Curriculum vitae
Dr. Aniket Choudhary
Postdoctoral Researcher
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❑ ACADEMIC BACKGROUND

1) PhD in Geological Sciences, (Impact of mineral particles on the fate of tiny plastic debris in the riverine environment), IISER Kolkata, India. (2025)
2) Masters in Geological Sciences (2022), IISER Kolkata, India.
3) B.Sc. in Geology (2019), Fergusson College, Pune, India.

❑ RESEARCH INTEREST

1) Environmental Chemistry (Assessment of contaminants in the environment).
2) Aqueous Geochemistry (Predictive geochemical modeling of contaminants).
3) Remediation of contaminants from the aqueous environment using eco-friendly approach.

❑ AWARDS AND HONORS

1) Awarded Marie Skłodowska-Curie Action (MSCA) Postdoctoral Fellowship, 2025.
2) Best paper award at International Groundwater Conference 2025, NIH Roorkee, India.
3) Best oral presentation award at MPrism Conference 2025, IISER Kolkata, India.
4) Best oral presentation award at Convergence 2024, IISER Kolkata.
5) Awarded SERB International Travel Grant, 2023 (Gov. of India).
6) DST-DAAD (PPP) Fellow, Indo-German exchange program, 2023-2025.
7) First prize in Poster Presentation at Convergence 2023, IISER Kolkata.
8) Awarded Prime Minister Research Fellowship, 2022 (Government of India).
9) Awarded Researcher Development Grant, 2022 & 2023 (RSC), UK.
10) Awarded student grant to virtually attain SETAC Europe 32nd Annual Meeting, 2022.

❑ Projects:

DST-DAAD (PPP) Indo-German project, 2023-2025.
Title: X-ray microscopy for understanding the mechanism of the deposition of environmentally relevant microplastics in saturated porous media-Towards understanding plastic accumulation in soils.
Institute: Fredrich Scheller University Jena, Germany.
Team: **Dr. Aniket Choudhary**, Dr. Marcus Böhm, Prof. Gopala Krishna Darbha and Prof. Thorsten Shaefer.

❑ PUBLICATIONS:

1) **Aniket Choudhary** and Gopala Krishna Darbha. Impact of Minerals (Ferrihydrite and Goethite) and Their Organo-Mineral Complexes on Fate and Transport of Nanoplastics in the Riverine and Terrestrial Environments. **Environmental Science and Technology 2025, 59,11205−11215.**
2) **Aniket Choudhary,** Khandelwal N, Singh N, Tiwari E, Ganie ZA, Darbha GK. Nanoplastics interaction with feldspar and weathering originated secondary minerals (kaolinite and gibbsite) in the riverine environment. **Science of The Total Environment** 2021,151831.
3) **Aniket Choudhary,** Khandelwal N, Ganie ZA, Darbha GK. Influence of magnetite and weathering originated maghemite and hematite on transport and sedimentation of nanoplastics in aqueous and subsurface environments. **Science of The Total Environment** 2023,169132.
4) **Aniket Choudhary,** L. George, A. Mandal, A. Biswas, Z. Ganie, GK Darbha. Assessment of microplastics and associated ecological risk in the longest river (Godavari) of

peninsular India: A comprehensive source-to-sink analysis in water, sediment and fish. **Marine Pollution Bulletin** 2025, 117560**.**

