CURRICULUM VITAE – SOURAV MONDAL

Employment History (April 2018 – present) Assistant Professor, Department of Chemical Engineering, Indian Institute of Technology Kharagpur, Kharagpur 721302, India

(Oct 2015 – Feb 2018) Post-Doctoral Researcher, Mathematical Institute, University of Oxford, UK

Month, Year of Birth September 1987

Research interests

Mathematical modelling of Chemical Engineering processes; mass transport phenomena; Flow through porous medium; membrane separation applications; CO2 capture and sequestration; enhanced oil recovery; computational fluid dynamics; phase separated flows; particle transport at liquid interface; liquid crystal flows and application in biomolecule detection; electro-hydrodynamics in microfluidic flows.

Academic credentials

Year	Degree	Institution	Marks
2012-2015	PhD (Chemical Engineering)	Indian Institute of Technology (IIT) Kharagpur, India	
2010-2012	Masters (Chemical Engineering)	Indian Institute of Technology (IIT) Kharagpur, India	GPA 9.67/10
2006-2010	Undergraduate (Chemical Engineering)	Jadavpur University, Kolkata, India	GPA 8.75/10

DOCTORAL THESIS: "Transport phenomena based modelling of membrane separation processes", supervised by Prof. Sirshendu De, Indian Institute of Technology Kharagpur, India.

MASTER'S THESIS: "Simulation of various membrane processes: Physical models and molecular dynamics based models", supervised by Prof. Sirshendu De, Indian Institute of Technology Kharagpur, India.

Scientific background

The research interests are in studying and exploring the transport processes in physical systems. The scientific work can be broadly classified in three distinct verticals:

(1) Green and sustainable methods of water treatment, which includes use of advanced oxidation process – photocatalysis, adsorption and membrane-based separation techniques.
   a. Developing continuous photocatalytic based systems; solar based photocatalysis; degradation of emerging pollutants – pharmaceutical drugs and pesticides.
   b. Intra and inter-particle adsorption characteristics; removal of arsenic (from ground water) using novel adsorbents; coupled adsorption with membrane filtration; adsorption for air separation.
   c. Connecting membrane morphology with performance; Membrane based filtration processes – micro, ultra, nano and reverse osmosis; use of membranes in water electrolysis for hydrogen production; application of membrane-based systems in biomedical devices.

(2) Fluid structure and interaction problems leading to flow in confined geometries, porous medium flow, viscous instabilities in non-Newtonian flows, liquid crystal hydrodynamics and particle solid flows.
   a. Design of novel liquid crystal sensing platform; studying about the interface physics with liquid crystal and isotropic layer; colloidal transport in anisotropic medium.
   b. Insights to the enhanced oil recovery and reservoir flooding optimisation; role of viscous fingering and efforts to contain it; mechanism of fracture propagation in hydraulic fracturing.
   c. Particle migration and settling in high solid loading flows; particle-particle interaction and hindered mobility; phase separated flows.
   d. Electrokinetic flow in micro and nano-fluidic systems; low pressure gas hydrodynamics in microfluidic systems.

(3) Process modelling of multiscale problems involving heat, mass and fluid flow (Multiphysics) in the context of industrial process intensification.
   a. Combined fluid flow and heat transfer in heat exchanger and condenses in industrial setting
   b. Heat and mass transfer problems in reactors, cooling towers, multistage separating columns, etc.
   c. Design and process optimisation of multiple units in a network based on pinch analysis, energy recovery and recycle.

AWARDS:

INAE Young Engineer Award 2021, by the Indian National Academy of Engineering, New Delhi.
https://www.inae.in/inae-young-engineer-award-2018/

Institute Faculty Excellence Award 2022 (under Assistant Professor category) from Indian Institute of Technology Kharagpur, India.

Amar Chem Dye Award 2021 from the Indian Institute of Chemical Engineers (IIChE) for excellence in research and development.

