OINDRILA GHOSH

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EDUCATION

2018-Present **PhD, Environmental Engineering**
Ghosh Lab, University of Maryland Baltimore County.
Thesis: Optimization of passive sampling methods for surface water and porewater measurements

2017-2018 **Graduate Research Assistant**
Water Management and Hydrological Sciences, Texas A&M University

2015-2017 **Master of Science (MSc), Ecology and Environment Studies**
Nalanda University, India
Thesis: Transport of biochar in saturated porous medium under various physical-chemical conditions

2012-2015 **Bachelor of Science, Chemistry**
University of Delhi, India

RESEARCH INTERESTS

Bioavailability, fate and transport of persistent legacy and emerging organic contaminants; Passive sampling; Bioaccumulation and trophic transfer in aquatic organisms consumed by humans; Risk assessment and communication.

RESEARCH EXPERIENCE

2018-Present **University of Maryland Baltimore County** | **Baltimore, MD, USA**

- Developed the theoretical/modeling framework of exchange kinetics of polychlorinated biphenyl (PCB) compounds in polymeric passive samplers (PS) for detailed understanding of time-integrative property of bioavailability assessment.
- Fabricated and developed optimized PS prototypes for short term monitoring of PCB compounds in surface water and sediment porewater.
- Developed standardized methods for loading PCB performance reference compounds in polyethylene PS.
- Performance assessment of PCB remediation technology on Christina River, Delaware.
- Contributed to developing the proposal for a collaborative multidisciplinary project in response to a NIEHS funding opportunity on *Strategies for Responsibly Reporting Back Environmental Health and Non-Genomic Research Results* [NOFO Number: RFA-ES-23-006]
- Managed analytical instruments (GC-MS and GC-ECD).
- Provided PCB extraction and analysis training to undergraduate/graduate students.

2017-2018 **Texas Water Resources Institute (TWRI), TAMU** | **College Station, TX, USA**

- Analyzed spatial (surface and depth profile) variability of water chemistry data to establish continuity of geochemical processes within the Allende-Piedras Negras transboundary aquifer on the Texas and Mexico border.

2016-2017 **Nalanda University** | **Bihar, India**

- Synthesized nano-sized biochar by pyrolysis of rice husk and sugarcane bagasse in a muffled furnace and performed their characterization.
- Analyzed the stability of rice husk biochar in various salt concentrations and pH when passed through different collector grain sized saturated porous medium by column transport mechanisms.

AWARDS

2023	Winner of the Student Paper Competition for the Battelle's Eleventh International Conference on the Remediation and Management of Contaminated Sediments.
2020	3rd place Best Student Platform Presentation, SETAC Chesapeake Potomac Regional Chapter Annual Virtual Meeting, September 2020.
2017	Lechner Graduate Fellowship, College of Geosciences, Texas A&M University

CONFERENCE PRESENTATIONS

2023

- **Oindrila Ghosh**, Louis Cheung, Upal Ghosh, Mehregan Jalalizadeh. *Design Optimization of Passive Sampling Prototypes with Periodic Vibration, for Porewater Measurements of Polychlorinated Biphenyls.* Battelle's Eleventh International Conference on the Remediation and Management of Contaminated Sediments, Austin, TX. January 2023. (Poster)

2022

- **Oindrila Ghosh**, Upal Ghosh. *Optimization of equilibrium passive sampling for short-term surface water measurements.* SETAC North America 43rd Annual Meeting, Pittsburg, PA. November 2022. (Poster)
- **Oindrila Ghosh**, Songjing Yan, Mandar Bokare, Upal Ghosh. *Time-Integration in Equilibrium Passive Samplers: A Mathematical Modeling Approach*. International Passive Sampling Workshop, Utrecht, The Netherlands. September 2022. (Virtual platform presentation)

