (CHM)***, an International Journal published by Institute of Medicinal Plant Development (IMPLAD), Chinese Academy of Medical Sciences (CAMS) , Beijing, P.R. China, 2008 onwards
- **Member of the Editorial Board of *J. Complementary and Integrative Medicine***, an International journal published by The Berkeley Electronic Press, 2008 onwards
- **Member of the Editorial Board of *J. Oriental Pharmacy and Experimental Medicine [OPEM]***, an International journal published by Springer , Institute of Oriental Medicine, South Korea, 2008 onwards
- **Member of the Editorial Board of *J. Natural Remedies [JNR]***, an Indian journal published by Natural Remedies, Bangalore 2003 onwards
- **Member of the Editorial Board of *J. Pharmaceutical Research***, an Indian journal published by Krupanidhi College of Pharmacy, Bangalore, 2008 onwards.
- **Member of the Editorial Board of *J. Pharmaceutical Education***, an Indian journal published by Association of Pharmaceutical Teachers of India [APTI].
- **Member of the Editorial Board of *Indian Journal of Traditional Knowledge [IJTK]***, a journal published by National Institute of Science Communication & information Resources, CSIR, New Delhi 2008 onwards.
- **Member of the Editorial Board of *Medicinal and Aromatic Plant Abstracts [MAPA]***, a journal published by National Institute of Science Communication & information Resources, CSIR, New Delhi. 2008 onwards
- **Member of the Editorial Board of *Journal of Health Research***, an international journal in the field of health bio sciences, published from Chulalongkorn University, Bangkok, Thailand. 2008 onwards
- **Member of the Editorial Board of *American Journal of Plant Sciences (AJPS)***, Scientific Research Publishing, USA. 2008 onwards

**Dr. Biswajit Mukherjee-**

- **Associate Editor, *International Journal of Pharmaceutical Science and Technology***, ISSN No.: 0975- 0525.
- **Editorial Board Member, *Lipid Insights*** (France).

**POWER ENGINEERING**

**(SALT LAKE )**

Phone : + 91-33-2335-5813  
 Fax : 91-33-2335-7254  
 Int. : 6159  
 H.O.D. : Dr. Mousumi Basu  
 E-mail : hod@power.jusl.ac.

**1. A. Courses Offered :**

Bachelor of Power Engineering: 4Years, 8 Semesters, 45 students in each batch  
Master of Power Engineering: 2 Years, 4 Semesters, 18 students in each batch  
PhD(Engg.):

**1. B. Number of Faculty Members :**

11 Full time faculty members (Professors: 4, Associate Professor: 4, Assistant Professor: 3)

**2. A. Areas of Research Activities**

Combustion modeling and diagnostics, energy, atomization, computational and experimental fluid dynamics and heat transfer, microfluidics, biological fluid flow, energy studies, heat transfer using nanofluid, experimental aerodynamics, hydro power, wind power, alternative energy/distributed generation and smart grid/hybrid renewable energy systems, applied superconductivity in electrical machines, power system optimization, power economics, soft computing techniques, application of nanofluids in power engineering, economic power generation, pollution engineering, optimized modeling of deregulated electricity market in economic aspect on the context of Indian electricity market scenario, real-time & embedded systems.

**B. Major Research Projects :**

Departmental / Individual along with the names of Co-ordinator(s)/Investigator(s) :Departmental Research Scheme (DRS) under UGC Special Assistance Programme Co ordinator: Ranjan Ganguly Dy. Co ordinator: Apurba K. Santra

Name of the Project :Distributed Power Generation

Funding Agency :University Grants Commission

Departmental / Individual along with the names of Co-ordinator(s)/Investigator(s) :P.I. : Amitava DattaC.I. : Ranjan Ganguly

Name of the Project :Modeling of Spray Combustion in Gas Turbine Combustor considering Thermal Radiation and Soot Formation with Experimental Validation at different Spray Condition and Air Flow Distribution

Funding Agency : Gas Turbine Research Establishment, Govt. of India, under GATET scheme

Departmental / Individual along with the names of Co-ordinator(s)/Investigator(s) :P.I. : Amitava DattaC.I. : Ranjan Ganguly

Name of the Project :Modeling of Spray Combustion in Gas Turbine Combustor considering Thermal Radiation and Soot Formation with Experimental Validation at different Spray Condition and Air Flow Distribution

Funding Agency : Gas Turbine Research Establishment, Govt. of India, under GATET scheme

Departmental / Individual along with the names of Co-ordinator(s)/Investigator(s) :C.I.: Amitava Datta

Name of the Project :Modeling and Experimental Validation of Spray Formation by Disintegration of Annular Swirling Liquid Sheets for Design of Advanced Fuel Injectors for Gas Turbine Combustors

Funding Agency : Gas Turbine Research Establishment, Govt. of India, under GATET scheme

Departmental / Individual along with the names of Co-ordinator(s)/Investigator(s) :P.I.: Bhimsen Tudu

Name of the Project :Techno-economic analysis of the stand-alone renewable hybrid energy system

Funding Agency : University Grants Commission under JU Innovative Research Program

Departmental / Individual along with the names of Co-ordinator(s)/Investigator(s) :P.I.: Ranjan GangulyC.I.: Amitava Datta

Name of the Project :Design and characterization of thermomagnetic pump for microfluidic applications

Funding Agency : Board of Research in Nuclear Sciences (BRNS)

Departmental / Individual along with the names of Co-ordinator(s)/Investigator(s) :P.I.: Debashis Palit

Name of the Project :Constrained Optimal Bidding Strategy in Deregulated Electricity Market" under J.U Innovative Research Scheme

Funding Agency : University Grants Commission under JU Innovative Research Program

### **3. A. Invited Lectures Delivered / Sessions Chaired :**

Name of the Teacher:Amitava Datta and Ranjan Ganguly

Type of Participation (Invited Lecture / Session Chair):Industrial Training on "Thermal Aspects of Power Plant Engineering"

Name of the Seminar/Conference:Steam Generator, Combustion, Power Plant Cycles, Thermodynamic Analyses of Power Cycles

Place: Adani Power Limited, Gujarat

Duration: 21 July – 3<sup>rd</sup> Aug 2012.

