

Curriculum Vitae

Dr. Suman Dutta

Associate Professor
Department of Chemical Engineering
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Life Member: Indian Institute of Chemical Engineers (IChE)

Life Fellow: Indian Chemical Society

Work experience

Sl. No.	Positions held	Name of the Institute	From	To
1	Associate Professor	Indian Institute of Technology (ISM) Dhanbad	April 2022	Current position
2	Assistant Professor	Indian Institute of Technology (ISM) Dhanbad	April 2013	April 2022
3	Assistant Professor	Birla Institute of Technology Mesra Ranchi	August 2011	April 2013
4	Lecturer/Sr. Lecturer	Durgapur Institute of Advanced Technology and Management, Rajbandh	Jan 2007	August 2011
5	Project Assistant	CSIR-Central Glass and Ceramic Research Institute, Kolkata	November 2005	August 2006
6	Visiting Research Student	Cranfield University, UK	Jan 2006	April 2006

Educational Qualification

Sl. No.	Degree	Year	Subject	University/Institution
1	B.Tech (Hons.)	2002	Chemical Engineering	Haldia Institute of Technology, Vidyasagar University
2	MChE	2005	Chemical Engineering	Jadavpur University, Kolkata
3	PhD	2011	Chemical Engineering	Jadavpur University, Kolkata

Publications:

Book

Dutta, S., Hussain, C.M. (2022): Membranes with Functionalized Nanomaterials: Current and Emerging Research Trends in Membrane Technology; Elsevier; ISBN: 9780323859462

Dutta, S., Hussain, C.M. (2020): Sustainable Fuel Technologies Handbook. Academic Press (Elsevier); ISBN: 9780128229897

Dutta, S. (2015): Optimization in Chemical Engineering. Cambridge University Press; ISBN 978-1-107-09123-8

Book Chapter (Selected)

Dutta, S. (2018): Hydrogen as sustainable and green energy resource. Kirk-Othmer Encyclopedia. John Wiley & Sons. USA

Singh, R., **Dutta, S.** (2018): Visible Light Active Nanocomposites for Photocatalytic Applications. Composites and Advanced Materials for Industrial Applications. IGI Global. USA

Quereshi, S., Ahmad, E., Pant, K. K., **Dutta, S.** (2017): Recent Advances in Production of Biofuel and Commodity Chemicals from Algal Biomass. *Algal Biofuels*. Springer. 393 pp.

Dutta, S. (2011): Water recycling in process industries. *Recycling: Processes, Costs and Benefits*. Nova Science Publishers, Inc. USA. Pp 223.

Paper (Selected)

Ravi Kumar, Rohini Singh, Suman Dutta (2024); Review and Outlook of Hydrogen Production through Catalytic Processes; *Energy Fuels*, <https://doi.org/10.1021/acs.energyfuels.3c04026>

Ravi Kumar, Ganesh Swain, Suman Dutta (2024); Synthesis of visible light-sensitive photocatalysts for hydrogen production; *Fuel*, Volume 360, 130555

Dutta, Suman (2021): Review on Solar Hydrogen: Its Prospects and Limitations; *Energy Fuels* 2021, 35, 15, 11613–11639

Das, P., **Dutta, S.**, Singh, K.K.K., (2021): Insights into membrane crystallization: A sustainable tool for value added product recovery from effluent streams; *Separation and Purification Technology*; Volume 257, 15 February 2021, 117666

Lutukurthi, DNVVK., **Dutta, S.**, Behara, DK. (2020): Effect of ignition temperature and fuel amount on photocatalytic activity of solution combustion synthesized ZnO; *Ceramics International*. 46(14), 22419-22428

Singh, R., **Dutta, S.** (2018): A review on H₂ production through photocatalytic reactions using TiO₂/ TiO₂-assisted catalysts. *Fuel* 220, 607-620.

Singh, R., **Dutta, S.** (2018): Synthesis and characterization of solar photoactive TiO₂ nanoparticles with enhanced structural and optical properties. *Advanced Powder Technology*. 29 (2), 211-219.

Mboowa, D., Quereshi, S., Bhattacharjee, C., Tonny, K., **Dutta, S.** (2017): Qualitative determination of energy potential and methane generation from Municipal Solid Waste (MSW) in Dhanbad (India). *Energy* 123, 386–391.

Singh, R., Kumari, P., Chavan, P. D., Datta, S., **Dutta, S.** (2017): Synthesis of solvothermal derived TiO₂ nanocrystals supported on ground nano egg shell waste and its utilization for the photocatalytic dye degradation. *Optical Materials*. 73, 377-383.

Quereshi, S., Ahmad, E., Pant, K. K., **Dutta, S.** (2017): Insights into the metal salt catalyzed ethyl levulinate synthesis from biorenewable feedstocks. *Catalysis Today*. 291, 187-194.

