

Professor Mousumi Basu

Email- mousumi.basu@jadavpuruniversity.in, mousumibasus@yahoo.com

Mobile No.: 9674067293

Date of Birth: 26.03.1969

Blood Group: o+

Madhyamik Pariksha: Basanta Kumari Balika Vidyapith: 1985

Higher Secondary Examination: Lady Brabourne College: 1987

Bachelor of Electrical Engineering, Jadavpur University: 1991

Master of Electrical Engineering, Jadavpur University: 1993

Doctor of Philosophy in Engineering, Jadavpur University: 2003

Date of joining as lecturer in Electrical Engineering Department of Regional Engineering College, Durgapur, West Bengal: 17.07.1995

Date of joining as lecturer in Power Engineering Department of Jadavpur University: 28.10.1995

Date of joining as Reader in Power Engineering Department of Jadavpur University: 17.07.2004

Date of joining as Professor in Power Engineering Department of Jadavpur University: 17.07.2010

### **Journal publications**

- [1] Baruah, A., Basu, M., Amuley, D., Modeling of an autonomous hybrid renewable energy system for electrification of a township: A case study for

- Sikkim, India (2021) *Renewable and Sustainable Energy Reviews*, 135, art. no. 110158. <https://doi.org/10.1016/j.rser.2020.110158>
- [2] Sanki, P., Basu, M., Pal, P.S., Das, D. Application of a novel PIPDF controller in an improved plug-in electric vehicle integrated power system for AGC operation (2021) *International Journal of Ambient Energy*, <https://doi.org/10.1080/01430750.2021.1920460>
- [3] Basu, S., Basu, M., Horse Herd Optimization Algorithm for Fuel Constrained Day-ahead Scheduling of Isolated Nanogrid,(2021) *Applied Artificial Intelligence*, 35 (15), pp. 1250-1270. <https://doi.org/10.1080/08839514.2021.1975392>
- [4] Basu, S., Basu, M., Modified Student Psychology Based Optimization Algorithm for Economic Dispatch Problems,(2021) *Applied Artificial Intelligence*, 35 (15), pp. 1508-1528. <https://doi.org/10.1080/08839514.2021.1985050>
- [5] Basu, M.,Fuel constrained dynamic economic dispatch with demand side management,(2021) *Energy*, 223, art. no. 120068. <https://doi.org/10.1016/j.energy.2021.120068>
- [6] Basu, M.,Heat and power generation augmentation planning of isolated microgrid, (2021) *Energy*, 223, art. no. 120062., <https://doi.org/10.1016/j.energy.2021.120062>
- [7] Sanki, P., Mazumder, S., Basu, M., Pal, P.S., Das, D.,Moth Flame Optimization Based Fuzzy-PID Controller for Power–Frequency Balance of an Islanded Microgrid,(2021) *Journal of The Institution of Engineers (India): Series B*, 102 (5), pp. 997-1006.
- [8] Basu, M. (2020). Electric power and heat generation expansion planning. *Electric Power Components and Systems*, 48(4-5), 501-511. doi:10.1080/15325008.2020.1793840
- [9] Basu, M. (2021). Fuel constrained dynamic economic dispatch with demand side management. *Energy*, 223 doi:10.1016/j.energy.2021.120068
- [10] Basu, M. (2021). Heat and power generation augmentation planning of isolated microgrid. *Energy*, 223 doi:10.1016/j.energy.2021.120062
- [11] Basu, M. (2020). Optimal generation scheduling of fixed head hydrothermal system with demand-side management considering uncertainty and outage of renewable energy sources. *IET Generation, Transmission and Distribution*, 14(20), 4321-4330. doi:10.1049/iet-gtd.2018.7103
- [12] Basu, S., & Basu, M. (2021). Social group entropy optimization for day-ahead heat and power scheduling of an isolated microgrid. *Engineering Optimization*, doi:10.1080/0305215X.2021.1919099
- [13] Das, S., & Basu, M. (2020). Day-ahead optimal bidding strategy of microgrid with demand response program considering uncertainties and outages of renewable energy resources. *Energy*, 190 doi:10.1016/j.energy.2019.116441