Name of the Teacher: Ranjan Ganguly

Type of Participation (Invited Lecture / Session Chair):Invited Lecture on "Harnessing Magnetic Nanoparticles for Biomedical Applications"

Name of the Seminar/Conference:National Conference on Advances in Simulation and Optimization Techniques in Mechanical Engineering

Place: National Metallurgical Laboratory, Jamshedpur

Duration: March 5, 2013

Name of the Teacher: Ranjan Ganguly

Type of Participation (Invited Lecture / Session Chair):Invited Lecture on "Magnetic Particles-based Microfluidics – Activities in Jadavpur University"

Name of the Seminar/Conference:2<sup>nd</sup> Indo UK Workshop on Biomicrofluidics and Microscale Bioengineering

Place: IIT Kharagpur, University of Southampton and JU

Duration: December 9, 2012

Name of the Teacher: Amitava Gupta

Type of Participation (Invited Lecture / Session Chair):Invited talk on "Network Control Systems"

Name of the Seminar/Conference:

Place: University of Rostock

Duration: August, 2012

Name of the Teacher: Amitava Gupta

Type of Participation (Invited Lecture / Session Chair):Invited Lecture on “Biomass Gasification as an Alternative Energy Resource in Distributed Power Generation and as Kitchen Fuel”

Name of the Seminar/Conference:International Conference of Energy Resources and Technologies for Sustainable Development

Place: BESUS, Howrah

Duration: 7-9 February, 2013

Name of the Teacher: Amitava Gupta

Type of Participation (Invited Lecture / Session Chair):Invited Lecture on “Emission of Combustion Generated Nano-sized Carbon Particulates from Gasoline Engines”

Name of the Seminar/Conference:1st KIIT International Symposium on Advances in Automotive Technology

Place: Bhubaneswar, Orissa

Duration: 11-12 January, 2013

Name of the Teacher: Amitava Gupta

Type of Participation (Invited Lecture / Session Chair):Session Chair for the session “GT Operability”

Name of the Seminar/Conference:ASME 2012 Gas Turbine India Conference

Place:Mumbai

Duration: 1 December, 2012

**B. Seminar / Workshop / Conference / Symposium Attended :**

Name of the Teacher: Apurba Kumar Santra

Title of the Paper Presented:‘Effect of Aspect Ratio on Heat Transfer in a Differentially Heated Square Cavity Using Non-Newtonian Nanofluid’

Name of the Seminar:International Conference on Energy Resources & Technologies for Sustainable Development (ICERTSD),

Place: BESU, Howrah, INDIA

Duration: Feb 07-09, 2013

Name of the Teacher: Bhimsen Tudu

Title of the Paper Presented: (1)Techno-Economic Feasibility Analysis of Hybrid Renewable Energy System using Improved version of Particle Swarm Optimization (2)A New Improved Self-adaptive Particle Swarm Optimization Technique for Economic Load Dispatch

Name of the Seminar: 3<sup>rd</sup> International Conference on Swarm, Evolutionary and Memetic Computing (SEMCCO 2012) and Fuzzy and Neural Computing Conference (FANCCO 2012)

Place:Siksha ‘O’ Anusandhan University, Bhubhaneswar, Odisha, India

Duration: 20<sup>th</sup> – 22<sup>nd</sup> December, 2012

Name of the Teacher: Gargi Konar

Title of the Paper Presented: (1)Simulation of Magnetic Flux Distribution of Stator and Rotor Coil of Superconducting Air Cored Wind Turbine Generator using COMSOL Multiphysics

(2)Simulation of Flux Density in a Hybrid Coil SMES using COMSOL Multiphysics

Name of the Seminar: *Proceedings of the 2012 COMSOL Conference*

Place:Bangalore, India  
Duration: Nov 2-3, 2012

Name of the Teacher: Ranjan Ganguly

Title of the Paper Presented: (1)"Influence of microchannel geometry ... field flow fractional device" (2)"Transient response of ferrofluid plug-driven micropump"

Name of the Seminar: 13<sup>th</sup> International Conference on Magnetic Fluids

Place: NPL, New Delhi

Duration:7-11 January, 2013

#### **D. Orientation / Refresher Courses Attended :**

Name of the Teacher :Bhimsen Tudu

Title of the Course : Short term course on "Smart Grid"