Bhattacharjee, C., Saxena, V. K., **Dutta, S.** (2017): Watermelon juice concentration using ultrafiltration: Analysis of sugar and ascorbic acid. *Food Science and Technology International*. 23(4), 637-645.

Anupam, K., Sharma, A. K., Lal, P. S., **Dutta, S.**, Maity, S. (2016): Preparation, characterization and optimization for upgrading *Leucaena leucocephala* bark to biochar fuel with high energy yielding. *Energy*. 106, 743-756.

Dutta, S. (2014): A review on production, storage of hydrogen and its utilization as an energy resource. *Journal of Industrial and Engineering Chemistry*. 20, 1148-1156.

Anupam, K., **Dutta, S.**, Bhattacharjee, C., Datta, S. (2011): Adsorptive removal of chromium (VI) from aqueous solution over powdered activated carbon: Optimisation through response surface methodology. *Chemical Engineering Journal*. 173, 135-143.

Dutta, S., Parsons, S. A., Bhattacharjee, C., Bandyopadhyay, S., Datta, S. (2010): Development of an artificial neural network model for adsorption and photocatalysis of reactive dye on TiO₂ surface. *Expert Systems with Applications*. 37, 8634–8638.

Dutta, S., Parsons, S. A., Bhattacharjee, C., Jarvis, P., Datta S, Bandyopadhyay, S. (2009): Kinetic study of adsorption and photo-decolorization of Reactive Red 198 on TiO₂ surface. *Chemical Engineering Journal*. 155 (3), 674-679.

Paper in Seminar/Conferences (selected):

Dutta, S., Bhattacharjee, C., Saxena, V. K. (2016): Fouling Analysis in crossflow Ultrafiltration of Watermelon Juice. Proceedings of the 12th World Filtration Congress (WFC12), Taipei International Convention Center (TICC), Taipei, Taiwan.

Quereshi, S., **Dutta, S.,** Naiya, T. K. (2015): One Pot Synthesis of Biobased Fuel Additive Ethyl Levulinate By Direct Transformation of Bagasse in Ethanol Media. Proceedings of the AIChE Annual meeting 2015, Salt Lake City, UT.

Nath, A., **Dutta, S.,** Bhattacharjee, C. (2007): Separation of Biomolecules from Casein Whey by ultrafiltration. Proceedings of the 8th International Conference on Catalysis in Membrane Reactor (ICCMR-8), Central Glass & Ceramic Research Institute (CGCRI), Kolkata, India.

Project/consultancy/short term course:

Title	Date
Short term course on "Coal to Chemicals"	January 24-28, 2018

Patent/Copyright

Title: Process of preparation of fuel additives and commodity chemicals

Inventors: Kamal K Pant, Shireen Quereshi, Ejaz Ahmad, Suman Dutta, Tarun Kumar Naiya
India; Granted: Patent No: 413014

Title: Integrated Hollow fibre FO-UF with Tubular Assembly in a cross flow channel.

Pallabi Das, Suman Dutta, K.K.K. Singh, Pradeep Kumar Singh

Applicant: Council of Scientific and Industrial Research (CSIR)

ROC No: L-88587/2020; ROC date: 07/01/2020; India

Award/Recognition/Invited talk

1. Chaired a session on "Green chemistry and environmental engineering" in CHEMCON-2017, Haldia, India
2. Title of the talk: Sustainable Fuel and Energy Technologies (Date: 10/09/2020)
AICTE Training And Learning (ATAL) Academy Sponsored Online Faculty Development Program (FDP) on "Sustainable Engineering for Industrial Development" organized by GMR Institute of Technology, Rajam from 09.09.2020 to 13.09.2020.
3. Title of the talk: Hydrogen as fuel: prospects and challenges (Date: 14/12/2020)
EQIP III Sponsored Online Faculty Development Programme on "RECENT ADVANCES IN CHEMICAL ENGINEERING 2020" Organized by CHEMICAL ENGINEERING DEPARTMENT, INDIRA GANDHI INSTITUTE OF TECHNOLOGY SARANG ODISHA
4. Title of the talk: TiO_2 -Based Advanced Oxidation Processes;
2nd June 2021, Aquaworks-MWRC Technical Talk
5. Title of the talk: Determination of energy potential and methane generation from municipal solid waste (MSW) in Dhanbad; Panel Discussion on Methane Emissions Management from Landfill and Waste, August 11-12, 2023; Tata Institute of Social Sciences, Mumbai

Administrative role/responsibilities (selected)

Honorary treasurer of IICChE Dhanbad Regional Centre
Hostel Warden (Opal Hostel)

Thesis/Dissertation supervised:

Degree	Awarded	Ongoing
PhD	07	03
Masters	18	03