

# Dr. Chayan Sarkar

Assistant Professor, Chemical Engineering

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## Education

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- IIT Kharagpur,  
PhD in Chemical Engineering  
(July 2014 – May 2019)
- IIT Guwahati  
M.Tech in Chemical Engineering  
(July 2011 – July 2013)
- Heritage Institute of Technology (WBUT)  
B.Tech in Chemical Engineering  
(July 2007 – July 2011)

## Experience

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- Assistant Professor, Chemical Engineering  
Institute of Chemical Technology Mumbai – IOC Bhubaneswar  
(December 2019 – Present)
- Assistant Professor, Chemical Engineering  
Harcourt Butler Technical University Kanpur  
(October 2018 – December 2019)

## Research Area

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- Advanced Smart Materials (e.g. zeolite based nanomaterials, Geopolymer; MOFs etc.)
- Adsorption & Environmental Catalysis
  - Photocatalytic conversion of CO<sub>2</sub> into fuels
  - H<sub>2</sub> production through water-splitting
- Modelling and Simulation of chemical and biochemical processes

## Journal Publications (Google Scholar Citation: 192 times till Aug 2, 2023)

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1. Sarkar, C., Basu, J. K., & Samanta, A. N. (2019). Synthesis of MIL-53 (Fe)/SiO<sub>2</sub> composite from LD slag as a novel photo-catalyst for methylene blue degradation. *Chemical Engineering Journal*, 377, 119621.
2. Sarkar, C., Basu, J. K., & Samanta, A. N. (2019). Experimental and kinetic study of fluoride adsorption by Ni and Zn modified LD slag based geopolymer. *Chemical Engineering Research and Design*, 142, 165-175.
3. Sarkar, C., Basu, J. K., & Samanta, A. N. (2018). Synthesis of mesoporous geopolymeric powder from LD slag as superior adsorbent for Zinc (II) removal. *Advanced Powder Technology*, 29(5), 1142-1152.
4. Sarkar, C., Basu, J. K., & Samanta, A. N. (2017). Removal of Ni<sup>2+</sup> ion from waste water by Geopolymeric Adsorbent derived from LD Slag. *Journal of Water Process Engineering*, 17, 237-244.
5. Sarkar, C., Basu, J. K., & Samanta, A. N. (2021). Synthesis of novel ZnO/Geopolymer nanocomposite photocatalyst for degradation of congo red dye under visible light. *Environmental Nanotechnology, Monitoring & Management*, 16, 100521.
6. Sarkar, C., Basu, J., & Samanta, A. N. (2017). Microwave activated LD slag for phenolic wastewater treatment: multi-parameter optimization, isotherms, kinetics and thermodynamics. *Chemical Engineering Transactions*, 57, 277-282.

## Conferences

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- 2022, Organizing Secretary of "RACES 2022", held at SVNIT Surat & ICT Bhubaneswar (Virtually).
- 2018, Presenter of research paper in "ISCRE 25" held at Florence, Italy.
- 2017, Presenter of research paper in "AIChE Annual Meeting 2017" held at Minneapolis, USA.
- 2017, Presenter of research paper in "ICWEE'17" held at Sharjah, UAE.
- 2017, Presenter of research paper in "CHEMCON 2017" held at HIT, Haldia, India.
- 2016, Presenter of research paper in "CHEMCON 2016" held at Chennai, India.
- 2016, Presenter of research paper in "5th International Conference on Research Frontiers in Chalcogen Cycle Science & Technology", held at Goa, India.
- 2012, Presented research paper in "CHEMCON 2012" held at NIT Jalandhar, India.

## Teaching

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@ ICT Mumbai, IOC Bhubaneswar

- CET 3507, *Advanced Chemical Reaction Engineering (PG level)*
- CET 3541, *Advanced Transport Phenomena (PG level)*
- CET 3301, *Chemical Reaction Engineering (UG level)*
- CET 3201, *Momentum Transfer (UG level)*

@ HBTU Kanpur

- ICH 501, *Instrumentation and Process Control (UG level)*
- ICH 702, *Transport Phenomena (UG level)*

## Recognitions

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- 2023, Recourse Person (Invited Talk) *in a Workshop (AOPER) at NIT Rourkela, India.*
- 2022, Reviewer, *RSC Advances (RSC)*
- 2020, Reviewer, *Construction and Building Materials (Elsevier)*
- 2020, Reviewer, *Environmental Technology (Taylor & Francis)*
- 2019, Reviewer, *Journal of Water Process Engineering (Elsevier)*

## Responsibilities & Professional Trainings

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- Chairman, *Purchase Committee at ICT-IOC Bhubaneswar (April 2023 – Present)*
- In-charge, *Executive M.Tech Program at ICT-IOC Bhubaneswar (April 2023 – Present)*
- In-Charge, *Chemical Engineering Laboratory at ICT-IOC Bhubaneswar (December 2021 –Present)*
- Member, *Examination Committee at ICT-IOC Bhubaneswar (April 2022 – April 2023)*
- 2021, Attended *Online Elementary FDP (ATAL) at NIT Durgapur*
- 2019, Attended *Summer Training Program – ‘Advanced Pedagogy and Digital Tools’ at IIT Kanpur*
- 2018, Attended *Faculty Development Program (FDP) at HBTU Kanpur*