

## Dr. Raj K. Nandi, Ph.D.

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### Education

Degree	Year	University
Ph.D.	2014	University of Kalyani
M.Sc.	2008	University of Kalyani
B.Sc.	2006	University of Kalyani

### Teaching Experience (2)

Jadavpur University (JU)	Assistant Professor	March 2023 -
Diamond Harbour Women's University	Assistant Professor	February 2019 to February 2023

### Industrial Experience (1)

TCG-Life Sciences	Senior Research Scientist	January 2019 – February 2019
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### Field of Specialization

Organic Chemistry

### Courses Taught/Teaching

Pericyclic Reaction, Synthetic Methodology, Bio-organic Chemistry, Stereochemistry, Spectroscopy

### Research Area

1. Development of New Synthetic Methodology
2. Synthesis of small organic molecules in biological interest
3. Indole Chemistry
4. Hypervalent Iodine Chemistry

5. Bio-orthogonal Chemistry
6. Medicinal Chemistry

## Experience

### Postdoctoral Research Experience:

- i. **May, 2017-October 2018:** Postdoctoral Scientist, EPFL, Lausanne, Switzerland
- ii. **February, 2015-February 2017:** Postdoctoral Collaborator, Université Paris-Saclay (Université Paris Sud), Orsay, France
- iii. **April, 2014-December, 2014:** Postdoctoral Researcher, Kobe Pharmaceutical University, Kobe, Japan.

## Conference Papers Published (0)

## Journal Papers Published (27)

Sl. No.	Title of the paper	Journal of publication	Year	Role	Vol Number-Page Name
1.	Umpolung of electron-rich heterocycles with hypervalent iodine reagents	<i>Heterocycles</i>	<b>2021</b>	Corresponding Author	103, 555 - 591
2.	Ethynylation of Cysteine Residues: From Peptides to Proteins in Vitro and in Living Cells.	<i>Angew. Chem. Int. Ed</i>	<b>2020</b>	Co-Author	59, 10961-10970.
3.	Metal-Free Oxidative Coupling for the synthesis of mixed bi-(hetero)arenes	<i>Chem. Eur. J.</i>	<b>2018</b>	Co-Author	24, 10049-10053
4.	Dearomative Diallylation of N-Acyl Indoles Mediated by FeCl <sub>3</sub>	<i>Org.Lett.,</i>	<b>2018</b>	Co-Author	20, 1845-1849
5.	Triflic acid as an efficient Brønsted acid promoter for the Umpolung of N-Ac indoles in hydroarylation reactions.	<i>Adv. Synth. Catal.</i>	<b>2018</b>	Co-Author	360, 161–172
6.	Revealing the Electrophilicity of N-Ac Indoles with FeCl <sub>3</sub> : A Mechanistic Study.	<i>Chem. Commun.,</i>	<b>2017</b>	Co-Author	53, 5834-5837
7.	Binding interaction of phosphorus heterocycles with bovine serum albumin: A biochemical study”	<i>Journal of Pharmaceutical Analysis</i>	<b>2017</b>	Co-Author	7, 19–26
8.	Synthesis of 3,3-Spiroindolines via FeCl <sub>3</sub> -Mediated Cyclisation of Aryl or Alkene-Containing 3-Substituted N-Ac Indoles.	<i>Org.Lett.,</i>	<b>2016</b>	Co-Author	18, 1716-1719.
9.	Intermolecular dearomative C2-arylation of N-Ac indoles activated by FeCl <sub>3</sub> .	<i>Chem. Commun</i>	<b>2016</b>	Co-Author	52, 5328-5331
10.	Nucleophilic $\beta$ -alkenylation of N-alkoxyamines: An	<i>Tetrahedron Lett.</i>	<b>2016</b>	Co-Author	57, 2269-2272.

