

Meghna Ray

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RESEARCH INTERESTS

Paleoclimatology, Hydroclimate, Himalaya.

RESEARCH EXPERIENCE

August 2021-February 2022- Junior Research Fellow in a project titled “Risk Assessment of Floating Debris Dominated Flash Floods in Trans-Boundary Upper Himalayan Catchments” funded by Defence Geoinformatics Research Establishment (DGRE)/ Defence Research and Development Organization in Indian Institute of Technology, Guwahati, Assam, India.

FIELD EXPERIENCE

September-October 2024- 25-day fieldwork to Pir Panjal Ranges to core two lake sites at 4200 MSL.

May-June 2023- 20-day fieldwork to Garhwal Himalaya to core a lake site at 3600 MSL and Zaskar Himalaya to core a lake site at 4100 MSL

August 2021- data collection about underlying strata in Indian Institute of Technology, Guwahati Campus, using Ground Penetration Radar and Multi-Channel Analysis of Surface Waves Survey

January 2020- 2-day field visits to the highest point in the Delhi Ridge of the Aravalli Mountains to collect samples for Cosmogenic Nuclide dating under the supervision of Dr. Lewis Owen and Dr. Milap Chand Sharma.

June-July 2019- 17-day fieldwork as a part of MA course in the Jankar Chu watershed, Himachal Pradesh, India, learning basics of sample collection for radiometric dating and other field-based geomorphological techniques

EDUCATIONAL QUALIFICATIONS

Standard/ Degree	Year	Educational Institution	Affiliation of Educational Institute	Marks / Grades	Subjects
TOEFL	2021		ETS	107	Reading: 30; Listening: 25; Speaking: 24; Writing: 28.
GRE	2021		ETS	312	V: 155, Q: 157, AWA: 4
M. A.	2020	Jawaharlal Nehru University, Delhi	Jawaharlal Nehru University, Delhi	6.55/9	Geography
UGC-NET	2019				Qualified in A.P. category
B. Sc.(H)	2018	Loreto College, Kolkata	University of Calcutta	65.7% (H)	Geog. (H), Economics and Human Rights

ACADEMIC ACCOLADES

2024- Visiting Graduate Student Program (VGSP) grant by Continental Drilling Facility (CSD) at the University of Minnesota-Twin Cities. A sum of \$1000 to sample and process lake cores.

2023- GSA Graduate Student Research Grant by the Geological Society of America. A sum of \$1700 to help with fieldwork expenditure.

2023- UGA Summer Research Grant from Graduate School of University of Georgia. A sum of \$1500 to help with fieldwork expenditure

2023- PhD Student Research Competition issued by Paleoenvironmental Change Speciality Group, AAG. A sum of \$300 to help with the cost of processing samples in the lab.

2020- Online Course from NPTEL by Indian Institute of Technology Kanpur on Photogeology in Terrain Evaluation

2020- E-Training on Fundamentals of Aerogeophysical Survey conducted by Geophysics Division of Geological Survey of India Training Institute, Hyderabad, India

2018- The John Maynard Keynes Silver Medal from Loreto College awarded for obtaining highest marks in Economics as pass subject in the Calcutta University among all students of the college.

2016, 2017- Certificate of Merit for Proficiency in Geography Honours, Loreto College

TECHNICAL SKILLS

SOFTWARES USED

- Python using Jupyter Lab
- QGIS
- ArcGIS
- ERDAS IMAGINE
- HEC-RAS

INSTRUMENTS USED

- Livingstone Corer
 - Sonar
 - Schmidt Hammer
 - Ground Penetrating Radar
 - X-Ray Fluorescence Spectrometry
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- RStudio
 - Stereonet
 - eCOGNITION
 - MAXENT
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PUBLICATION

Ray, M., Bharti, R., & Dutta, S. (2022, July). Quantifying Channel Morphology and Tectonic Deformation of Rispana River Basin Using Geomorphic Markers: Impact of Anthropogenic Factors on the System. In IGARSS 2022-2022 IEEE International Geoscience and Remote Sensing Symposium (pp. 6418-6421). IEEE.

CONFERENCE PRESENTATIONS

2025- A multi-proxy lake-sediment based reconstruction of Holocene hydroclimate variability in Garhwal Himalaya, India. AAG 2025, 24 March 2025

2022- Quantifying Channel Morphology and Tectonic Deformation of Rispana River Basin Using Geomorphic Markers: Impact of Anthropogenic Factors on the System. IGARSS 2022-2022 IEEE International Geoscience and Remote Sensing Symposium (pp. 6418-6421). IEEE, 20 January 2022

ACTIVE ACADEMIC MEMBERSHIPS

- American Association of Geographers
 - Paleoenvironmental Change Speciality Group
 - Climate Speciality Group
 - Geomorphology Speciality Group
 - Southeastern Division of AAG
- Geological Society of America

INTERNSHIPS AND VOLUNTEERING EXPERIENCE

2018- Community Service at All Bengal Women's Union in 2018, Certificate of Merit issued by Loreto College.

2016- Volunteered at YODDHAS: Youths Fighting Against Cancer, an NGO providing financial support and acting as a support group for Cancer patients and their families as a content writer, for 4 months

PERSONAL INFORMATION

Date of Birth : 25th July 1997
Nationality : American
Sex : Female
Language : English, Bengali, Assamese & Hindi

OTHER ACTIVITIES

2020- Participated in number of sporting and dance events in School, College and University. Achieved first position in Badminton singles (Girls) in 2019 and 2020 and doubles (Girls) in 2020 at JNU.

2018- Vice President of Wildlife-Environment (WE) Nature Society of Loreto College in 2018.

2018- Passed Second year examination of Fine Arts in first class with distinction in the 2017-2018 session, appearing from Chitram Art Centre, Kolkata. Examination organized by All India Fine Arts Association

2014- Completed four-year Diploma course in Bharata Natyam course at Kalabhumi, Guwahati in 2014.