Vice-Chancellor's (Oxford University) Innovation award in 2018 on the team-work "Mitigation of arsenic mass poisoning: a unified experimental and theoretical approach".
https://www.ox.ac.uk/research/vice-chancellors-innovation-awards/vice-chancellor-s-innovation-awards-2018
https://www.ox.ac.uk/research/research-impact/mitigation-arsenic-mass-poisoning-unified-experimental-and-theoretical

Dr A V Rama Rao Foundation's Best Ph.D. Thesis and Research Award in Chemical Engineering/Technology 2017, by the Indian Institute of Chemical Engineers (IIChE).
https://www.iiche.org.in/studentawards.php

Finalist in the Institution of Chemical Engineers (IChemE) Global award 2016 Young chemical engineer in research.
https://www.icheme.org/about-us/press-releases/icheme-announce-global-awards-2016-finalists/
https://engineering-update.co.uk/2016/08/17/icheme-announce-global-awards-2016-finalists/

Shastri Indo-Canadian Institute Faculty and Student Mobility Award 2012-13 (visited Department of Mechanical Engineering, University of Alberta).
https://www.shastriinstitute.org/sites/default/files/Annualpdf/Annual%20Report%202012-2013%20Final.compressed.pdf

Research Grant applications:

(1) Principal Investigator to the projector sponsored by Indian Space Research Organisation (ISRO), "CFD study of the formation of mid-web anomalies in the solid propellant grain during casting" (INR 24.52 lakhs)

(2) Principal investigator to the project sponsored by Science & Engineering Research Board (Department of Science & Technology, Govt. of India) "Novel colloidal interactions in liquid crystal under the influence of external field", Jan 2022-Jan 2025 (INR 15.62 lakhs).

(3) Principal investigator to the project sponsored by H3 services, Kolkata, "Speciation and determination of the bio-actives in essential oil blends for use in scented candles", Mar 2022 – Feb 2023 (INR 4.72 lakhs).

(4) Principal investigator of the project sponsored by IIT Kharagpur "Fluid Instabilities and Deformation in Porous Medium", Jan 2019-Jan 2022 (INR 28 Lakhs).

(5) Joint investigator with Dr Ian Griffiths for the EPSRC Global Challenges Research Fund on the project "Forecasting contaminant percolation through soil beds in India", Aug 2016-Mar 2017 (GBP 57,011).

(6) Joint applicant with Dr Ian Griffiths for financial grant from Royal Society, UK for organizing an international workshop "Unifying scientific disciplines to understand and solve emerging membrane filtration challenges", 9-11 January 2017 (GBP 5,000), in Chicheley Hall, Milton Keynes: UK;
https://people.maths.ox.ac.uk/griffit4/cwi_2017.shtml

(7) Supervised a mini-project sponsored by Schlumberger on "Hydrodynamics and species transport during Gel formation for converging flows", May-July 2016 (GBP 5000).

(8) Jointly supervised a mini-project sponsored by Schlumberger on "Ternary Phase Diagrams for Surfactant/Oil/Brine Mixtures", May-July 2017 (GBP 5000).

Teaching Courses:

Spring:: CH62003 Process Modelling and Simulation (PG level, around 30 students)

Autumn CH39022 & Spring CH39023: Process Equipment Design (UG level, around 65 students)
Autumn:: CH31010 Mass Transfer (UG level, around 130 students)

Academic Course content developed
National Programme on Technology Enhanced Learning (NPTEL) SWAYAM course on "Mathematical modelling and simulation of chemical engineering process" of 30 hours, developed under the aegis of the ministry of education, Govt. India.
https://nptel.ac.in/courses/103105215

Knowledge and Technology Translation:

Research Collaboration: Development of a full 3D CFD model of the pilot scale electrothermal reactor for magnesium production. The model predicts the temperature and magnesium species spatial transport profiles which is necessary for process intensification and control.

