

DR. ARUN KUMAR JANA

Designation: Associate Professor

Contact: Chemical Engineering Department
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EDUCATIONAL QUALIFICATION

B.Tech. (Chemical): University of Calcutta, Kolkata, India (2001)

M.Tech. (Petrochemicals & Petroleum Refinery Engineering), University of Calcutta, Kolkata, India (2002)

Ph.D. (Multiphase Flow): Indian Institute of Technology, Kharagpur, India (2008)

EMPLOYMENT RECORD

Jan 2019 - Till date: **Associate Professor**, Department of Chemical Engineering,
S. V. National Institute of Technology, Surat, Gujarat, India

Aug 2007 - Jan 2019: **Assistant Professor**, Department of Chemical Engineering,
S. V. National Institute of Technology, Surat, Gujarat, India

COURSES TEACHING/TAUGHT

- Heat Transfer Operations
- Petroleum Refinery Engineering
- Advanced Process Control
- Computational Fluid Dynamics
- Principle & Design of Process Equipment
- Optimization

RESEARCH AREA OF INTEREST

- CFD Based Modeling and Simulation
- Liquid-liquid and gas-liquid multiphase flows
- Drag Reduction in Pipeline Transportation
- Packed and Expanded Bed Operations
- Heterogeneous catalysis in Petroleum Refining and Petrochemicals

SPONSORED RESEARCH PROJECT

Title : **Environmentally Safe Disposal of Refinery Sludges via Catalytic Conversion to Value-added Hydrocarbons (Co-PI)**

Funded by : DST, GOI

Duration : One year

Fund Sanctioned: Rs. 6,30,000/-

Reference : DST/TWT/WMT/2017/049

Status : Completed

RESEARCH GUIDANCE

Ph.D. Supervision: 1(Completed) + 2 (Ongoing)

M.Tech. Dissertations: 12 (Completed) + 1 (Ongoing)

ACADEMIC RESPONSIBILITIES

- Member of Library Committee since January 2009
- TEQIP-III Departmental Coordinator since April 2018
- Coordinator, Work Load and Departmental Time Table Committee since June 2018
- PG In-Charge, [M.Tech. (Regular) and M.Tech. (Research)] from June 2012 - March 2017
- Ph.D. Coordinator since July 2016 - March 2017
- In-charge, Heat Transfer Operations Lab

ADMINISTRATIVE RESPONSIBILITIES

- Chief Warden since March 2017 to till date
- Chairman, Centre for Human Resource Development for the academic year 2018-19
- Chief Warden since July 2013 - June 2014
- Warden since October 2011 - July 2013
- Associate Warden since July 2010 - October 2011

REVIEWER INTERNATIONAL JOURNALS

- Computers & Fluids
- Chemical Engineering and Technology
- Chemical Engineering Science
- Asia Pacific Journal of Chemical Engineering
- Journal of Nanostructure in Chemistry
- Environmental Progress
- Environment, Development and Sustainability
- International Journal of Fluid Mechanics Research

INTERNATIONAL PUBLICATIONS

- (1) A.K. Jana, G. Das, P.K. Das (2006), "Flow regime identification of two-phase liquid-liquid upflow through vertical pipe", Chemical Engineering Science, Vol. 61, Page No. 1500-1515.
- (2) A.K. Jana, G. Das, P.K. Das (2006), "A novel technique to identify flow patterns during liquid-liquid two-phase upflow through a vertical", Industrial and Engineering Chemistry Research, Vol. 45, Page No. 2381-2393.
- (3) A.K. Jana, T.K. Mandal, D.P. Chakrabarti, G. Das, P.K. Das (2007), "An optical probe for liquid-liquid two-phase flows", Measurement Science and Technology, Vol. 18, Page No. 1562-1575.
- (4) A.K. Jana, P. Ghoshal, G. Das, P.K. Das (2007), "An analysis of pressure drop and holdup for liquid-liquid upflow through vertical pipes", Chemical Engineering and Technology, Vol. 30, Page No. 920-925.
- (5) V. Agarwal, A.K. Jana, G. Das, P.K. Das (2007), "Taylor bubbles in liquid filled annuli: some new observations", Physics of Fluids, Vol. 19, Page No. 108105(1-4); American Institute of Physics.