Place :EEE dept of BIT-Mesra, Ranchi

Duration :7th - 9th March, 2013

#### **B Articles Published in Journals:**

1. K.K. Mandal, N. Chakraborty, Parameter Study of Differential Evolution based Optimal Scheduling of Hydrothermal Systems, *Journal of Hydro-environment Research*, **7**, 72-80, 2013.
2. Syamasree Biswas (Raha), Niladri Chakraborty, Kamal Krishna Mandal, Differential evolution technique with random localization for tuned reactive power dispatch problem, *Electric Power Components and Systems*, **41**, 500–518, 2013.
3. Syamasree Biswas (Raha), K.K. Mandal, N. Chakraborty, Constriction Factor based Particle Swarm Optimisation for Analyzing Tuned Reactive Power Dispatch, *Frontiers in Energy*, **7** (2), 174-181, 2013.
4. S. Biswas (Raha), K.K. Mandal, and N. Chakraborty, Modified Differential Evolution based Multi-Objective Congestion Management in Deregulatory Power Environment, *International Journal of Electrical, Electronics and Computer Engineering*, **1**(2), 93-97, 2012.
5. M. Basu, Artificial immune system for combined heat and power economic dispatch, *International Journal of Electrical Power & Energy Systems*, **43** (1), 1-5, 2012.
6. M. Basu, Hybridization of Bee Colony Optimization and Sequential Quadratic Programming for Dynamic Economic Dispatch, *International Journal of Electrical Power & Energy Systems*, **44**(1), 591-596, 2013.
7. T.K. Ray, R. Ganguly, A. Gupta, Optimal control strategy for minimization of exergy destruction in boiler superheater, *Energy Conversion and Management*, **66**, 234-245, 2013.
8. A. Basak, J. Patra, R. Ganguly, A. Datta, Effect of transesterification of vegetable oil on liquid flow number and spray cone angle for pressure and twin fluid atomizers, *Fuel*, **112**, 347 - 354, 2013.
9. N. Modak, A.R. Pal, A. Datta, R. Ganguly, Bioseparation in a microfluidic channel using magnetic field flow fractionation, *International Journal of Micro-Nano Scale Transport*, **3**, 21 - 34, 2012.
10. U. Banerjee, P. Bit, R. Ganguly, S. Hardt, Aggregation dynamics of particles in a microchannel due to an applied magnetic field, *Microfluidics and Nanofluidics*, **13**, 565 – 577, 2012.
11. S. Das, S. Mukherjee, S. Das, I. Pan, A. Gupta, Continuous order identification of PHWR models under step-back for the design of hyper-damped power tracking controller with enhanced reactor safety, *Nuclear Engineering and Design*, **257**, 109-127, 2013.
12. S. Das, I. Pan, S. Das, A. Gupta, A novel fractional order fuzzy PID controller and its optimal time domain tuning based on integral performance indices, *Engineering Applications of Artificial Intelligence*, **25**(2), 430-442, 2012.



13. S. Das, I. Pan, S. Das, A. Gupta, (2012). Master-slave chaos synchronization via optimal fractional order PlèDi controller with bacterial foraging algorithm, *Nonlinear Dynamics*, **69**(4), 2193-2206, 2012.
14. S. Das, I. Pan, K. Halder, S. Das, A. Gupta, LQR based improved discrete PID controller design via optimum selection of weighting matrices using fractional order integral performance index, *Applied Mathematical Modelling*, **37**(6), 4253-4268, 2013.
15. S. Saha, S. Das, S. Das, A. Gupta, (2012). A conformal mapping based fractional order approach for sub-optimal tuning of PID controllers with guaranteed dominant pole placement, *Communications in Nonlinear Science and Numerical Simulation*, **17**(9), 3628-3642, 2012.
16. A. Bhattacharya, A. Datta, Effects of supplementary biomass firing on the performance of Combined Cycle Power Generation: A comparison between NGCC and IGCC Plants, *Biomass and Bioenergy*, **54**, 239-249, 2013.
17. T.J. Tharakan, A. Mukhopadhyay, A. Datta, M. Jog, Trends in comprehensive modeling of spray formation, *International Journal of Spray and Combustion Dynamics*, **5**(2), 123-180, 2013.
18. B. Paul, A. Datta, A. Datta, A. Saha, A comparison of chemical structures of soot precursor nanoparticles from liquid fuel combustion in flames and engine, *Journal of Nanoparticle Research*, **15**(4), Art No. 1550, 2013..
19. P.C. Roy, A. Datta, N. Chakraborty, An assessment of different biomass feedstocks in a downdraft gasifier for engine application, *Fuel*, **106**, 864-868, 2013.
20. B. Paul, A. Datta, A. Datta, A. Saha, Characterization of nano-sized organic carbon particles emitted from a small gasoline engine using different optical techniques, *Particuology*, **11**, 249-255, 2013.
21. B. Paul, A. Datta, Emission of hydrophilic soot precursor particles from a small gasoline engine at different load conditions, *Journal of Energy Institute*, **86**(2), 78-84, 2013.
22. A. Bhattacharya, A. Bhattacharya, A. Datta, Modeling of Hydrogen Production Process from Biomass using Oxygen Blown Gasification, *Int. Journal of Hydrogen Energy*, **37**(24), 18782-18790, 2012.

## 5. Collaborative Programmes :

1. Collaborated with Chemistry Division of UGC-DAE Consortium for Scientific Research, Kolkata Centre for research carried out on Carbon Nanoparticles in Flames and Engine exhaust – Prof. Amitava Datta.
2. Collaborative research with Prof. Dr. Steffen Hardt of the Center of Smart Interfaces, T.U. Darmstadt, Germany, on Magnetic particle transport at the interfaces – Dr. Ranjan Ganguly.
3. Collaboration with Prof. Ishwar K. Puri, Virginia Tech, USA, on Biomedical applications of magnetic particles – Dr. Ranjan Ganguly
4. Collaborated with Prof. Salem Hasnaoui of ENIT Tunis within the scope of Indo-Tunisian bilateral Program-Prof. Amitava Gupta
5. Collaborated with Prof. Peter Luksch of Universitaet Rostock, Germany, in the area of Distributed Real-time Systems.

## 6. Major Achievements :

1. **Dr. K. K. Mandal** has served as Member of Editorial Board for IJSCE, International Journal of Soft Computing and Engineering
2. **Dr. K. K. Mandal** has served in the Editorial Advisory Board Member, International Journal of Engineering and Innovative Technology (IJEIT).

3. **Prof. Amitava Datta** has served as Member in the Executive Committee of the Combustion Institute, Indian Section.
4. **Prof. Amitava Datta** has served as Member, SERC School Planning Committee in Combustion constituted by Department of Science and Technology.
5. **Prof. Amitava Gupta** has served as Research Ambassador of the German Academic Exchange Service (DAAD).
6. **Prof. Amitava Gupta** was awarded a special grant for German Research Alumni by Alexander von Humboldt Foundation for a short research stay at the Universitaet Rostock, Germany along with Doctoral student Soumya Dasgupta, September 2012.
7. **Prof. Amitava Gupta** has been nominated as University Nominated Member in the Board of Studies(Power Engg.) for GMR Institute of Technology, Rajam, Andhra Pradesh, by JNTU Kakinada.