5) Sangeetha T, **Aniket Choudhary**, A. Mandal, ZA. Ganie, GK Darbha. Impact of sequential UV-aging of microplastics on the fate of antibiotic (tetracycline) in riverine, estuarine, and marine systems. **Environmental Research** 2025, 122926.
6) Soumadip Guchhait, **Aniket Choudhary**, GK Darbha. Influence of goethite on the fate of antibiotic (tetracycline) in the aqueous environment: Effect of cationic and anionic surfactants. **Science of The Total Environment** 2025,178497.
7) Z. Ganie, **Aniket Choudhary**, GK Darbha. Agro-waste biochar embedded Sulfidised nZVI for removal of microplastics and synthetic dyes from wastewater: A continuous filtration approach with effective removal in complex aqueous matrices. **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, 2025, 136233.
8) Z.A. Ganie, S. Guchhait, M. Talib, **A. Choudhary,** and G.K. Darbha. Investigating the sorption of Zinc-Oxide nanoparticles on Tire-wear particles and their toxic effects on Chlorella vulgaris: Insights from toxicological models and physiological analysis. **Journal of Hazardous Materials** 2024, 136648
9) A. Biswas, **Aniket Choudhary**, GK Darbha. From ground to gut: Evaluating the human health risk of potentially toxic elements in soil, groundwater, and their uptake by Cocos nucifera in arsenic-contaminated environments. **Environmental Pollution** 2024, 344, 123342.
10) Khandelwal, Nitin; Rajak, Jai Kishan; Singh, Nisha; Tiwari, Ekta; Ganie, Zahid Ahmad; **Choudhary, Aniket**; Darbha, Gopala (2022). "Continuous filtration of multi-metal contaminated river and groundwater using antioxidant preserved redox-sensitive nanocomposites: ultrahigh reactivity and self-sedimentation possibility". **ACS ES&T Water** 2022, 2, 1073−1086.
11) E. Tiwari, N. Singh, N. Khandelwal, Z.A. Ganie, **A. Choudhary** and G.K. Darbha. Impact of nanoplastic debris on the stability and transport of metal oxide nanoparticles in the sub-surface. **Chemosphere** 2022, 136091.
12) Z.A. Ganie, N. Khandelwal, **A. Choudhary,** and G.K. Darbha. Clean water production from plastic and heavy metal contaminated waters using redox-sensitive iron nanoparticle-loaded biochar. **Environmental Research** 2023, 116605.

❑ CONFERENCES:

1) Represented Earth Sciences department in 24th National Science Exhibition 2021, Kolkata, India
2) SETAC Conference 2021, Denmark (Oral Presentation)
3) Goldschmidt Conference 2022, Hawaii, USA (Oral Presentation)
4) RSC, EnvChem, 2022, York, UK (Oral Presentation)
5) AGU Conference 2022, Chicago, USA (Oral Presentation)
6) Goldschmidt Conference 2023, Lyon, France (Oral Presentation)
7) AGU Conference 2023, San Fransico, USA (Poster Presentation)
8) AGU Conference 2024, Washington DC, USA (Poster Presentation)
9) Aquadiva Symposium, 2024, Jena, Germany (Poster Presentation)
10) National Environmental Conference 2024, IIT-Bombay, India (Oral Presentation)
11) Annual PMRF Symposium 2024, IIT-Indore, India (Poster Presentation)
12) ENVIRONMENT 2024, IIT-Guwahati, India (Oral Presentation)
13) International Groundwater Conference 2025, NIH Roorkee, India (Oral Presentation)
14) Goldschmidt Conference 2025, Prague (Poster Presentation)

❑ TECHNIQUES LEARNT AND INSTRUMENTATION

Instrumentation

XPS, Electron Microscopy (FESEM, TEM), FT-IR, Micro-Raman spectroscopy, X-Ray Diffraction (pXRD), Colloidal properties (Zeta Sizer, Particle size analyzer, NTA analyzer), UV-visible spectroscopy, CHNS analyzer, ICP-OES, HPLC, and Fluorescence spectroscopy.

Modeling techniques and software

KasaXPS for fitting, Origin and Excel, Adobe Illustrator, Endnote citation manager

❑ TEACHING ASSISTANTSHIP:

1) Teaching assistant for NPTEL course "Plastic waste management" (2022)
2) Teaching assistant for course "Environmental Geosciences" at Fergusson College, Pune (2022-Present)
3) Teaching assistant for autumn and spring semester, at IISER Kolkata, 2022.
4) Teaching assistant for Geochemistry course at IISER Kolkata, 2025.

❑ REFERENCES:

Prof. Gopala Krishna Darbha, Department of Earth Sciences, IISER-Kolkata, India.

Prof Thorsten Shaefer, Chair of Applied Geology, Friedrich Schiller University Jena, Germany