Community Engagement: Technology demonstration of the low cost activated laterite adsorbent for supply of arsenic free drinking water to the affected communities. The demonstration activity has been implemented in three habitations catering to the needs of approximately five thousand populations (Weblink: http://ttgiitkgp.blogspot.in/2015/05/low-cost-highquality-arsenic-filter.html)

Research Participation:
116th European Study group at Industry (ESGI) at University of Durham, April 11-16, 2016. Contributed to the problem on "Flow dynamics in complex buildings (airports and rail stations)" by the UK Department for Transport.

125th European Study group at Industry (ESGI) at Cyprus University of Technology, Dec 5-9, 2016. Contributed on the problem – "The Germasogeia aquifer challenges: transport of pollutants and effective recharge" by the Water Development Department, Cyprus.

Instructor in Modelling camps / workshops

(1) Instructor to a group at the 31st European Consortium for Modelling in Industry (ECMI) modelling week at the Department of Computational Engineering and Physics of Lappeenranta University of Technology, Finland from July 9-16, 2017 (masters level students).

(2) Instructor to a group at the XI Modelling week at the Faculty of Mathematics of Universidad Complutense de Madrid, from 19-23 June 2017 (masters and doctoral level students).

(3) Instructor to the Graduate modelling camp held at University of Oxford, 13-17 March 2017, supervising a group of doctoral students.

(4) Joint-Instructor to the case studies for mathematical modelling in MSc (applied mathematics) final year of five students Jan-Mar 2017 at the Mathematical Institute, University of Oxford.

(5) Instructor to a group for the case study problem (1 credit) supervising 6 doctoral students at the Mathematical Institute, University of Oxford for 2 weeks, January 2017.

(6) Instructor to a group at the 30th European Consortium for Modeling in Industry (ECMI) modelling week in University of Sofia, Sofia, July 17-25, 2016 (masters level students).

Invited Talks / Lectures

(1) [speaker] **S. Mondal**, S. De, Modeling of ultrafiltration in mixed matrix membrane, presented in the International Workshop under New INDIGO Scheme on "Hybrid Membrane Based Separation Processes for Treatment of Industrial Wastewater" held at IIT Kharagpur on April 2014.

(2) [invited speaker, workshop] **S. Mondal**, Transport phenomena analysis of membrane based separation processes, Workshop on the "Advanced Technologies for Industrial Wastewater treatment", Tata-Steel Jamshedpur, April 27-2, 2015.

(3) [Invited speaker] **S. Mondal**, A. Majumdar, I. Griffiths, Particle dynamics in nematic liquid flows, workshop on "Partial order materials: Analysis, Simulations and beyond" Montreal, June 21-30, 2016.

(4) [speaker, workshop] **S. Mondal**, Modelling particle transport in complex fluid dynamical systems, Oxford-IIT Kharagpur workshop, University of Oxford, May 22-25, 2017.

(5) [invited speaker, workshop] **S. Mondal**, Simultaneous adsorption and diffusion in membrane separation of liquid stream, Royal Society – UK workshop on "Unifying scientific disciplines to understand and solve emerging membrane filtration challenges", Milton Keynes, January 10-11, 2017.

(6) [invited speaker, workshop] **S. Mondal**, I.M. Griffiths, M. Bruna, G.Z. Ramon, Does the pore arrangement in a membrane matter? If so, when? UK-Israel Synergy workshop on "Membrane based production of water", Technion-Israel Institute of Technology, Haifa, January 9-10, 2018.

(7) [Lecture] **S. Mondal**, "Numerical methods of solving partial differential equations", Exec. MTech Program - Institute of Chemical Technology Bhubaneswar, March 2021.

(8) [Lecture] **S. Mondal**, "Process Synthesis Modelling and simulation", Exec. MTech Program - Institute of Chemical Technology Bhubaneswar, May 2021.

(9) [Lecture] **S. Mondal**, "Distillation systems: Design, simulation and energy savings", Institute of Technology - Nirma University, July 12, 2022.