## **PRINTING ENGINEERING (SALT LAKE)**

Phone : + 91-33-2335-0408  
 Int. : 6189  
 H.O.D. : Prof. Arun Kiran Pal  
 E-mail : hod@print.jusl.ac.in

### **1. A. Courses Offered:**

- BE (Printing), 4 years, intake 25+2+Lateral Entry in 2<sup>nd</sup> year
- M E in Printing Engineering & Graphic Communication, 2 years, intake 10, 07 students persuing
- Ph. D. (Engineering), presently 6 students registered

### **1. B. No. of Faculty Members:** 7 full time, 5 visiting

### **2. A. Area of Research Activities:** Surface Coating, Material Science, Digital Imaging, Colour Science, Security Printing, Digital image processing, Digital Halftoning, non-impact printing, Packaging, Ink Technology etc.

### **2. B. Major Research Project:**

- i) DST-PURSE programme co-ordinated by HOD (funded by GOI)
- ii) "Modernization of KMC Press: DPR" under the co-ordinatorship of Prof. Dr. A.K.Pal & Dr. K.C.Paul funded by KMC, Govt. of W.B

### **4. Publications (During 2012-13) in International Journals and Conferences:**

#### **International Journals:**

Arpitam Chatterjee, Bipan Tudu, Kanai Ch. Paul, *Towards optimized binary pattern generation for grayscale digital halftoning: A binary particle swarm optimization (BPSO) approach*, Journal of Visual Communication and Image Representation, 23 (2012) 1245–1259

Arpitam Chatterjee, Bipan Tudu, Kanai Ch. Paul, *Binary grayscale halftone pattern generation using binary artificial bee colony (bABC)*, Signal, Image and Video Processing, Article in Press, 2012. DOI 10.1007/s11760-012-0388-z

**International Conferences:**

Barun Kumar Bairagi, Samir Ch. Das, Arpitam Chatterjee, Bipan Tudu, *Expressions Invariant Face Recognition Using SURF and Gabor Features*, IEEE Proc. on 3<sup>rd</sup> Int. Conf. on Emerging Applications of Information Technology (EAIT), 2012, 170 – 173.

Kundu Prodeep, Pal Arun Kiran; A novel Versatile Method of Generating soft Halftone Proofs, TAGA Conference, April 2012.

**5. Collaborative Programmes:**

- i) Collaborative Programme of KMC for Modernisation of printing presses under the co-ordinatorship of Dr. K.C.Paul & Prof. Dr. A.K.Pal.
- ii) Collaborative Programme of Indian Institute of Packaging, Kolkata regarding 'PG Diploma in Packaging Technology and M.Tech in Packaging Technology' under the co-ordinatorship of Prof. A.K.Pal & Dr. K.C.Paul

**6. Major Achievements:**

- Research activities by the faculties of the department in the field of Coating technology, Paper technology, Ink technology, Material Sciences, Electronic Publishing, Colour Sciences, Rheology, Non-impact printing etc published several research papers in the field.
- Research papers published by UG students at National Level Conference organized by Anna University and Jadavpur University.
- Prof. Dr. Arun Kiran Pal is acting as expert member of Curriculum & Syllabus Committee for "Diploma in Packaging Technology" by Govt. of West Bengal.
- Dr. K.C.Paul is acting as a expert member of Technical Expert Committee of KMC, Govt. of West Bengal.
- Prof. Dr. A.K.Pal has served AICTE, UGC & UPSC as expert member and Adviser.
- Dr. K. C. Paul is acting as expert member of Task Force of IIP, Mumbai for formulating the syllabus & curriculum of B.Tech and M.Tech in Packaging and Applied Management Science.
- "M. Tech in printing Engineering & Graphic Communication" course started & received AICTE approval

**PRODUCTION ENGINEERING**

Phone : + 91-33-2414-6153  
Int. : 2457-2319  
H.O.D. : Dr. Biswanath Doloi  
E-mail : hod@production.jdvu.ac.in

**1. A. Courses Offered:**

- a) Bachelor of Production Engineering: 4 – years, No. of Students -44
- b) Master of Production Engineering: -2 years , No. of Students-20
- c) PhD(Engg)

**1. B. Number of Faculty Members: 14 (Fourteen)**

**2. A. Area of Research Activities:**

Advanced manufacturing technology, Micromachining Processes, Metrology, Robotics, Flexible manufacturing systems (FMS), CAD, CAM, CIM, Concurrent Engineering, Rapid Response Manufacturing Total Quality Management , Ergonomics, Simulation , Production and Operations management, Tribology and Terotechnology, MIS, ERP and Decision support system (DSS).