	umpolung strategy for the preparation of $\beta$ , $\gamma$ -unsaturated ketones				
11.	Report of Interaction Between Calf Thymus DNA and Pyrimidine-Annulated Spiro Dihydrofuran.	<i>Biochem AnalBiochem</i>	<b>2016</b>	Co-Author	5, 278.
12.	Studies of the interaction of bovine serum albumin with pyrimidine-annulated spiro-dihydrofuran and its biological activities	<i>Adv. Mater. Lett.</i>	<b>2015</b>	Co-Author	6, 1018-1024
13.	Biophysical study on the interaction of spirooxindole-annulated thiopyran derivatives with bovine serum albumin using spectroscopic and docking methods	<i>Adv. Mater. Lett.</i>	<b>2015</b>	Co-Author	6, 913-919
14.	Synthesis of phosphorus containing medium ring heterocycles by sequential Claisen rearrangement and ring closing metathesis	<i>Tetrahedron Lett.</i>	<b>2014</b>	Co-Author	55, 1247-1250
15.	The Claisen rearrangement in the syntheses of bioactive natural products	<i>Tetrahedron</i>	<b>2013</b>	Co-Author	69, 6921-6957
16.	Formation of Five- and Six-Membered Heterocyclic Compounds by Ring-Closing Metathesis	<i>Advances in Organic Synthesis,</i>	<b>2013</b>	Co-Author	6, 355-435
17.	Indium (III) Chloride Catalyzed Convergent, Regioselective Synthesis of Annulated Quinoline and Pyridine Derivatives	<i>Synlett</i>	<b>2012</b>	Co-Author	23, 113-119.
18.	Synthesis of heterocycles by domino-Knoevenagel hetero-Diels-Alder reactions	<i>Tetrahedron</i>	<b>2012</b>	Co-Author	68, 5693-5718
19.	One pot efficient green synthesis of spirooxindole-annulated thiopyran derivatives via Knoevenagel Condensation followed by Michael addition	<i>Tetrahedron Lett.</i>	<b>2012</b>	Co-Author	53, 1732-1737
20.	Catalyst-free synthesis of Coumarin, Quinolone and Pyridine annulated oxazole derivatives	<i>Tetrahedron Lett.</i>	<b>2012</b>	Co-Author	53, 1553-1557
21.	BF <sub>3</sub> ·OEt <sub>2</sub> -Mediated 1,3-Hydride Shift Followed by 6 $\pi$ Electrocyclization: An Efficient Route for the Synthesis of Pyridopyrimidine, Pyranoquinoline, and Phenanthroline Derivatives.	<i>Eur. J. Org. Chem</i>	<b>2011</b>	Co-Author	34, 6909-6915
22.	Regioselective synthesis of pyrimidine-annulated spiro-dihydrofurans by silver-	<i>New J. Chem.</i>	<b>2011</b>	Co-Author	35, 1355-1359

	catalyzed 5-endo-dig cyclization				
23.	Regioselective Synthesis of Annulated Quinoline and Pyridine Derivatives by Silver-Catalyzed 6-endo-dig Cycloisomerization	<i>Synlett.</i>	<b>2011</b>	Co-Author	1, 116-120
24.	Novel Synthesis of Heterocycle-Annulated Azocine Derivatives of Biological Relevance by Aromatic <i>aza</i> -Claisen Rearrangement and Intramolecular Heck Reaction	<i>Synthesis</i>	<b>2010</b>	Co-Author	6, 985-990
25.	Copper (II) Acetate Promoted Intramolecular Carboamination of Alkenes: An Efficient Synthesis of Pentacyclic Sultams	<i>Synlett</i>	<b>2010</b>	Co-Author	9, 1389-1393
26.	Palladium-catalyzed regioselective oxidative amination of alkenes: an efficient route to the synthesis of pyrrolocoumarin and pyrroloquinolone derivatives	<i>Tetrahedron Lett.</i>	<b>2010</b>	Co-Author	51, 3807-3810
27.	Synthesis of Azepine- and Azocine-Annulated Heterocycles by Aromatic <i>aza</i> -Claisen Rearrangement and Ring-Closing Metathesis.	<i>Synthesis, 2010,</i>	<b>2010</b>	Co-Author	5, 863-869

#### Books Published (0)

#### Awards (11)

- **2018:** Best oral presentation at 'International Conference on Chemistry for Human Development' (ICCHD), Kolkata
- **2017:** Scientific Collaborator Position at EPFL, Switzerland.
- **2015:** Postdoctoral position at Université Paris Sud, France.
- **2014: Marie Curie International Incoming Fellowship by REA-European Commission FP7 framework Programme.**
- **2013:** KPU-Postdoctoral fellowship, Japan
- **2010:** Senior Research fellowship (SRF), CSIR, New Delhi, India.
- **2008:** CSIR-National Eligibility Test Awarded JRF(UGC) (CSIR-UGC-New Delhi)
- **2008:** First Class second in Master of Science (University of Kalyani, India)
- **2008:** Graduate Aptitude Test in Engineering (GATE), 2008, AIR-55, 99.12 percentile
- **2007:** CSIR-National Eligibility Test Awarded JRF(UGC) (CSIR-UGC-New Delhi)
- **2007:** Professor Ashima Chatterjee endowment silver medal for obtaining Rank-1 in B.Sc examination (University of Kalyani, India)
- **2006:** First Class First in Bachelor of Science (University of Kalyani, India)

