Pintu Prusty

Assistant Professor
Department of Applied Geology
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Research Interests: Hydrogeochemistry, Coastal Hydrogeology, Sediment-Water Interaction, Geochemical Modelling

Educational Qualification:

Ph.D.	Hydrogeochemistry	2021	Indian Institute of Technology Bhubaneswar
M.Sc.	Geology	2015	Indian Institute of Technology Bhubaneswar
B.Sc.	Geology	2013	Ravenshaw University, Cuttack

Working Experience:

Assistant Professor (Grade II)	September 2024 – Present	Department of Applied Geology, Indian Institute of Technology (Indian School of Mines) Dhanbad
Instructor	August 2022 – September 2024	Earth and Environmental Sciences, Undergraduate Programme, Indian Institute of Science, Bangalore
Assistant Professor (Contract)	January 2021 – August 2022	Department of Geology, Central University of Karnataka, Kalaburagi

Achievement/Awards:

- Institute research assistantship by MHRD, Govt. of India for Ph.D. at IIT Bhubaneswar
- Awarded 2nd prize in Poster presentation on National Science Day-2019 at IIT Bhubaneswar
- Received travel grant from European Association of Geochemistry (EAG) for attending the international conference Goldschmidt-2019 held at Barcelona, Spain
- Received Grant from Wadia Institute of Himalayan Geology (WIHG) for attending 3rd National Geo-Research Scholars Meet (NGRSM-2019) held at WIHG, Dehradun, India
- Waived Abstract submission and Registration fee by European Association of Geochemistry (EAG) for the International Conference Goldschmidt-2018, 2020.
- Advanced Instrumentation Training on ICP-OES from Agilent University
- Qualified National Eligibility Test (NET-2015), conducted by University Grants Commission (UGC), MHRD, Govt. of India
- Qualified Graduate Aptitude Test in Engineering (GATE 2015, 2019, 2020) and Joint Admission Test for M.Sc. (JAM 2013), conducted jointly by IITs

Equipment Handled:

ICP-OES (Agilent 5100), AAS (Agilent), Ion Chromatography (Metrohm and Thermo Fisher Scientific), Gas Chromatography (Thermo Fisher Scientific), Total Organic Carbon Analyser (Elementar), Microwave Digestion System (Anton Paar), Spectrophotometer (Thermo Fisher Scientific), Flame Photometer (Systronics), Auto-Titrator (Metrohm) and Particle Size Analyser (Horiba)

Computer Knowledge:

- Software: MS Office, ArcMap, Corel Draw, Origin, XLSTAT, PHREEQC, AquaChem
- Languages: Matlab, FORTRAN, and Python

Other Activities:

- Exam Coordinator for Undergraduate Programme, IISc for the year 2022-23
- Participated in Three-day International Conference on Earth and Environment in Anthropocene (ICEEA-2021) organized by Central University of Karnataka jointly with University of Madras.
- Selected as a Volunteer for the 36th International Geological Congress (IGC)
- Teaching in rural schools as a part of Unnat Bharat Abhiyan (UBA) organised by IIT Bhubaneswar
- Volunteered in the international conference Soft Computing for Problem Solving (SocProS) 2017 held at IIT Bhubaneswar
- President of SEG Student Chapter, IIT Bhubaneswar for 2014-15

Journal Publications:

1. **Prusty, P.**, Mohakud, S. K., Mandal, A. R., Parray, K. A., & Farooq, S. H. (2025). Assessment of heavy metal contaminations in groundwater and surface water resources of Sukinda valley, Odisha, India. Geological Journal, 1-15. https://doi.org/10.1002/gj.5227
2. Barik, S. S., Singh, R. K., Tripathy, S., Farooq, S. H., & **Prusty, P.** (2022). Bioavailability of metals in coastal lagoon sediments and their influence on benthic foraminifera. Science of The Total Environment, 825 (June 2022), 153986. https://doi.org/10.1016/j.scitotenv.2022.153986
3. **Prusty, P.**, & Farooq, S. H. (2021). Understanding the effects of periodic freshening and salinization on coastal water quality and aquifer sediments through laboratory-based column experiments. Journal of Hydrology, 603 (Part C, December), 127060. https://doi.org/10.1016/j.jhydrol.2021.127060
4. Zimik, H. V, Farooq, S. H., & **Prusty, P.** (2021). Source characterization of trace elements and assessment of heavy metal contamination in the soil around Tarabalo geothermal field, Odisha, India. Arabian Journal of Geosciences, 14 (11), 988. https://doi.org/10.1007/s12517-021-07366-y
5. **Prusty, P.**, & Farooq, S. H. (2020). Seawater intrusion in the coastal aquifers of India - A review. HydroResearch, 3, 61–74. https://doi.org/10.1016/j.hydres.2020.06.001
6. **Prusty, P.**, & Farooq, S. H. (2020). Application of Water Quality Index and Multivariate Statistical Analysis for Assessing Coastal Water Quality. Environmental Processes, 7 (3), 805–825. https://doi.org/10.1007/s40710-020-00453-4