**3. A. Invited Lectures Delivered/ Sessions Chaired:**

- 1) Prof. Bijan Sarkar was invited by to deliver lecture on “Relevance of Swami Vivekananda’s thoughts in India today” organised by Prafulla Chandra College, 23/49, Gariahat Road, Kolkata-700 029 on 9<sup>th</sup> March 2013
- 2) Prof. Bijan Sarkar has presided over a session on “Swami Vivekananda Through Contemporary Eyes” as a part of 6<sup>th</sup> Biennial International Conference of IAAPS organised by Department of South & Southeast Asian Studies , Calcutta University on 18<sup>th</sup> December 2012
- 3) Prof. Bijan Sarkar was invited at a workshop on “ VALUE EDUCATION” organised by MCKV Institute of Engineering, Lilulah, Howrah-711 204 On 21<sup>st</sup> November 2012
- 4) Prof. Bijan Sarkar has been invited by the department of Philosophy, JU, to deliver speech in inaugural function of two-day State Level Seminar on “ Swami Vivekananda and the Modern World “ held during October 12-13,2012.
- 5) Prof. Bijan Sarkar has been invited to deliver lectures for MBA 2<sup>nd</sup> year 1<sup>st</sup> semester students in the area of Production and Operations Management including Materials Management( Paper-XI) during June – August , 2012.
- 6) Prof. Bijan Sarkar has been invited to conduct the viva- voce examination of Ph.D degree of West Bengal University of Technology on September 19, 2012.
- 7) Prof. Bijan Sarkar has been invited to Chair a technical Session and deliver an invited talk at National Conference on “Recent Trends in Communication, Measurement,& Control” , organized by Asansol Engineering College, Asansol, on 14<sup>th</sup> August 2012.
- 8) Prof. B. Bhattacharyya delivered Keynote address in the National Conference on “Recent Trends in Manufacturing Science and Technology”, RTMST-2013 at NITTTR. Kolkata, 18<sup>th</sup>-19<sup>th</sup> April 2013.
- 9) Prof. B. Bhattacharyya delivered Lecture on National Level workshop on Advances in Manufacturing Sciences (AMS’12), DSCET, Chennai on 08th February 2013.
- 10) Prof. B. Bhattacharyya delivered Lecture on “Electrochemical Micro-machining” for the pre conference workshop organized by Central Manufacturing Technology Institute (CMTI), Bangalore on 20th January 2013.
- 11) Prof. B. Bhattacharyya delivered Lecture on “Electrochemical Micro-machining” for the Short term School on “Micro-manufacturing” organized by IIT Kanpur on 8th November 2012.
- 12) Prof. B. Bhattacharyya delivered Lecture on “Electrochemical Micro-machining” at NIT, Rourkela on May 11, 2012.

13) Dr. D. Banerjee session Chaired on 10<sup>th</sup> ISE (Indian Society of Ergonomics) & 8<sup>th</sup> HWWE (Humanizing work & working environment) Meet. Coll. Of Home Sc., J. B. Pant Univ. of Agri & Tech. Pantnagar. Dec. 2012.

**3. B. Seminar/ Workshop Conference / Symposium Attended :**

Dr. D. Banerjee attended 10<sup>th</sup> ISE (Indian Society of Ergonomics) & 8<sup>th</sup> HWWE (Humanizing work & working environment) Meet. Coll. Of Home Sc., J. B. Pant Univ. of Agri & Tech. Pantnagar. Dec. 2012.

**3. C. Seminar/Workshop Conference/Symposium Organized :**

Department of Production Engineering organized 4<sup>th</sup> International and 25<sup>th</sup> **All India Manufacturing Technology, Design and Research (AIMTDR)** Conference, December 2012.

**4. B. Articles Published in Journal :**

1. Acherjee, B., Kuar, A. S., Mitra, S., & Misra, D. (2012). A sequentially integrated multi-criteria optimization approach applied to laser transmission weld quality enhancement-a case study. *International Journal of Advanced Manufacturing Technology*, 1-10.
2. Acherjee, B., Kuar, A. S., Mitra, S., & Misra, D. (2012). Effect of carbon black on temperature field and weld profile during laser transmission welding of polymers: A FEM study. *Optics and Laser Technology*, 44(3), 514-521.
3. Acherjee, B., Kuar, A. S., Mitra, S., & Misra, D. (2012). Modeling and analysis of simultaneous laser transmission welding of polycarbonates using an FEM and RSM combined approach. *Optics and Laser Technology*, 44(4), 995-1006.
4. Acherjee, B., Kuar, A. S., Mitra, S., & Misra, D. (2012). Modeling of laser transmission contour welding process using FEA and DoE. *Optics and Laser Technology*, 44(5), 1281-1289.
5. Acherjee, B., Kuar, A. S., Mitra, S., Misra, D., & Acharyya, S. (2012). Experimental investigation on laser transmission welding of PMMA to ABS via response surface modeling. *Optics and Laser Technology*, 44(5), 1372-1383.
6. Adhikary, D. D., Bose, G. K., Chattopadhyay, S., Bose, D., & Mitra, S. (2012). RAM investigation of coal-fired thermal power plants: A case study. *International Journal of Industrial Engineering Computations*, 3(3), 423-424.
7. Athawale, V. M., & Chakraborty, S. (2012). Material selection using multi-criteria decision-making methods: A comparative study. *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications*, 226(4), 266-285.
8. Athawale, V. M., Chatterjee, P., & Chakraborty, S. (2012). Decision making for facility location selection using PROMETHEE II method. *International Journal of Industrial and Systems Engineering*, 11(1-2), 16-30.
9. Athawale, V. M., Chatterjee, P., & Chakraborty, S. (2012). Selection of industrial robots using compromise ranking method. *International Journal of Industrial and Systems Engineering*, 11(1-2), 3-15.
10. Athawale, V. M., Maity, S. R., & Chakraborty, S. (2012). Selection of gear material using compromise ranking method. *International Journal of Materials and Structural Integrity*, 6(2-4), 257-269.
11. Bag, M., Gauri, S. K., & Chakraborty, S. (2012). An expert system for control chart pattern recognition. *International Journal of Advanced Manufacturing Technology*, 62(1-4), 291-301.