#### Ph.D. Thesis Guidance (0)

#### M.Phil. Thesis Guidance (0)

**MASTER Thesis Guidance (22)**

1. Shreyasi Bhowmick (2022)
2. Marupha Parvin (2022)
3. Suprita Hati (2022)
4. Sampita Kundu (2022)
5. Piyali Giri (2022)
6. Nandita Naskar (2022)
7. Smriti Halder (2022)
8. Shreya Halder (2022)
9. Anushree Das (2021)
10. Manami Baneerjee (2020)
11. Sukanya Das (2020)
12. Puja Samanta (2020)
13. Sayanti Show (2020)
14. Swarnakshi Halder (2019)
15. Sayani Dey (2019)
16. Atmika Naskar (2019)
17. Solanki Hazra (2019)
18. Sudipa Manna (2019)
19. Plabani Manna (2019)
20. Mithu Ghosh (2019)
21. Smritirekha Bhandari (2019)
22. Ananya Mondal (2019)

**Project Works (3)**

Project Title	Worked As	Funding Agency	Amount	Duration	Period	Status
Synthesis of Heterocyclic Molecules of therapeutic interest and their functionalization by exploitation of weak bond of hypervalent iodine reagent	Principal Investigator	SERB-DST, Govt. of India	53,49,696/- (INR)	3 Y	2023-2026	On going
Exploiting Weak Bond of Hypervalent Iodine Reagents for Innovative Chemical Synthesis of Pharmaceutical Interest	Principal Investigator	UGC-FRPS, Govt. of India	10,00,000/- (INR)	3 Y	2022-2025	On going

Electrophilic Indoles for the Enantioselective Synthesis of Benzofuroindolines related to Diazonamide A (ElectroIndole)	Co-Investigator	REA-European Union	1,96,000 Euro	2 Y	2015-2017	Completed
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#### Patents (0)

#### Collaborative Programs (0)

#### Invite Lectures (4)

Sl no	Title	Organised By	Venue	Year
1.	Purification of compounds by TLC and Chromatographic techniques	Nanak College of Science, Ballarpur Maharashtra and Taywade College Mahadula koradi Maharashtra	Online: 2 days National Level Lecture Series in Chemistry for PG Students - 2021,	2021
2.	Practical Session on Organic Chemistry: Chromatographic Separation	Chakdaha College in association with Kalyani University, West Bengal, India	Online: four-Day virtual workshop on "Experience the Experiments in Chemistry Laboratory	2021
3.	Prevention and control of COVID-19: A perspective view of a Chemist	Department of Chemistry, Coochbehar Mathabhanga College, West Bengal, India	Online- 'One Day International Webinar'	2020
4.	Prevention and Control of COVID-19, From the Perspective of Chemists	Department of Chemistry, Jogomaya Devi College	Online: Webinar series	2020

#### Membership Of Learned Societies (3)

1. Member of Swiss Chemical Society (2017-2019)
2. Member of French Chemical Society (2015-2017)
3. Life Member of Marie Curie Alumni Association (MCAA).

#### Orientation/Refresher/QIP Course Attended/Organized (0)

#### Seminar/Conference/Workshop (12)

Sl no	Programme Name	Organised By	Venue	Year	Type Of Participation
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1.	5 <sup>th</sup> International Conference on Application of Radiotracers and Energetic beams in Sciences (ARCEBS-23)	SKBU and International Atomic Energy Agency	SKBU & Kushal palli- Purulia	2023	Poster
2.	International webinar series on advances in chemical sciences	DHWU and Royal Society of Chemistry	Online	2020	Convenor
3.	International Symposium on Current Trends in Chemistry-(ISCTC-2020)	DHWU and Indian Chemical Society	DHWU-Sarisha	2020	Convenor
4.	International Conference on Chemistry for Human Development (ICCHD-2020)	PACF, Calcutta University	HIT-Kolkata	2020	Poster
5.	SCS-18 Fall meeting September 7, 2018, EPFL Switzerland	Swiss Chemical Society	EPFL-Switzerland	2018	Poster
6.	International Conference on Chemistry for Human Development (ICCHD-2018)	PACF, Calcutta University	HIT-Kolkata	2018	Oral Presentation
7.	24th Young Researcher Fellow Meeting	Societe de Chimie Therapeutic - France	School of Pharmacy, Châtenay-Malabry, France	2017	Oral Presentation
8.	ICOS-21	IUPAC	IIT-Bombay	2016	Poster

9.	Journées de Chimie Organique 2016,	French Chemical Society	Ecole Polytechnique-France	2016	Oral Presentation
10.	15 <sup>th</sup> Belgian Organic Synthesis Symposium	Belgian Chemical Society	University Antwerp, Belgium	2016	Poster
11.	14 <sup>th</sup> edition of the RCO	French Chemical Society	University Paris 13-France	2016	Poster
12.	The Ninth International Symposium on Integrated Synthesis (ISIS-9)	Japan Chemical Society	Hyogo, Japan	2014	Poster

**Session chaired (0)**

**Professional Society Activity (0)**

**Consultancy work / Testing (0)**

**Other Notable Activities (0)**