(10) [Lecture] **S. Mondal**, "Heat exchanger process design and network synthesis", Training program on General Process Engineering in Refinery Operation – Haldia Refinery Indian Oil Ltd., April 05, 2023.

Books

(1) S. Mondal, M.K. Purkait, S. De, **Advances in Dye Removal Technologies**, 2018, Springer: Singapore (ISBN 978-981-10-6293-3) [323 pages].

(2) S. De, S. Mondal, S. Banerjee, **Stevioside: Technology, Applications and Health**, 2013, Wiley-Blackwell: Oxford (ISBN 978-1-11-835066-9) [240 pages].

(3) S. De, S. Mondal, **Micellar Enhanced Ultrafiltration: Fundamentals and Applications**, 2012, Taylor & Francis: Boca Raton (ISBN 978-1-43-989568-9) [224 pages].

Patent

S. Mondal, B.K. Thakur, K. Yadav, M. Mondal, R. Mukherjee, A. Roy, B. Barman, S. De, Design of low cost arsenic filter using activated laterite, Indian Patent 597/KOL/2013 (filed).

Book Chapter

(1) K.V. Kurada, **S. Mondal**, S. De, Modelling in membrane separation of bioactives, in: *Membrane technologies for the recovery / purification of food bioactive ingredients*, Eds. S.M. Jafari, R. Castro-Muñoz, 2021, Springer [ISBN 978-3-030-84642-8].

(2) **S. Mondal**, S. De, Reverse osmosis modelling, simulation and optimisation, in: *Current Trends and Future Developments on (Bio-) Membranes*, Eds., A. Basile, A. Cassano, N.K. Rastogi, 2020, Elsevier: Amsterdam (Chapter 8) [ISBN 9780128167779].

(3) **S. Mondal**, C. Conidi, A. Cassano, S. De, Modelling of gel controlling membrane filtration in fruit juice processing, in: *Advanced modeling and control of chemical and biochemical processes*, Eds., S. Chakraborty, S. Curcio, S. Hasan, 2019, Springer: Berlin (Chapter 8).

(4) **S. Mondal** and S. De, Processing of Stevioside using membrane-based separation processes, in: *Integrated Membrane Operations in the Food Production*, Eds., A. Cassano and E. Drioli, 2013, De Gruyter: Berlin (ISBN 978-3-11-028566-6), pp. 201-232.

Journal publications

(1) R. Lalitha, **S. Mondal**, Impact of the induced nematohydrodynamics over the Freedericksz transition limit, **Physics of Fluids** 36 (2024) 023111, DOI: https://doi.org/10.1063/5.0189190

(2) R. Lalitha, **S. Mondal**, Liquid crystal-based label-free low-cost sensing platform: engineering design based on interfacial interaction and transport phenomena, **Colloids and Surfaces A: Physicochemical and Engineering Aspects** 682 (2024) 132986, DOI: https://doi.org/10.1016/j.colsurfa.2023.132986

(3) G. Das, S.K. Biswas, T.K. Mondal, **S. Mondal**, Evolution of tensile fractures in feldspar porphyroclast and its implication in paleostress estimation, **Journal of Structural Geology** 179 (2024) 105039, DOI: https://doi.org/10.1016/j.jsg.2023.105039

(4) D. Choudhury, T.K. Mondal, **S. Mondal**, A. Debnath, P. Majumder, A. Banerjee, Estimation of burial depth using stylolite roughness from the Neoproterozoic Narji Limestone, Cuddapah basin, India, **Journal of Earth System Science** (2023) accepted.