12. Bag, M., Gauri, S. K., & Chakraborty, S. (2012). Feature-based decision rules for control charts pattern recognition: A comparison between CART and QUEST algorithm. *International Journal of Industrial Engineering Computations*, 3(2), 199-210.
13. Bakshi, T., Sanyal, S. K., & Sarkar, B. (2012). A novel game theoretic algorithm for project selection under fuzziness. Paper presented at the 4th International Conference on Intelligent Human Computer Interaction: Advancing Technology for Humanity, IHCI 2012,
14. Bakshi, T., Sanyal, S. K., Sarkar, B., & Sinharay, A. (2012). A project selection framework of DSS by dempster-shafer theory under fuzziness. Paper presented at the 2012 1st International Conference on Recent Advances in Information Technology, RAIT-2012, 374-378.
15. Bakshi, T., Sarkar, B., & Sanyal, S. K. (2012). A new soft-computing based framework for project management using game theory. Paper presented at the Proceedings of the 2012 International Conference on Communications, Devices and Intelligent Systems, CODIS 2012, 282-285.
16. Bandyopadhyay, S., & Bhattacharya, R. (2013). A generalized measure of bullwhip effect in supply chain with ARMA demand process under various replenishment policies. *International Journal of Advanced Manufacturing Technology*, , 1-17.
17. Bandyopadhyay, S., & Bhattacharya, R. (2013). Applying modified NSGA-II for bi-objective supply chain problem. *Journal of Intelligent Manufacturing*, 24(4), 707-716.
18. Bandyopadhyay, S., & Bhattacharya, R. (2013). Finding optimum neighbor for routing based on multi-criteria, multi-agent and fuzzy approach. *Journal of Intelligent Manufacturing*, , 1-18.
19. Bandyopadhyay, S., & Bhattacharya, R. (2012). NSGA-II based multi-objective evolutionary algorithm for a multi-objective supply chain problem. Paper presented at the IEEE-International Conference on Advances in Engineering, Science and Management, ICAESM-2012, 126-130.
20. Bandyopadhyay, S., & Bhattacharya, R. (2013). On some aspects of nature-based algorithms to solve multi-objective problems
21. Bandyopadhyay, S., & Bhattacharya, R. (2013). Solving multi-objective parallel machine scheduling problem by a modified NSGA-II. *Applied Mathematical Modelling*, 37(10-11), 6718-6729.
22. Banerjee, A., Sarkar, B., & Mukhopadhyay, S. K. (2012). Multiple decoupling point paradigms in a global supply chain syndrome: A relational analysis. *International Journal of Production Research*, 50(11), 3051-3065.
23. Chakravorty, R., Gauri, S. K., & Chakraborty, S. (2013). A study on the multi-response optimisation of EDM processes. *International Journal of Machining and Machinability of Materials*, 13(1), 91-109.
24. Chakravorty, R., Gauri, S. K., & Chakraborty, S. (2012). Optimisation of the correlated responses of EDM process using modified principal component analysis-based utility theory. *International Journal of Manufacturing Technology and Management*, 26(1-4), 21-38.
25. Chakravorty, R., Gauri, S. K., & Chakraborty, S. (2012). Optimization of correlated responses of EDM process. *Materials and Manufacturing Processes*, 27(3), 337-347.
26. Chakravorty, R., Gauri, S. K., & Chakraborty, S. (2013). Optimization of multiple responses of ultrasonic machining (USM) process: A comparative study. *International Journal of Industrial Engineering Computations*, 4(2), 285-296.
27. Chatterjee, P., & Chakraborty, S. (2012). Material selection using preferential ranking methods. *Materials and Design*, 35, 384-393.

28. Chatterjee, P., & Chakraborty, S. (2012). Materials selection using COPRAS and COPRAS-G methods. *International Journal of Materials and Structural Integrity*, 6(2-4), 111-133.
29. Chatterjee, P., & Chakraborty, S. (2013). Nontraditional machining processes selection using evaluation of mixed data method. *International Journal of Advanced Manufacturing Technology*, 1-14.
30. Choudhuri, P. K., Majumdar, P. K., & Sarkar, B. (2013). Studies on tensile properties of eri/acrylic blended yarn. *Indian Journal of Fibre and Textile Research*, 38(1), 66-73.
31. Choudhuri, P. K., Majumdar, P. K., & Sarkar, B. (2013). Thermal behaviour of textiles: A review. *Man-made Textiles in India*, 41(3), 93-96.
32. Das, M. C., Sarkar, B., & Ray, S. (2012). A framework to measure relative performance of indian technical institutions using integrated fuzzy AHP and COPRAS methodology. *Socio-Economic Planning Sciences*, 46(3), 230-241.
33. Das, M. C., Sarkar, B., & Ray, S. (2013). Comparative evaluation of indian technical institutions using distance based approach method. *Benchmarking*, 20(5), 568-587.
34. Das, M. C., Sarkar, B., & Ray, S. (2012). Decision making under conflicting environment: A new MCDM method. *International Journal of Applied Decision Sciences*, 5(2), 142-162.
35. Das, M. C., Sarkar, B., & Ray, S. (2013). On the performance of indian technical institutions: A combined SOWIA-MOORA approach. *OPSEARCH*, 50(3), 319-333.
36. Das, S., Ghosh, A., & Banerjee, D. (2013). Engineering design of woven fabrics using non-traditional optimization methods: A comparative study. *Fibers and Polymers*, 14(9), 1562-1567.
37. Das, S., Ghosh, A., Majumdar, A., & Banerjee, D. (2013). Yarn engineering using hybrid artificial neural network-genetic algorithm model. *Fibers and Polymers*, 14(7), 1220-1226.
38. Dey, B., Bairagi, B., Sarkar, B., & Sanyal, S. (2012). A MOORA based fuzzy multi-criteria decision making approach for supply chain strategy selection. *International Journal of Industrial Engineering Computations*, 3(4), 649-662.
39. Ganguly, D., Acherjee, B., Kuar, A. S., & Mitra, S. (2012). Hole characteristics optimization in nd:YAG laser micro-drilling of zirconium oxide by grey relation analysis. *International Journal of Advanced Manufacturing Technology*, 61(9-12), 1255-1262.
40. Ghosh, S., Sarkar, B., Sanyal, S., & Saha, J. (2012). Health diagnosis of industrial equipments through used lubricant analysis process: A rule based inference approach
41. Ghoshal, B., & Bhattacharyya, B. (2013). Generation of microfeatures on stainless steel by electrochemical micromachining. *International Journal of Advanced Manufacturing Technology*, 1-12.
42. Ghoshal, B., & Bhattacharyya, B. (2013). Influence of vibration on micro-tool fabrication by electrochemical machining. *International Journal of Machine Tools and Manufacture*, 64, 49-59.
43. Ghoshal, B., & Bhattacharyya, B. (2013). Shape control in micro borehole generation by EMM with the assistance of vibration of tool. *Precision Engineering*,
44. Jain, V. K., & Bhattacharyya, B. (2012). Advanced manufacturing processes. *Journal of Manufacturing Technology Research*, 4(1-2), 3-5.
45. Jana, T. K., Bairagi, B., Paul, S., Sarkar, B., & Saha, J. (2013). Dynamic schedule execution in an agent based holonic manufacturing system. *Journal of Manufacturing Systems*,
46. Karande, P., & Chakraborty, S. (2012). Application of multi-objective optimization on the basis of ratio analysis (MOORA) method for materials selection. *Materials and Design*, 37, 317-324.