7. Barik, S. S., **Prusty, P.**, Singh, R. K., Tripathy, S., Farooq, S. H., & Sharma, K. (2020). Seasonal and spatial variations in elemental distributions in surface sediments of Chilika Lake in response to change in salinity and grain size distribution. Environmental Earth Sciences, 79 (11), 269. https://doi.org/10.1007/s12665-020-09009-z
8. **Prusty, P.**, Farooq, S. H., Swain, D., & Chandrasekharam, D. (2020). Association of geomorphic features with groundwater quality and freshwater availability in coastal regions. International Journal of Environmental Science and Technology, 17 (6), 3313–3328. https://doi.org/10.1007/s13762-020-02706-z
9. Barik, S. S., Singh, R. K., Jena, P. S., Tripathy, S., Sharma, K., & **Prusty, P.** (2019). Spatio-temporal variations in ecosystem and CO2 sequestration in coastal lagoon: A foraminiferal perspective. Marine Micropaleontology, 147 (February), 43–56. https://doi.org/10.1016/j.marmicro.2019.02.003
10. Farooq, S. H., **Prusty, P.**, Singh, R. K., Sen, S., & Chandrasekharam, D. (2018). Fluoride contamination of groundwater and its seasonal variability in parts of Purulia district, West Bengal, India. Arabian Journal of Geosciences, 11 (22), 709. https://doi.org/10.1007/s12517-018-4062-9
11. **Prusty, P.***, Farooq, S. H., Zimik, H. V., & Barik, S. S. (2018). Assessment of the factors controlling groundwater quality in a coastal aquifer adjacent to the Bay of Bengal, India. Environmental Earth Sciences, 77 (22), 762. https://doi.org/10.1007/s12665-018-7943-z
12. Zimik, H. V., Farooq, S. H., & **Prusty, P.** (2017). Geochemical evaluation of thermal springs in Odisha, India. Environmental Earth Sciences, 76 (17), 593. https://doi.org/10.1007/s12665-017-6925-x

Chapters in Book

13. Nallusamy, B., Aslam, M., & **P., Pintu.** (2023). Assessment of groundwater quality in Chikballapur and Sidlagatta areas, Karnataka using multivariate statistical analysis. In B. N, M. Aslam, M. Gandhi, & S. Hussain (Eds.), Geological Developments in Anthropocene (pp. 1–13). Excel India Publishers.
14. **Prusty, P.**, & Farooq, S. H. (2022). Potential tools for identification of saltwater intrusion into the coastal aquifers: A case study from East Coastal Regions of India. In A. K. Tiwari, A. Kumar, A. K. Singh, T. N. Singh, E. Suozzi, G. Matta, & S. Lo Russo (Eds.), Water Scarcity, Contamination and Management (5^{th} ed., pp. 247–269). Elsevier Inc. https://doi.org/10.1016/B978-0-323-85378-1.00013-1

Publications in National and International Conferences

1. **Prusty, P.***, & Farooq, S. H. (2023). Understanding of sediment-water interaction processes in coastal aquifers through laboratory-based column experiments. Goldschmidt Abstracts, 13667, July 09-14, Lyon, France, (Virtual). https://doi.org/10.7185/gold2023.13667
2. **Prusty, P.***, & Farooq, S. H. (2020). Changes in aquifer sediments and water quality due to periodic exposure of aquifer to freshwater and seawater. Goldschmidt Abstracts, 2126, June 21-26, Virtual (Honolulu, USA). https://doi.org/10.46427/gold2020.2126
3. **Prusty, P.***, & Farooq, S. H. (2019). Saltwater Intrusion Vulnerability of a Coastal Aquifer along the Bay of Bengal, India. Goldschmidt Abstracts, 2718, August 18-23, Barcelona, Spain

4. **Prusty, P.***, & Farooq, S. H. (2019). Saltwater Intrusion: An Emerging Coastal Hazard along the East Coast of India. 3rd National Geo-Research Scholars' Meet, June 6-8, WIHG, Dehradun, Uttarakhand, India
5. **Prusty, P.***, & Farooq, S. H. (2019). Occurrence of freshwater in a saltwater intruded coastal aquifer along the Puri coast, Odisha. National Science Day Poster presentation (9th Researcher Scholars' Day), February 28, IIT Bhubaneswar, India (Best Poster Award)
6. **Prusty, P.**, Farooq, S. H., & Zimik, H. V. (2018). Assessment of Groundwater Quality and Seasonal Variability of Trace Elements in Coastal Groundwater of Puri District, India. Goldschmidt Abstracts, 2073, August 12-17, Boston, USA
7. **Prusty, P.**, Farooq, S. H., & Zimik, H. V. (2017). Geomorphic Control on Occurrence of Fresh Groundwater in a Saltwater Intruded Coastal Aquifer. Geological Society of America Abstracts, 49, 6, October 23-25, Washington, USA
8. **Prusty, P.**, Farooq, S. H., & Zimik, H. V. (2017). Extent of Seawater Intrusion and Identification of Freshwater Zones in the Coastal Aquifer of Puri District, India: A Geochemical Approach. Goldschmidt Abstracts, 3226, August 13-18, Paris, France