(5) P.N.R.L. Sudhishna, **S. Mondal**, T.K. Mondal, G. Das, Study of restricted fractures in veins and dykes, and associated stress distribution, **Journal of Earth System Science** (2024) 133 31, DOI: https://doi.org/10.1007/s12040-023-02238-3

(6) **S. Mondal**, T.K. Mondal, S.K. Biswas, G. Das, Understanding the spatio-temporal evolution of fractures in pillow basalt, **Geologica Acta** 21 (2023) 1-11, DOI: https://doi.org/10.1344/GeologicaActa2023.21.8

(7) P. Singh, **S. Mondal**, Viscous fingering to fracturing transition in Hele–Shaw flow of shear-thickening fluid, **Physics of Fluids** 35, 064116 (2023) DOI: https://doi.org/10.1063/5.0152800

(8) P. Singh, **S. Mondal**, Control and suppression of viscous fingering displacing non-Newtonian fluid with time-dependent injection strategies, **Physics of Fluids** 34 (2022) 114117, DOI: https://doi.org/10.1063/5.0124066
[Selected as one of the featured articles – editors' pick of 2022]

(9) **S. Mondal**, A.H. Kumar, Perspectives of the extra corporeal membrane oxygenation – Key insights from mathematical analysis, **Biomedical Engineering Advances** (2022) 100060, DOI: https://doi.org/10.1016/j.bea.2022.100060

(10) S. Bhattacharjee*, **S. Mondal***, S. De, Electro-kinetically enhanced mass transport of charged macro-solutes through a microchannel with porous walls, **AIChE Journal** 69 (2023) E17899; **[*Joint first author]** DOI: https://doi.org/10.1002/aic.17899

(11) R. Binjhade, R. Mondal, **S. Mondal**, Continuous photocatalytic reactor: Critical review on the design and performance, **Journal of Environmental Chemical Engineering** 10 (2022) 107746; DOI: https://doi.org/10.1016/j.jece.2022.107746

(12) S.K. Nayak, **S. Mondal,** Viscosity correction in convective heat transfer correlation of non-Newtonian fluid pipe flow: Revisited, **Chemical Engineering Science** 235 (2021) 116472; DOI: https://doi.org/10.1016/j.ces.2021.116472

(13) P. Singh, R. Lalitha, **S. Mondal**, Saffman-Taylor instability in a radial Hele-Shaw cell for a Shear-dependent rheological fluid, **Journal of non-Newtonian Fluid Mechanics** 294 (2021) 104579; DOI: https://doi.org/10.1016/j.jnnfm.2021.104579

(14) **S. Mondal,** Impact of the process conditions on polymer pattern morphology during spin coating over topological surfaces, **Soft Matter** 17 (2021) 1346 – 1358; DOI: https://doi.org/10.1039/D0SM01622E

(15) **S. Mondal,** S. De, Mass transport in electrokinetic microflows with the wall reaction affecting the hydrodynamics, **Theoretical and Computational Fluid Dynamics** 35 (2021) 39-60; DOI: 10.1007/s00162-020-00549-5

(16) **S. Mondal,** A. Cassano, C. Conidi, S. De, Quantification of selective transport of fructose and glucose during membrane filtration of pomegranate juice, **Food and Bioprocess Technology** 14 (2021) 272-286; DOI: 10.1007/s11947-020-02558-y

(17) S. Saha, **S. Mondal,** Performance of a Forward Osmosis mass exchanger based on detailed mass transfer boundary layer analysis, **Desalination** 496 (2020) 114708; DOI: https://doi.org/10.1016/j.desal.2020.114708

(18) **S. Mondal**, A. Egea-Corbacho, C. Conidi, A. Cassano, S. De, Permeate flux hysteresis with transmembrane pressure in the gel controlling membrane filtration, **Journal of Food Engineering** 264 (2020) 109689.

