

Aishwarya Bhattacharya PG (II Year I Semester) M.Tech. Ground Water Hydrology Contact No: 8240373218 Email: aishwarya_b@hy.iitr.ac.in Registration No: 22557001/2024



Area of Interest

Hydrology, Hydrogeology, Groundwater

Education

Year	Degree/Examination	Institution/Board	CGPA/ Percentage
2023	M.Tech. 1st Year	Indian Institute of Technology, Roorkee	7.700
2021	Postgraduate (PG)	University of Calcutta	7.505
2019	Graduate (UG)	Sister Nibedita Govt. General Degree College for Girls (University of Calcutta)	64.38 %
2016	Intermediate (Class XII)	Sudhir Memorial Institute (Central Board of Secondary Education)	76.80 %
2014	Matriculate (Class X)	Adamas International School (Council for the Indian School Certificate Examination)	91.20 %

Internships

Understanding the Geophysical and Geochemical Characteristics in Hard rock Environments using AAS and ERT instruments. | Department of Hydrology, IIT Roorkee (Under the supervision of Dr. B K Yadav) June 2023 - July 2023

• During my internship, I gained valuable insights into two key analytical techniques: Atomic Absorption Spectrometry (AAS) and Electrical Resistivity Tomography (ERT). I became familiar with the experimental setup, working principles, and methodologies associated with these instruments. Additionally, I learned about their applications in the field of hydrology, particularly in understanding geological and hydrological characteristics in hard rock environments.

Projects

Assessing Fate and Transport of Contaminants under Hardrock Aquifer Conditions | IIT Roorkee July 2023 - Present

• This projects has objectives like - Procurement, processing and characterization of hardrock lithology materials; Batch sorption experiment to understand contaminant interaction with rock and minerals; Preparation of column reactors containing litholog based rocks/ minerals; Column transport experiment to assess contaminat transport; Impact of environmental parameters on contaminant transport and (Optional) Modelling of transport experiment data with Hydrus 1D.

Groundwater Flow and Contaminant Transport Assessment in Hardrock Terrains. | IIT Roorkee

December 2022 - June 2023

 This was a seminar project whose primary focus revolved around conducting a comprehensive evaluation of groundwater flow and the transport of contaminants in hard rock terrains. Given the complex hydrogeological conditions present in these regions, characterized by the coexistence of primary and secondary porosity, a refined methodology was needed. The study thoroughly explored the interaction between Darcian and non-Darcian flow concepts within the context of these dual porosity systems, taking into account the inherent heterogeneity and anisotropy associated with hard rock formations. A particular emphasis was placed on gaining an in-depth understanding of the genesis and significance of secondary porosity, which arises from geological processes like weathering, fracturing, faulting, and jointing. By investigating the dual porosity model and employing both Darcian and non-Darcian approaches, this research aimed to offer valuable insights into precise assessments of contaminant transport in hard rock terrains.

Awards / Scholarships / Academic Achievements

- Secured positions among top 3 in various Painting competitions held at IIT Roorkee in 2022.
- Presented a conference paper entitled Chronology and Pattern of Extensional Deformation in Mare Serenitatis, Tranquillitatis and Fecunditatis on the surface of Earths Moon in the national conference on Rock Deformation & Structures organized by Central University of Kerala and Structural Geology and Tectonic Studies Group India (SGTSGI) in 2021 and it got published at Researchgate
- Secured All India Rank 08 in IIT JAM (All India IIT Entrance Exam) examination 2022.
- Secured a Second position in 2011-12 and a Third Position in 2016 in Annual Sports from Adamas International School (Kolkata) and Sister Nibedita Govt. Degree College for Girls (Kolkata) respectively
- Secured 03rd position in Painting Competitions in Kolkata(Ariadaha Swapno Natyo Sangastha) in the years 2011, 2013.
- Participated in the weekly series of online Quiz Contests organized by the Department of Earth and Planetary Sciences of Prof. Rajendra Singh Institute of Physical Sciences for Study and Research scoring highest marks of 192 out of 200 and acquired a position among top 10 all over India.
- Qualified GATE 2021 with AIR 533 and 2022 with AIR 589.

_____ Skills

oftware Packages	MS Office (Word, Excel, Powerpoint). Basic knowledge on GIS	platforms like ArcGIS and JMARS			
dditional Courses	Basic ISO Trainings on 9001:2015 (Quality Management Syste	m) 14001:2015 (Environmental			
	Management System) 45001:2018 (Occupational Health and S	Safety Management System) from			
	Broadbeach Innovations (UK Ackreditering Certification Ltd.) in	n 2022 Industrial Training on Basic			
	Concepts of Coal Exploration at United Exploration India Pvt. I	td. in 2021. Industrial Training at			
	the Drilling Rig BI-2000-I, ONGC, MBA Basin, Kolkata in 2020.	Online Industrial Training at			
	Geovale Services Pvt. Ltd. in 2020. Visited Banduhurang Oper	Cast Mine and Turamdih			
	Underground Mine for the fulfillment of B.Sc. Part III practical	course in Geology Hons. In Uranium			
	Corporation of India Ltd. (UCIL), Jnarknand In 2017. 3 days e-t	raining on Basics of Structural			
	Hyderabad in 2020	a fraining institute (GSTT),			
anguagas Known	English Lindi Dangali				
anguages known	English, Hindi, Bengali.				
	Positions of Responsibility & Extra Curriculars				
Learner of Advance Course on Painting The Ramakrishna Mission Institute of Culture (Sarada Devi School of Fine Arts					
ts) , Golpark, Kolka	ta	January 2017 - December 2018			
nce Course on Pain	ting				
: Bharatiya Charu	Kala Mandir	March 2014 - January 2015			
	oftware Packages dditional Courses anguages Known of Advance Cour ts) , Golpark, Kolka nce Course on Pain : Bharatiya Charu	 MS Office (Word, Excel, Powerpoint). Basic knowledge on GIS Basic ISO Trainings on 9001:2015 (Quality Management Syste Management System) 45001:2018 (Occupational Health and S Broadbeach Innovations (UK Ackreditering Certification Ltd.) in Concepts of Coal Exploration at United Exploration India Pvt. I the Drilling Rig BI-2000-I, ONGC, MBA Basin, Kolkata in 2020. Geovale Services Pvt. Ltd. in 2020. Visited Banduhurang Oper Underground Mine for the fulfillment of B.Sc. Part III practical Corporation of India Ltd. (UCIL), Jharkhand in 2017. 3 days e-t geology conducted by T.C. Division of Geological Survey of Ind Hyderabad in 2020. anguages Known English, Hindi, Bengali. Positions of Responsibility & Extra Curriculars of Advance Course on Painting The Ramakrishna Mission Institute of Culture ts) , Golpark, Kolkata The Ramakrishna Mission Institute of Culture ts) , Golpark, Kolkata 			

• Passed the 5th year examination in Fine Arts with Distinction marks

Participant | Ganga Bhawan, IIT Roorkee

• Painted 8.2ft x 6.4ft Buddha Wall Art at IIT Roorkee in 2023.

References

Dr. Brijesh Kumar Yadav

Head of Department of Hydrology IIT Roorkee brijesh.yadav@hy.iitr.ac.in **Dr. Nitin Khandelwal** Assistant Professor of Department of Hydrology IIT Roorkee nitin.khandelwal@hy.iitr.ac.in March 2023