- (6) T.K. Mandal, A.K. Jana, R. Patra, G. Das (2007), "Hydrodynamics of intermittent flow through small diameter vertical pipe during liquid-liquid two-phase flow", *International Journal of Chemical Sciences*, Vol. 5(4), Page No. 1701-1711.
- (7) A.K. Jana, G. Das, P.K. Das (2008), "Vertical upflow of two immiscible liquids through a venturimeter", *International Journal of Multiphase Flow*, Vol. 34, Page No. 1119 – 1129.
- (8) M. N. Katariya, A. K. Jana, P. A. Parikh (2013) "Corrosion inhibition effectiveness of zeolite ZSM-5 coating on mild steel against various organic acids and its antimicrobial activity", *Journal of Industrial and Engineering Chemistry*, Vol. 19 Page No. 286–291.
- (9) Y.N. Thakare, A.K. Jana (2013) "Expanded beds: a process solution for adsorptive separations in waste-water treatment", *International Journal of Chemical Engineering and Applications*, Vol. 4, No. 6, Page No. 377-381.
- (10) Y.N. Thakare, A.K. Jana (2014) "Adsorptive separation of copper by DION PK208 ion exchange resin", *International Journal of Scientific Engineering and Technology*, Vol. 3 Issue No.5, Page No. 620-624.
- (11) Y.N. Thakare and A.K. Jana, (2015) "Performance of high density ion exchange resin (INDION225H) for removal of Cu(II) from waste water", *Journal of Environmental Chemical Engineering*, Vol. 3, Page 1393–1398.
- (12) Y.N. Thakare, S.S. Shewale, A.K. Jana, (2016) "Experimental Investigation and modeling of copper ion adsorption in packed and expanded bed", *Chemical Engineering and Processing: Process Intensification*, Vol. 109, Page No. 51-58.
- (13) J.V. Gohel, A.K. Jana, M. Singh, (2017) "Highly enhanced photocurrent of novel quantum-dot-co-sensitized PbS–Hg/CdS/Cu:ZnO thin films for photoelectrochemical applications", *Applied Physics A*, 123, Page No. 506(1-12).
- (14) R. Kumar, C.M. Patel, A.K. Jana, S.R. Gopireddy (2018) "Prediction of hopper discharge rate using combined discrete element method and artificial neural network", *Advanced Powder Technology*, 29, Page No. 2822–2834
- (15) P. Jangir, A.K. Jana, (2019) "CFD simulation of droplet splitting at microfluidic T-junctions in oil–water two-phase flow using conservative level set method", *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 41: 75 Page No. 1-16

NATIONAL/INTERNATIONAL CONFERENCES

- 1) A. K. Jana, and G. Das, "Phase inversion in liquid – liquid two phase up flow in vertical pipe", Published in the proceedings of 1st National Conference of Research Scholars and Young Scientists in Chemical Engineering held in IIT, Kharagpur, India, 25th to 27th September 2004.
- 2) Y. N. Thakare and A. K. Jana, 'Expanded Beds: A Process Solution for Adsorptive Separations in Waste-Water Treatment' 4th International Conference on Chemical Engineering and Applications – CCEA 2013 during 12th -13th October 2013 in Paris, France

WORKSHOPS/STTP ORGANIZED

- 1) Organized STTP on "Energy Conservation and Recycling" during 7th - 11th July 2008 as a Co-coordinator.
- 2) Organized STTP on "Advanced Instrumental Methods of Analysis" during 24th - 28th August 2009 as a Co-coordinator.
- 3) Organized Workshop on COMSOL Multiphysics Modelling on 6th December 2013.
- 4) Organized Workshop on FEM and Artificial Neural Network based Modelling and Simulations on 7th August 2014.

SEMINARS/WORKSHOP/SHORT Term COURSES ATTENDED

- 1) Attended 'Workshop on Data Analysis and Modeling', September 27, 2004, Organized on the occasion of the 1st National Conference of Research Scholars and Young Scientists in Chemical Engineering held in IIT, Kharagpur, India, 25th to 27th September 2004.
- 2) Attended 'Workshop of Hands-on-Training Program on MATLAB AND NEURAL NETWORK TOOLBOX' held in IIT, Kharagpur, India, 2nd to 3rd April 2005.
- 3) Attended 'Induction Training Programme' held during 21st to 23rd January 2008 at SVNIT Surat.
- 4) Attended 'Pedagogy Training' held at SVNIT Surat during 12nd to 15th May 2008.
- 5) Attended 'Research Methodology in Engineering' held during 16th to 17th May 2008 at SVNIT Surat.
- 6) Attended Workshop on 'Nanotechnology: A Sustainable Alternative to Environment' held at SVNIT during 19th to 23rd January 2009.
- 7) Attended Workshop on 'Treatment and Disposal of Wastewaters' held at SVNIT during 5th to 9th October 2009.
- 8) Attended IUCEE Workshop on 'Computational Fluid Dynamics' held at SVNIT during 5th to 9th July 2010.

- 9) Attended Workshop on 'Upstream Petroleum Technology' organized by ONGC Ahmedabad during 11th to 13th November 2010.
- 10) Attended ISTE Workshop on 'Computational Fluid Dynamics' held at SVNIT during 12th to 22nd June 2012.
- 11) Attended Workshop on 'A-Z of Natural Gas and LNG' held at Petronet's Dahej Terminal, Dahej during 31st January to 2nd February 2013.
- 12) Attended Workshop on 'Six-Sigma & Statistical Analytical Tools', held at SVNIT on 22nd March 2013.
- 13) Attended Workshop on 'Advances on Wastewater Treatment and Energy Generation', held at SVNIT during 30th September to 4th October 2013.
- 14) Attended Workshop on 'Green Chemistry and Engineering: Towards a Sustainable Future', held at SVNIT during 18th to 22nd November 2013.
- 15) Attended Workshop on 'Objective & outcome Based Education', held at SVNIT during 21st to 22nd December 2013.
- 16) Attended Workshop on 'Fundamentals and special topics in heat transfer', held at SVNIT during 23rd June to 27th June 2014.
- 17) Attended Workshop on 'Design of experiment and artificial neural network', held at SVNIT during 22nd June to 26th June 2015.
- 18) Attended Workshop on 'Interfacial engineering and nanotechnology for sustainable environment (IENSE-15)', held at SVNIT during 20th to 24th August 2015.

MEMBERSHIP OF PROFESSIONAL SOCIETIES/BODIES

Life Associate Member of Indian Institute of Chemical Engineers (LAM-29404)

FEBRUARY 2019

PLACE: SURAT

DR. ARUN KUMAR JANA