



Jaideep Talukdar, Ph.D.

Designation : Professor

Department : Department of Basic Sciences and Humanities
(JOINED THE INSTITUTE IN 2013)

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RESEARCH INTERESTS

- Gas-Solids Flow systems, Fluidized beds
- Solar Energy Utilization
- Wastewater Treatment
- Heat Transfer and Cooling of Electronic Systems
- Optical Sensors and FBG Technology
- Pollution Control Methods

Academic Qualifications

- Ph. D. (Engineering), University of New Hampshire, NH, USA, 1993
- M. S. (Chemical Engineering) University of New Hampshire, NH, USA, 1986
- B.Tech. (Hons., Chemical Engineering) Indian Institute of Technology, Kharagpur, India, 1983

Teaching Experience:

- Taught undergraduate courses in Engineering Thermodynamics, Environmental Engineering and Basic Mechanical Engineering at Silicon, **2013 till date**
- Taught a graduate level course in Research Methodology, **2019 till date**
- Taught under graduate Fluid Mechanics, Heat Transfer and Process Control at UNH (USA) and worked as a teaching and research assistant for a number of chemical engineering courses and projects, **1984 -1994**

**Industry/
Research Experience:**

1. G.S. Environmental Associates, Portsmouth, NH, USA, Environmental Consultation including contaminant transport modeling and ground waters supply exploration for various private and government clients **1995-2012**
2. Riley Stoker Corp., Worcester, Massachusetts, USA, Pilot plant study and improvements in the design of a circulating fluidized bed (CFB) boiler **1991-1994**
3. Solar Energy Research Institute, Golden, CO, USA (US Dept. of Energy Laboratory, now NREL, National Renewable Energy Lab), Study and design of a titanium oxide catalyst-based solar detoxification system, for the decontamination of trace organic pollutants in water **1988**

PUBLICATIONS

Journal Articles:

1. Talukdar, J and S.B. Reddy Karri, "Analysis of the Performance of Non-Uniformly Active Catalyst Pellets for a Non-isothermal Series Reaction", Chemical Engineering Communications, Vol. 52, Issue 1-3, 1987.
2. Talukdar, J., Mathur, V.K., "Solar detoxification of TCE aqueous solution, pink water, dye contaminated water", Report submitted to the Solar Energy Research Institute, Golden, CO, Aug. 1988.
3. Talukdar, J., Wong, E.H., Mathur, V.K., "Caprolactam Production by Direct Solar Flux", Solar Energy, Vol. 47, No. 3, p. 165, 1991.
4. Talukdar, J., Mathur, V.K., "Bubble Dynamics of Air-Fine Particle-Course Particle Ternary System, presented at the AIChE Annual Meeting, St. Louis, MO, Nov. 1993.
5. Talukdar, J., Mathur, V.K., "Residence Time Studies of Fine Particles Circulating Through a Fluidized Bed of "Coarse Solids", AIChE Symposium Series, Vol. 92, 1996.
6. Talukdar, J. "Teaching of the Scientific Method in High Schools in India", International Journal of Social Science, ND Publishers, Vol 4, Issue 4, Dec. 2015.
7. T.S. Nag and J. Talukdar, "A Preliminary Investigation of Liquid Cooling of an Electronic Chip using COMSOL ", International Journal of Innovations in Engineering and Technology, Vol. 7, Issue 1, June 2016
8. K. Satpathy, I. Nopens and J. Talukdar, "Measurement Campaign using the Acoustic Doppler Velocimetry in Dissolved Air Flotation (DAF) Systems" presented at the 48th National FMFP Conference, January 2022
9. A. Mohapatra, J. Talukdar et al., "Fiber Bragg gratings sensors driven structural health monitoring by using multimedia-enabled IoT and big data technology", Multimedia Tools & Applications, Springer, <https://doi.org/10.1007/s11042-021-11565-w>, January 2022