(19) S. Bhattacharjee, **S. Mondal**, M. Mondal, S. De, Effect of electrolyte nature in mass transport of a neutral solute in a microtube with porous wall, **AIChE Journal** 66 (2020) e16765, https://doi.org/10.1002/aic.16765

(20) **S. Mondal**, I.M. Griffiths, G. Ramon, Forefronts in structure-performance models of separation membranes, **Journal of Membrane Science** 588 (2019) 117166; DOI: https://doi.org/10.1016/j.memsci.2019.06.006

(21) R. Mondal, **S. Mondal**, K.V. Kurada, S. Bhattacharjee, S. Sengupta, M. Mondal, S. Karmakar, S. De, I.M. Griffiths, Modelling the transport and adsorption dynamics of arsenic in a soil bed filter, **Chemical Engineering Science** 210 (2019) 115205.

(22) R. Mondal, G. Benham, **S. Mondal**, P. Christodoulides, N. Neokleous, K. Kaouri, Modelling and optimization of water management in sloping coastal aquifers with seepage, extraction and recharge, **Journal of Hydrology** 571 (2019) 474-484.

(23) **S. Mondal**, R.W. Field, Theoretical analysis of the viscosity correction factor for heat transfer in pipe flow, **Chemical Engineering Science** 187 (2018) 27-32; DOI: https://doi.org/10.1016/j.ces.2018.04.047

(24) **S. Mondal,** I.M. Griffiths, F. Charlet, A. Majumdar, Flow and nematic director profiles in a microfluidic channel: the interplay of nematic material constants and backflow, **MDPI Fluids** 3 (2018) 39, DOI: https://doi.org/10.3390/fluids3020039.

(25) **S. Mondal**, A. Majumdar, I.M. Griffiths, Nematohydrodynamics for colloidal self-assembly and transport phenomena, **Journal of Colloid & Interface Science** 528 (2018) 431-442; DOI: 10.1016/j.jcis.2018.05.072

(26) H. Williams, M. McPhail, **S. Mondal**, A. Munch, Modeling gel fiber formation in an emerging coaxial flow from a nozzle, **Journal of Fluid Engineering** 141 (2018) 011107, DOI:10.1115/1.4040833.

(27) S. Chatterjee, **S. Mondal**, S. De, Design and scaling up of fixed bed adsorption columns for lead removal by treated laterite, **Journal of Cleaner Production** 177 (2017) 760-774.

(28) **S. Mondal**, J.J. Wu, R.W. Field, Novel Approach for Sizing Forward Osmosis Membrane Systems, **Journal of Membrane Science** 541 (2017) 321-328.

(29) M. Wang, **S. Mondal**, I. Griffiths, The role of fouling in optimizing direct-flow filtration module design, **Chemical Engineering Science** 163 (2017) 215-222.

(30) **S. Mondal**, A. Roy, R. Mukherjee, M. Mondal, S. Karmakar, S. Chatterjee, M. Mukherjee, S. Bhattacharjee, S. De, A socio-economic study along with impact assessment for laterite-based technology demonstration for arsenic mitigation, **Science of the Total Environment** 583 (2017) 142-152.

(31) **S. Mondal**, S. De, Pressure Driven transport of neutral macro-solute in microchannel with porous wall at High Surface Potential, **International Journal of Heat and Mass Transfer** 104 (2017) 574-583: DOI: https://doi.org/10.1016/j.ijheatmasstransfer.2016.08.092

(32) **S. Mondal**, A. Cassano, C. Conidi, S. De, Modeling of gel layer transport during ultrafiltration of fruit juice with non-Newtonian fluid rheology, **Food and Bioproducts Processing** 100 (2016) 72-84.

(33) **S. Mondal**, M. Mohanasundaram, D.C. Sau, R.K. Gupta, M. Kumar, K.K. Paul, S. De, Modeling heat transfer of the electrothermal reactor for magnesium production, **International Journal of thermal sciences** 102 (2016) 274-284; DOI: https://doi.org/10.1016/j.ijthermalsci.2015.11.018

(34) **S. Mondal**, S. Ghosh, S. De, Atomistic level molecular dynamics simulation on the solubilization mechanism of aromatic molecules in anionic micelles, **RSC Advances** 5 (2015) 104493-104501.