47. Karande, P., & Chakraborty, S. (2013). Evaluation and selection of flexible manufacturing systems using MACBETH method. *International Journal of Services and Operations Management*, 16(1), 123-144.
51. Kibria, G., Doloi, B., & Bhattacharyya, B. (2013). Investigation and analysis on pulsed nd:YAG laser micro-turning process of aluminium oxide (Al<sub>2</sub>O<sub>3</sub>) ceramic at various laser defocusing conditions. *International Journal of Advanced Manufacturing Technology*, , 1-11.
52. Kibria, G., Doloi, B., & Bhattacharyya, B. (2013). Predictive model and process parameters optimization of nd:YAG laser micro-turning of ceramics. *International Journal of Advanced Manufacturing Technology*, 65(1-4), 213-229.
53. Kuar, A. S., Acherjee, B., Ganguly, D., & Mitra, S. (2012). Optimization of nd:YAG laser parameters for microdrilling of alumina with multiquality characteristics via grey-taguchi method. *Materials and Manufacturing Processes*, 27(3), 329-336.
54. Kuar, A. S., Acherjee, B., & Mitra, S. (2012). Laser micro-drilling of alumina: Parametric modelling and sensitivity analysis. *International Journal of Mechatronics and Manufacturing Systems*, 5(3-4), 294-307.
55. Kuar, A. S., Acherjee, B., & Mitra, S. (2013). Multi-objective optimisation of nd:YAG laser micro-drilling of zirconia using taguchi method with desirability function analysis. *International Journal of Mechatronics and Manufacturing Systems*, 6(2), 115-132.
56. Kumar, E. S., & Sarkar, B. (2013). Impact of wind and shading on energy contribution by photovoltaic panels with axis tracking system. Paper presented at the 2013 Annual International Conference on Emerging Research Areas, AICERA 2013 and 2013 International Conference on Microelectronics, Communications and Renewable Energy, ICMiCR 2013 - Proceedings,
57. Kumar, E. S., & Sarkar, B. (2013). Improved modeling of failure rate of photovoltaic modules due to operational environment. *Proceedings of IEEE International Conference on Circuit, Power and Computing Technologies, ICCPCT 2013*, 388-393.
58. Kumar, E. S., & Sarkar, B. (2013). Reliability and vulnerability analysis of solar photovoltaic modules and systems. Paper presented at the 2013 Annual International Conference on Emerging Research Areas, AICERA 2013 and 2013 International Conference on Microelectronics, Communications and Renewable Energy, ICMiCR 2013 - Proceedings,
59. Lalchuanvela, H., Doloi, B., & Bhattacharyya, B. (2012). Analysis on profile accuracy for ultrasonic machining of alumina ceramics. *International Journal of Advanced Manufacturing Technology*, , 1-9.
60. Lalchuanvela, H., Doloi, B., & Bhattacharyya, B. (2012). Enabling and understanding ultrasonic machining of engineering ceramics using parametric analysis. *Materials and Manufacturing Processes*, 27(4), 443-448.
61. Maity, S. R., & Chakraborty, S. (2013). Grinding wheel abrasive material selection using fuzzy TOPSIS method. *Materials and Manufacturing Processes*, 28(4), 408-417.
62. Maity, S. R., & Chakraborty, S. (2012). Turbine blade material selection using fuzzy analytic network process. *International Journal of Materials and Structural Integrity*, 6(2-4), 169-189.
63. Maity, S. R., Chatterjee, P., & Chakraborty, S. (2012). Cutting tool material selection using grey complex proportional assessment method. *Materials and Design*, 36, 372-378.
64. Malapati, M., Sarkar, A., & Bhattacharyya, B. (2012). Micro-channel generation on copper-foil by EMM process. *International Journal of Machining and Machinability of Materials*, 11(4), 385-404.