- [14] Hazra, A., Das, S., Laddha, A., & Basu, M. (2020). Economic power generation strategy for wind integrated large power network using heat transfer search algorithm. *Journal of the Institution of Engineers (India): Series B*, 101(1), 15-21. doi:10.1007/s40031-020-00427-y
- [15] Pattanaik, J. K., Basu, M., & Dash, D. P. (2020). Heat transfer search algorithm for combined heat and power economic dispatch. *Iranian Journal of Science and Technology - Transactions of Electrical Engineering*, 44(2), 963-978. doi:10.1007/s40998-019-00280-w
- [16] Pattanaik, J. K., Basu, M., & Dash, D. P. (2020). Improved real-coded genetic algorithm for fixed head hydrothermal power system. *IETE Journal of Research*, doi:10.1080/03772063.2020.1785339
- [17] Sanki, P., Basu, M., Pal, P. S., & Das, D. (2021). Application of a novel PIPDF controller in an improved plug-in electric vehicle integrated power system for AGC operation. *International Journal of Ambient Energy*, doi:10.1080/01430750.2021.1920460
- [18] Sanki, P., Mazumder, S., Basu, M., Pal, P. S., & Das, D. (2021). Moth flame optimization based fuzzy-PID controller for Power–Frequency balance of an islanded microgrid. *Journal of the Institution of Engineers (India): Series B*, 102(5), 997-1006. doi:10.1007/s40031-021-00607-4
- [19] A. Hazra, S. Das, A. Laddha, M. Basu, Economic Power Generation Strategy for Wind Integrated Large Power Network Using Heat Transfer Search Algorithm, *Journal of The Institution of Engineers (India): Series B*, 101, 15-21, 2020.
- [20] M. Basu, Optimal generation scheduling of hydrothermal system with demand side management considering uncertainty and outage of renewable energy sources, *Renewable Energy*, 146, 530-542, 2020. <https://doi.org/10.1016/j.renene.2019.06.069>
- [21] M. Basu, Optimal generation scheduling of fixed head hydrothermal system with demand side management considering uncertainty and outage of renewable energy sources, October 2020, *IET Generation, Transmission and Distribution* 14(1) DOI: 10.1049/iet-gtd.2018.7103
- [22] M. Basu, Dynamic economic dispatch incorporating renewable energy sources and pumped hydroenergy storage, *Soft Computing*, **24**, 4829–4840, 2020.
- [23] S. Das, M. Basu, Day-ahead optimal bidding strategy of microgrid with demand response program considering uncertainties and outages of renewable energy resources, *Energy*, **190**, 116441, 2020. <https://doi.org/10.1016/j.energy.2019.116441>
- [24] M. Basu, Multi-region dynamic economic dispatch of solar–wind–hydro–thermal power system incorporating pumped hydro energy storage, *Engineering Applications of Artificial Intelligence*, **86**, 182-196, 2019. <https://doi.org/10.1016/j.engappai.2019.09.001>