(35) **S. Mondal**, S. Chatterjee, S. De, Theoretical investigation of cross flow ultrafiltration by mixed matrix membrane: A case study on fluoride removal, **Desalination** 365 (2015) 347-354.

(36) P. Debnath, A. Mukherjee, H. Singh, **S. Mondal**, Delineating seasonal porewater displacement on a tidal flat in the Bay of Bengal by thermal signature: Implications for submarine groundwater discharge, **Journal of Hydrology** 529 (2015) 1185-1197.

(37) **S. Mondal**, S. Karmakar, S. De, Modeling of cross flow microfiltration of dye loaded activated carbon in a ceramic tubular membrane module, **Canadian Journal of Chemical Engineering** 93 (2015) 2005-2014.

(38) **S. Mondal**, R. Mukherjee, S. De, Process modeling for removal of phenolic compounds from industrial wastewater using mixed matrix membrane, **Industrial & Engineering Chemistry Research** 54 (2015) 514-521.

(39) **S. Mondal**, A. Cassano, F. Tasselli, S. De, Modeling of Turbulent Cross Flow Microfiltration of Pomegranate Juice using Hollow Fiber Membranes, **AIChE Journal** 60 (2014) 4279-4291.

(40) **S. Mondal**, R. Mukherjee, S. Chatterjee, S. De, Adsorption-concentration polarization model for ultrafiltration in mixed matrix membrane, **AIChE Journal** 60 (2014) 2354-2364.

(41) **S. Mondal**, S. De, Mass transfer of a neutral solute in porous microchannel under streaming potential, **Electrophoresis** 35 (2014) 681-690.

(42) **S. Mondal**, S. De, Effects of non-Newtonian power law rheology on mass transport of a neutral solute for electro-osmotic flow in a porous microtube, **Biomicrofluidics** 7 (2013) 044113.

(43) **S. Mondal**, S. De, Mass transport in a porous microchannel for non-newtonian fluid with electrokinetic effects, **Electrophoresis** 34 (2013) 668-673.

(44) **S. Mondal**, A. Cassano, S. De, Modeling of gel layer controlled microfiltration in a radial cross flow cell, **Food and Bioprocess Technology** 7 (2013) 355-370.

(45) **S. Mondal**, Chhaya, S. De, Identification of fouling mechanism during ultrafiltration of stevia extract, **Food and Bioprocess Technology** 6 (2013) 931-940.

(46) **S. Mondal**, S. Ghosh, S. De, A molecular simulation based assessment of binding of metal ions on micelles, **Langmuir** 28 (2012) 11329-11336.

(47) **S. Mondal**, M. Dhahbi, S. De, Kinetic modeling for dye removal using polyelectrolyte enhanced ultrafiltration, **Journal of Hazardous Materials** 229-230 (2012) 381-389.

(48) S. Banerjee, **S. Mondal**, S. De, Gel controlling dead-end membrane filtration: Theory revisited, **Separation and Purification Technology** 99 (2012) 77-85.

(49) **S. Mondal,** Chhaya, S. De, Modeling of the crossflow ultrafiltration of stevia extract in a rectangular cell, **Journal of Food Engineering** 112 (2012) 326-337.

(50) Chhaya, **S. Mondal,** G.C. Majumdar, S. De, Clarifications of stevia extract using cross flow ultrafiltration and concentration by nanofiltration, **Separation and Purification Technology** 89 (2012) 125-134.

(51) **S. Mondal**, Chhaya, S. De, Prediction of ultrafiltration performance during clarification of stevia extract, **Journal of Membrane Science** 396 (2012) 138-148.

(52) Chhaya, C. Sharma, **S. Mondal**, G.C. Majumdar, S. De, Clarification of stevia extract by ultrafiltration: Selection criteria of the membrane and effects of operating conditions, **Food and Bioproducts Processing** 90 (2012) 525-532.