65. Mandal, N., Doloi, B., & Mondal, B. (2012). Force prediction model of zirconia toughened alumina (ZTA) inserts in hard turning of AISI 4340 steel using response surface methodology. *International Journal of Precision Engineering and Manufacturing*, 13(9), 1589-1599.
66. Mandal, N., Doloi, B., & Mondal, B. (2013). Predictive modeling of surface roughness in high speed machining of AISI 4340 steel using yttria stabilized zirconia toughened alumina turning insert. *International Journal of Refractory Metals and Hard Materials*, 38, 40-46.
67. Meena, V. K., Azad, M. S., & Mitra, S. (2012). Effect of flushing condition on deep hole micro-EDM drilling. *International Journal of Machining and Machinability of Materials*, 12(4), 308-320.
68. Mitra, A., Majumdar, A., Majumdar, P. K., & Banerjee, D. (2012). Comparative analysis of regression and ANN models for predicting drapage coefficient of handloom fabrics. *Indian Journal of Fibre and Textile Research*, 37(4), 313-320.
69. Mitra, A., Majumdar, A., Majumdar, P. K., & Bannerjee, D. (2013). Predicting thermal resistance of cotton fabrics by artificial neural network model. *Experimental Thermal and Fluid Science*, 50, 172-177.
70. Mondal, B., Mandal, N., & Doloi, B. (2013). Development of ce-PSZ-/Y-PSZ-toughened alumina inserts for high-speed machining steel. *International Journal of Applied Ceramic Technology*,
71. Mondal, S., & Chakraborty, S. (2013). A solution to robot selection problems using data envelopment analysis. *International Journal of Industrial Engineering Computations*, 4(3), 355-372.
72. Mukherjee, R., & Chakraborty, S. (2012). Selection of EDM process parameters using biogeography-based optimization algorithm. *Materials and Manufacturing Processes*, 27(9), 954-962.
73. Mukherjee, R., & Chakraborty, S. (2013). Selection of the optimal electrochemical machining process parameters using biogeography-based optimization algorithm. *International Journal of Advanced Manufacturing Technology*, 64(5-8), 781-791.
74. Mukherjee, R., Chakraborty, S., & Samanta, S. (2012). Selection of wire electrical discharge machining process parameters using non-traditional optimization algorithms. *Applied Soft Computing Journal*, 12(8), 2506-2516.
75. Peter, J., Doloi, B., & Bhattacharyya, B. (2013). Analysis on the characteristics of nd: YAG laser marking on alumina ceramic based on RSM. *International Journal of Materials and Product Technology*, 46(1), 2-18.
76. Prakash, S., Acherjee, B., Kuar, A. S., & Mitra, S. (2013). An experimental investigation on nd:YAG laser microchanneling on polymethyl methacrylate submerged in water. *Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture*, 227(4), 508-519.
77. Prasad, K., & Chakraborty, S. (2013). A quality function deployment-based model for materials selection. *Materials and Design*, 49, 525-535.
78. Rathod, V., Doloi, B., & Bhattacharyya, B. (2013). Influence of electrochemical micromachining parameters during generation of microgrooves. *International Journal of Advanced Manufacturing Technology*, , 1-10.
79. Selvakumar, G., Sarkar, S., & Mitra, S. (2013). An experimental analysis of single pass cutting of aluminium 5083 alloy in different corner angles through WEDM. *International Journal of Machining and Machinability of Materials*, 13(2-3), 262-275.

80. Selvakumar, G., Sarkar, S., & Mitra, S. (2012). Experimental investigation on die corner accuracy for wire electrical discharge machining of monel 400 alloy. Proceedings of the Institution of Mechanical Engineers, Part B: Journal of Engineering Manufacture, 226(10), 1694-1704.
81. Singha, M., Sarkar, S., Mitra, S., & Kuar, A. S. (2012). Evaluation of the characteristics of electrochemical deburring process of die steel using response surface methodology. Journal of Manufacturing Technology Research, 4(3-4), 199-208.
82. Singha, M., Sarkar, S., Mitra, S., & Kuar, A. S. (2012). Grey-based taguchi method for optimisation of multiple characteristics in electrochemical deburring process. International Journal of Manufacturing Technology and Management, 26(1-4), 137-148.
83. Suresh Kumar, E., & Sarkar, B. (2013). Investigation of the common quality and reliability issues in the photovoltaic panels. Paper presented at the 2013 International Conference on Energy Efficient Technologies for Sustainability, ICEETS 2013, 320-325.

#### **6. Major Achievements :**

1. DST PURSE Programme based on research activities of Production Engg. Dept.
2. Prof. Bijan Sarkar has been invited to deliver lecture at a workshop organised by MCKV Institute of Engineering, Lilulaha, Howrah-711 204 On 21<sup>st</sup> July 2012.
3. Prof. Bijan Sarkar has been invited to deliver lecture at a workshop organised by St.Thomas' College of Engineering and Technology ,Kolkata on 19<sup>th</sup> June 2012.
4. Prof. Bijan Sarkar has organized 3-week Refresher Course on "Inner Engineering: Opportunities & Challenges " during 18<sup>th</sup> June 2012 – 7<sup>th</sup> July,2012. Prof.S.Dutta , Pro Vice-Chancellor,JU, presided over the inaugural function. Prof.Subir Choudhury, Former Director,IIM,Kolkata, delivered address as the Chief Guest. Total twenty eight participants from different parts of India attended the course. Resource persons from IIT, Kharagpur, NITIE, Mumbai, TELCO, Jamshedpur, as well as , from our university addressed the gathering.
5. Prof. Bijan Sarkar has been invited to conduct the viva- voce examination of M.Tech Dissertation at NITTR, Salt Lake on 11<sup>th</sup> June 2012.
6. Prof. Bijan Sarkar has been invited to conduct M.Tech (P.E.) viva-voce Examination at Kalyani Government Engineering College, Kalyani,Nadia-741 235, on 6<sup>th</sup> June 2012.
7. Prof. Bijan Sarkar has been invited to conduct the viva- voce examination of Dual- Degree M.Tech (final year students) of Industrial Engineering & Management Department at I.I.T., Kharagpur, on 4<sup>th</sup> May 2012.
8. Prof. Bijan Sarkar was invited by West Bengal University of Technology (WBUT), Salt lake, to conduct the viva- voce examination of Ph.D degree on 11<sup>th</sup> April 2012 .

\*\*\*\*\*