- [25] M. Basu, Combined heat and power dynamic economic dispatch with demand side management incorporating renewable energy sources and pumped hydro energy storage, *IET Generation, Transmission and Distribution*, **13**(17), 3771-3781, 2019. DOI: [10.1049/iet-gtd.2019.0216](https://doi.org/10.1049/iet-gtd.2019.0216)
- [26] M. Basu, Dynamic economic dispatch with demand-side management incorporating renewable energy sources and pumped hydroelectric energy storage, *Electrical Engineering*, **101**(3), 877-893, 2019.
- [27] M. Basu, Economic environmental dispatch of solar-wind-hydro-thermal power system, *Renewable Energy Focus*, **30**, 107-122, 2019. <https://doi.org/10.1016/j.ref.2019.04.002>
- [28] M. Basu, Squirrel search algorithm for multi-region combined heat and power economic dispatch incorporating renewable energy sources, *Energy*, **182**, 296-305, 2019. <https://doi.org/10.1016/j.energy.2019.06.087>
- [29] M. Basu, Multi-area dynamic economic emission dispatch of hydro-wind-thermal power system, *Renewable Energy Focus*, **28**, 11-35, 2019. <https://doi.org/10.1016/j.ref.2018.09.007>
- [30] A. Hazra, S. Das, M. Basu, Heat Transfer Search Algorithm for Non-convex Economic Dispatch Problems, *Journal of The Institution of Engineers (India): Series B*, **99**(3), 273-280, 2018.
- [31] M. Basu, Fast Convergence Real-Coded Genetic Algorithm for Short-Term Solar-Wind-Hydro-Thermal Generation Scheduling, *Electric Power Components and Systems*, **46**(11-12), 1239-1249, 2018. <https://doi.org/10.1080/15325008.2018.1486475>
- [32] S. Das, A. Hazra, M. Basu, Metaheuristic optimization based fault diagnosis strategy for solar photovoltaic systems under non-uniform irradiance, *Renewable Energy*, **118**, 452-467, 2018. <https://doi.org/10.1016/j.renene.2017.10.053>
- [33] M. Basu, "Fuel Constrained Economic Emission Load Dispatch using Hopfield Neural Networks", *Journal of Electric Power System Research*, Vol. 63, August 2002.
- [34] M. Basu, "Hopfield Neural Networks for Optimal Scheduling of Fixed Head Hydrothermal Power Systems", *Journal of Electric Power Systems Research*, Vol. 64, January 2003.
- [35] M. Basu, "An Interactive Fuzzy Satisfying-Based Simulated Annealing Technique for Economic Emission Load Dispatch with Nonsmooth Fuel Cost and Emission Level Functions", *Journal of Electric Power Components and Systems*, Vol. 32, No. 2 February 2004.
- [36] M. Basu, "Multiobjective Generation Scheduling of Fixed Head Hydrothermal Power Systems through an Interactive Fuzzy Satisfying method and Evolutionary Programming Technique", *Journal of Electric Power Components and Systems*, Vol. 32, No. 12 December 2004.
- [37] M. Basu, "Goal- Attainment Method Based on Simulated Annealing Technique for Economic-Environmental-Dispatch of Hydrothermal Power

Systems with Cascaded Reservoirs”, Journal of Electric Power Components and Systems, Vol. 32, No. 12 December 2004.

- [38] M. Basu, “An Interactive Fuzzy Satisfying Method based on Evolutionary Programming Technique for Multiobjective Short-Term Hydrothermal Scheduling”, Journal of Electric Power Systems Research, Vol. 69, May 2004, pp. 277-285.
- [39] M. Basu, “A simulated annealing-based goal-attainment method for economic emission load dispatch of fixed head hydrothermal power systems”, International Journal of Electrical Power and Energy Systems, 27 (2005) 147-153.
- [40] M. Basu, “Particle swarm optimization based goal-attainment method for dynamic economic emission dispatch”, Journal of Electric Power Components and Systems, volume 34, number 9, September 2006, pp. 1015-1025(11).
- [41] M. Basu, “Bi-Objective Generation Scheduling of Fixed Head Hydrothermal Power Systems through an Interactive Fuzzy Satisfying Method and Particle Swarm Optimization”, International Journal of Emerging Electric Power Systems, volume 6, Issue 1, Article 3, 2006.
- [42] M. Basu, “Dynamic Economic Emission Dispatch Using Evolutionary Programming and Fuzzy Satisfying Method”, International Journal of Emerging Electric Power Systems, volume 8, Issue 4, Article 1, 2007.
- [43] M. Basu, “Dynamic Economic Emission Dispatch Using Nondominated Sorting Genetic Algorithm-II”, International Journal of Electrical Power and Energy Systems, 30/2 (2008) 140-149.
- [44] M. Basu, “Optimal Power Flow with FACTS Devices using Differential Evolution”, International Journal of Electrical Power and Energy Systems, 30/2 (2008) 150-156.
- [45] M. Basu, “Hybridization of artificial immune systems and sequential quadratic programming for dynamic economic dispatch”, Journal of Electric Power Components and Systems, volume 37, number 9, September 2009, pp. 1036 – 1045.
- [46] M. Basu, “Economic environmental dispatch of hydrothermal power system”, International Journal of Electrical Power and Energy Systems, Volume 32, Issue 6, July 2010, Pages 711-720
- [47] M. Basu, “Combined Heat and Power Economic Dispatch by Using Differential Evolution”, Electric Power Components and Systems, Volume 38, Issue 8, January 2010, pages 996 - 1004.
- [48] M. Basu, “Artificial Immune System for Dynamic Economic Dispatch”, International Journal of Electrical Power & Energy Systems, Volume 33, Issue 1, January 2011, Pages 131-136.
- [49] M. Basu, “Multi-objective optimal power flow with FACTS devices”, Energy Conversion and Management, Volume 52, Issue 2, February 2011, Pages 903-910
- [50] M. Basu, “Artificial immune system for fixed head hydrothermal power system”, Energy, Volume 36, Issue 1, January 2011, Pages 606-612.