(53) S. Singha, U. Sarkar, **S. Mondal**, Transient Behaviour of a Packed Column of Eichhornia-Crassipes stem for the Removal of Hexavalent Chromium, **Desalination** 297 (2012) 48-58.

(54) S. Saha, U. Sarkar, **S. Mondal**, Modelling the transient behaviour of a fixed bed considering inter-pellet diffusion for adsorption of Parachloro-Meta-Xylenol (PCMX), **Desalination and Water Treatment** 37 (2012) 1-11.

(55) N. Vennela, **S. Mondal**, S. Bhattacharjee, S. De, Sherwood Number in Flow Through Parallel Porous Plates (Microchannel) due to Pressure and Electroosmotic Flow, **AIChE Journal** 58 (2012) 1693-1703.

(56) **S. Mondal**, S.B. Mlouka, M. Dhahbi, S. De, A physico-chemical model for polyelectrolyte enhanced ultrafiltration, **Journal of Membrane Science** 376 (2011) 142–152.

(57) **S. Mondal**, A. Cassano, F. Tasselli, S. De, A generalized model for clarification of fruit juice during ultrafiltration under total recycle and batch mode, **Journal of Membrane Science** 366 (2011) 295–303.

(58) **S. Mondal**, S. De, A fouling model for steady state crossflow membrane filtration considering sequential intermediate pore blocking and cake formation, **Separation and Purification Technology** 75 (2010) 222–228.

(59) **S. Mondal**, S. Dasgupta, S. Sengupta, C. Bhattacharjee, A Study Based on the Different Dosing Levels of Primary Tannery Wastewater Treatment, **Indian Journal of Environmental Protection** 30 (2010) 40-45.

(60) **S. Mondal**, S. De, Generalized criteria for identification of fouling mechanism under steady state membrane filtration, **Journal of Membrane Science** 344 (2009) 6–13.

Total citations: 1227 (H-index: 21) [Source: Google Scholar]
Average Impact Factor per publication: 4.5

Conferences

(11) [conference proceedings] P. Singh, **S. Mondal**, Viscous fingering to fracturing transition in shear thickening fluid, APS March Meeting, Las Vegas, USA, Mar 05-10, 2023.

(12) [presenter, conference proceedings] **S. Mondal**, Perspectives of the extracorporeal membrane oxygenation from the mathematical modelling, Euromembrane 2022, Sorrento, Italy, Nov 21-25, 2022.

(13) [presenter, conference proceedings] **S. Mondal**, R. Mondal, K. Kurada, M. Mondal, S. Karmakar, S. De, I.M. Griffiths, Arsenic remediation using a novel soil based filter, IWA Young Water professional conference, Cape town, December 10-13, 2017.

(14) [presenter, conference proceedings] R. Mondal, **S. Mondal**, S. De, I.M. Griffiths, Mitigation of arsenic mass-poisoning: the answer by mathematics, APS Division of fluid dynamics meeting, Denver, November 18-21, 2017.

(15) [presenter, conference proceedings] **S. Mondal**, I. Griffiths, S. Tsai, N. Abbasi, Modelling transport of magnetic particles across a liquid-liquid interface, APS Division of fluid dynamics meeting, Denver, November 18-21, 2017.

(16) [conference proceedings] **S. Mondal**, M. Bruna, I. Griffiths, G.Z. Ramon, Membrane Porous Structure and Its Impact on Permeability and Selectivity, North American Membrane Society Meeting, Washington, May 21-25, 2016.

(17) [conference proceedings] I. Griffiths, M. Crespo, A. Majumdar, **S. Mondal**, Solution Landscapes for Nematic Microfluidics, SIAM conference on "Mathematical Aspects of Materials Science", Philadelphia, May 8-12, 2016.

(18) [presenter, conference proceedings] **S. Mondal**, Electrokinetic mass transport through porous walled microfluidic conduit, British Applied Mathematics Colloquium, Oxford, April 5-9, 2016.

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