

CURRICULAM VITAE

Dr. Indrani Ghosh

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Address: 3 Canal East Road, Flat 8A, Shikhar kunj, Kolkata – 700067

Date of birth: 5th August 1983

Nationality: Indian



EDUCATIONAL QUALIFICATION

- 2008-2015** Ph.D in Environmental Science and Engineering from Centre for Environmental Science and Engineering, **Indian Institute of Technology Bombay**, India
Title of Ph.D. thesis is “**Bacterial degradation of the HMW PAH, pyrene, bioavailability and substrate interaction effects**”. Supervisor: Prof. Suparna Mukherji , CESE, IIT Bombay
- 2006-2008** M.Sc. in Environmental Science from Asutosh College, University of Calcutta, India
Title of Masters’ thesis is “**Development of computer software for the determination of water quality index**”. Supervisor: Dr. Sanjib Moulick, Agricultural and Food Engineering Department, IIT Kharagpur
- 2003-2006** B.Sc. in Chemistry (Hons.) from Bethune College, University of Calcutta, India

RESEARCH AND PROFESSIONAL EXPERIENCE

- April '17-present** **Assistant professor (Environmental Science), School of Basic and Applied Sciences, Adamas University, Barasat, West Bengal, India**
- Feb'16-March'17** **Visiting Faculty, Environmental Science, Adamas University, Barasat, West Bengal, India**
- July'15-Nov'15** **Institute Research Associate (RA), IIT-Bombay**
- July'08- Jan'15** **Doctoral Research Scholar, IIT-Bombay**
- July'08- July'14** **Teaching assistant, IIT-Bombay**

PUBLICATION (s)

Journal

- 2024** Indrani Ghosh, Prantik Banerjee, "Removal of Antibiotics by Algae: Elucidating the Removal Mechanisms, Treatment Systems and Post-Treatment Antibiotic Resistance", *African Journal of Biomedical Research*, 27 (2024) 790-804.
- 2017** Indrani Ghosh and Suparna Mukherji "Substrate interaction effects during pyrene biodegradation by *Pseudomonas aeruginosa* RS1". *Journal of Environmental Chemical Engineering*, 5, 1791-1800 (*Impact factor:7.968*)
- 2016** Indrani Ghosh and Suparna Mukherji "Diverse Effect of Three Surfactants on Biodegradation of Pyrene by *Pseudomonas aeruginosa* RS1". *International Biodeterioration and Biodegradation*, 108, 67-75 (*Impact factor: 4.907*)
- 2014** Indrani Ghosh, Jublee Jasmine, Suparna Mukherji. "Biodegradation of Pyrene by a *Pseudomonas aeruginosa* strain RS1 Isolated from Refinery Sludge" *Bioresource Technology*, 166, 548-558 (*Impact factor: 11.889*)

Book chapters

- 2015** Indrani Ghosh, Mamta Kamat and Suparna Mukherji "Degradation of a Synthetic NAPL Containing Aliphatic Hydrocarbons and PAHs by Two Pure Bacterial Isolates" Kalyan Adhikari, Surabhi Chaudhuri, Sushmita Dutta, R. N. Saha (Editors), *Environment: Pollution and Protection*, ISBN: 978-81-8487-410-5, Narosa Publishing House, New Delhi India, 2015
- 2012** Suparna Mukherji and Indrani Ghosh, "Bacterial Degradation of High Molecular Weight Polynuclear Aromatic Hydrocarbons" S. N. Singh (ed.), *Microbial Degradation of Xenobiotics*, Environmental Science and Engineering, DOI: 10.1007/978-3-642-23789-8_7, Springer-VerlagBerlin Heidelberg 2012

Data-Set Publication

- 2023** Dasgupta S, Ghosh M, Kumari N, Chakraborty S, Kumari Maity K, Bodhak N, Datta D, Chakraborty S, Ghosh I, Kumar Dey T, Banerjee P, Basu Roy A, Barman N, Barve V (2023). Survey of Waders and aquatic birds at three locations of Bakkhali, a coastal zone of West Bengal. Version 1.13. Nature Mates-Nature Club. Sampling event dataset <https://doi.org/10.15468/zr5mc8>