- [51] M. Basu, "Economic Environmental Dispatch using Multi-objective Differential Evolution", *Applied Soft Computing*, Volume 11, Issue 2, March 2011, Pages 2845-2853.
- [52] M. Basu, "Economic environmental dispatch of fixed head hydrothermal power systems using nondominated sorting genetic algorithm-II", *Applied Soft Computing*, Volume 11, Issue 3, April 2011, Pages 3046-3055.
- [53] M. Basu, "Bee colony optimization for combined heat and power economic dispatch" *Expert Systems With Applications*, Volume 38, Issue 11, October 2011, Pages 13527-13531
- [54] M. Basu, "Artificial immune system for combined heat and power economic dispatch", *International Journal of Electrical Power & Energy Systems*, Volume 43, Issue 1, December 2012, Pages 1-5
- [55] M. Basu, "Hybridization of Bee Colony Optimization and Sequential Quadratic Programming for Dynamic Economic Dispatch", *International Journal of Electrical Power & Energy Systems*, Volume 44, Issue 1, January 2013, Pages 591–596.
- [56] M. Basu, "Artificial Bee Colony Optimization for Multi-area Economic Dispatch", *International Journal of Electrical Power & Energy Systems*, Volume 49, July 2013, Pages 181–187.
- [57] M. Basu, "Combined heat and power economic emission dispatch using nondominated sorting genetic algorithm-II", *International Journal of Electrical Power & Energy Systems*, Volume 53, December (2013) 135–141.
- [58] M. Basu and A. Chowdhury, "Cuckoo search algorithm for economic dispatch", *Energy* 60 (2013) 99-108.
- [59] M. Basu, "Improved differential evolution for short-term hydrothermal scheduling", *International Journal of Electrical Power & Energy Systems*, Volume 58, June 2014, Pages 91-100.
- [60] M. Basu, "Teaching- learning-based optimization algorithm for multi-area economic dispatch", *Energy* 68 (2014) pp. 21-28.
- [61] M. Basu, "Improved differential evolution for economic dispatch", *International Journal of Electrical Power & Energy Systems*, Volume 63, December 2014, pp. 855–861.
- [62] M. Basu, "Multi-objective Differential Evolution for Dynamic Economic Emission Dispatch", *International Journal of Emerging Electric Power Systems*,
- [63] C. K. Panigrahi, P. K. Chattopadhyay, R. N. Chakrabarti and M. Basu, "Simulated annealing Technique for dynamic economic dispatch", *Journal of Electric Power Components and Systems*, volume 34, number 5, May 2006, pp. 577-586(10).
- [64] K. K. Mandal, M. Basu and N. Chakraborty, "Particle swarm optimization technique based short-term hydrothermal scheduling", *Journal of Applied Soft Computing*, volume 8, 2008, pp. 1392-1399.