2021

- **Oindrila Ghosh**, Songjing Yan, Mandar Bokare, Upal Ghosh. *Testing of Prototypes of Actively Shaken In-Situ Passive Sampler Platform for Polychlorinated Biphenyls.* SETAC North America 42nd Annual Meeting, November 2021. (Virtual platform presentation).
- **Oindrila Ghosh**, Mehregan Jalalizadeh, Upal Ghosh. *Testing of Prototypes of Actively Shaken In-Situ Passive Sampler Platform for Polychlorinated Biphenyls.* SETAC North America 42nd Annual Meeting, November 2021. (Virtual platform presentation)

2020

- **Oindrila Ghosh**, Songjing Yan, Mandar Bokare, Upal Ghosh. *What Does Time-Integration Really Mean for Passive Sampling?* SETAC North America 41st Annual Meeting, November 2020. (Virtual platform presentation)
- **Oindrila Ghosh**, Songjing Yan, Mandar Bokare, Upal Ghosh. *How Efficient is Time-Integration for Equilibrium Passive Sampling?* SETAC Chesapeake Potomac Regional Chapter Annual Meeting. September 2020. (Virtual platform presentation)

2019

- **Oindrila Ghosh**, Nathalie Lombard, Mandar Bokare, James Sanders, Upal Ghosh. *Evaluation of passive sampling non-equilibrium adjustment methods of sediment porewater PCBs at two sites.* International Passive Sampling Workshop (IPSW), Northeastern University, Boston, MA. September 2019. (Platform presentation)
- **Oindrila Ghosh**, Nathalie Lombard, Mandar Bokare, Upal Ghosh. *Comparison of PRC adjustment methods applied to sediment porewater concentrations in the tributaries of the Anacostia River, Washington DC.* SETAC Chesapeake Potomac Regional Chapter Annual Spring Meeting, Fredericksburg, VA. April 2019. (Platform presentation)

2018

Oindrila Ghosh, Rosario Sanchez Flores, Inci Guneralp. Hydrochemical Connectivity of the Allende-Piedras Negras Transboundary Aquifer. AWRA Summer Specialty Conference, 2018 on the Science, Management, and Governance of Transboundary Groundwater, Fort Worth, TX

TECHNICAL SKILLS

Laboratory:

- PCB extraction and analysis: EPA SW-846 (Test Methods for Evaluating Solid Waste, Physical/Chemical Methods) methods 3630C (silica gel clean-up), 3665A (sulfuric acid clean-up), 3660B (sulphur removal with copper) and 8082A (gas chromatographic analysis of PCBs).
- Maintenance of analytical instruments: Agilent 7890B GC with Agilent 5977B MS, Agilent 6890N GC-ECD

Mapping: ArcGIS, QGIS

Programming: MATLAB.

Design: Adobe Lightroom, Photoshop, InDesign, Premiere Pro, Procreate.

SCIENCE COMMUNICATION

- Student Research Highlight article on *Optimization of Passive Sampling for surface-water and sediment porewater measurements* in the CPRC SETAC Newsletter, Spring 2022.
- Article on *Inclusive Diversity in Data Visualization* in the CPRC SETAC Newsletter, Spring 2022.
- Article on *International Students' Perspective* in the CPRC SETAC Newsletter, Spring 2021.
- Writer and picture abstract illustrator of science communication articles on personal blog (2022-Present).

OUTREACH

2021-Present	Outreach blog chair of North America Student Advisory Council (NASAC), SETAC.
2020, 2021	Communication of Ghosh lab overview of the research we do as a group to incoming graduate students at the UMBC open house for two consecutive years.
2019-Present	In charge of building, maintenance, and upkeep of Ghosh Lab Website.
2019-2020	Social Chair of Graduate Student Organization of Chemical, Biochemical and Environmental Engineering (CBEE) Department, UMBC
2017- 2018	Member of editorial board for The Drop Newsletter, Water Management and Hydrological Sciences (WMHS), Texas A&M University.