Paper published in National/International Conference Proceedings

- 2024** Sailaduhita Das and Indrani Ghosh 'Investigating the Role of Growth Medium and Carbon Source in Microalgal Self-Flocculation Efficiency' abstract published in conference proceedings (oral presentation) at International Conference on Innovations on Biotechnology and Sustainability (IBS 2024: 23-25 November), JNU, New Delhi, India.
- 2023** Indrani Ghosh, Ahana Paul, Lina Chatterjee, Arjan Basu Roy, Prantik Banerjee 'Studies on impact of microhabitat on avian biodiversity within a restored urban greenspace in Kolkata' abstract published in conference proceedings (oral presentation) at 3rd International Workshop on Biodiversity and climate change Sustainable Development Perspective (BDCC-2023: 16-19 February), IIT Kharagpur, India.
- 2022** Ahana Paul, Arjan Basu Roy, Lina Chatterjee and Indrani Ghosh "Comparative analysis of habitat preference in the context of land restoration at Pakhibitan, Eco Park, Kolkata, and study of diurnal bird plant interaction" abstract published in conference proceedings (poster presentation) at Global Summit on Sustainable Science and Technology (GS3T 2022), Kolkata
- 2015** Indrani Ghosh and Suparna Mukherji "Persistence of pyrene in a hydrocarbon mixture: Response of an Efficient and Inefficient Pyrene Degradator and Impact of Triton X-100" Abstract published in conference proceedings (oral presentation) at International Conference on Environment & Ecology, Kolkata.
- 2014** Indrani Ghosh, Mamta Kamat and SuparnaMukherji "Degradation of a Synthetic NAPL Containing Aliphatic Hydrocarbons and PAHs by Two Pure Bacterial isolates" National Conference on Environment: Protection and Pollution (EPP 2014), NIT Durgapur, West Bengal, India, abstract published in conference proceedings (**Received Best Poster Award**)
- 2013** I.Ghosh and S. Mukherji, "Micellar Solubilization of Pyrene in Triton X-100 Hinders Pyrene Degradation by *Pseudomonas aeruginosa*." IWA Regional Conference on Waste and Wastewater Management, Science and Technology (WWMST 2013), Limassol, Cyprus, paper published in conference proceedings on CD (**Received Best Poster award**)
- 2010** Ghosh, I., S. Mohanty and S. Mukherji, "Comparative Study on Degradation of a Model NAPL by *Sphingomonas* and *Burkholderia sp.* And Impact of Triton-X 100" IX International Conference on Hydrosience and Engineering (ICHE2010), IIT Madras, paper published in conference proceedings on CD (Oral Presentation), ISBN:978-93-80689-01-2

2010 Ghosh, I., A. Bhuwan and S. Mukherji, "Degradation of Pyrene by *Rhodococcus sp.*" Annual Conference Envirovision 2010: "Advances in Environmental Technology and Management", organized by CESE, IIT Bombay and Indian Environmental Association (IEA).

Projects

Principal Investigator, 'Evaluating the potential of algae collected from East Kolkata wetland for biofuel production and waste water treatment' (Grant-in-Aid for SEED Fund Research project), 2021-23

Co-Investigator and External Partner of Indoor Air Quality in Homes of Global South under 'YESI Knowledge Exchange Fellows scheme 23-24: Principal Investigator Dr. Darpan Das, University of York, UK. 2024

AWARDS and HONORS

2014 Recipient of Best Student Poster award at the National conference "EPP, 2014"

2013 Recipient of travel grant from Department of Biotechnology, New Delhi, India for attending IWA WWMST'13 held in Limassol, Cyprus from 26th -28th June, 2013

Received financial assistance grant from IIT Bombay for attending IWA WWMST'13 held in Limassol, Cyprus from 26th -28th June, 2013

Recipient of Best Student Poster award at IWA WWMST, 2013.

2008 MHRD, Govt. of India scholarship holder for doctoral study through qualification of all India examination "Graduate Aptitude Test in Engineering" (GATE 2008)

ANALYTICAL AND TECHNICAL SKILL

- Chromatography (GC, HPLC)
- Microbiological techniques: Isolation of pure bacterial culture from environmental sample, biochemical test and Maintenance of pure bacterial culture on specific substrate, biomass quantification (CFU Count, VSS, Absorbance etc.), cell surface hydrophobicity determination
- Spectrometry (UV-Visible, LC-MS)
- Liquid-liquid solvent extraction
- Polyaromatic hydrocarbon, n-alkanes quantification (PAH)

- TOC Analysis
- Physical & Chemical Analysis (Water & Wastewater)
- Assays for biosurfactant activity

SOFTWARE SKILL

MS-Office, Endnote, SYSTAT, STATISTICA, MATLAB

TEACHING AND RESEARCH INTERESTS

Environmental microbiology and biotechnology, Bioprocess engineering, Environmental chemistry, Environmental statistics, Water and wastewater engineering, Air pollution science and Engineering, Solid and hazardous waste management, Analytical chemistry, Physicochemical processes, Environmental health and safety, Waste to Energy, Biofuel and biorefinery, Sustainable innovation

Administrative responsibility

- Board of Studies Member of undergraduate and post-graduate and doctoral program in Environmental Science
- Curriculum design and syllabus preparation for UG and PG program in Environmental Science
- Member of Admission Team of School of Basic and Applied Sciences
- Representative member of RISHII Project (<https://rishii-project.com/>) co-funded by Erasmus plus program of the EU
- Member of NAAC Committee (NAAC Criteria 7)
- Representative member of Students' Grievance addressal committee
- Convener/Organizer of webinar/workshop/conference/FDP

PROFESSIONAL MEMBERSHIP

Member, International Water Association (IWA)

Life Member, IIT Bombay Alumni Association