

# Anirban Dhar

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CONTACT	Professor Department of Civil Engineering Indian Institute of Technology Kharagpur Kharagpur-721302, INDIA	Email: <a href="mailto:anirban@civil.iitkgp.ac.in">anirban@civil.iitkgp.ac.in</a> Office: +91-3222-283432 Fax: +91-3222-282254 Mobile No.: +91-9434147950
RESEARCH INTERESTS	Computational Hydraulics, Groundwater Hydrology, and Geostatistics	
PROFESSIONAL EXPERIENCE	<b>Indian Institute of Technology Kharagpur</b> , Kharagpur, INDIA Associate Professor in Department of Civil Engineering (Jan 2018- till date) <b>Indian Institute of Technology Kharagpur</b> , Kharagpur, INDIA Assistant Professor in Department of Civil Engineering (Dec, 2008- Jan 2018) <b>James Cook University</b> , Townsville, AUSTRALIA Visiting Scholar in School of Engineering and Physical Sciences (Jul, 2008- Dec, 2008)	
EDUCATION	<b>Indian Institute of Technology Kanpur</b> , Kanpur, INDIA Ph.D. in Civil Engineering (2008) <b>Indian Institute of Technology Kanpur</b> , Kanpur, INDIA M.Tech. in Civil Engineering (2004) <b>University of North Bengal</b> , INDIA B.E. in Civil Engineering (2002)	
RESEARCH INDICATORS	<b>h-Index (Scopus)</b> : 22 (Total Citations-1342) <b>h-Index (Google Scholar)</b> : 23 (Total Citations-1806)	
REFEREED PUBLICATIONS	<b>Refereed Journal Publications</b> URL: <a href="https://www.researchgate.net/profile/Anirban-Dhar-2">https://www.researchgate.net/profile/Anirban-Dhar-2</a>	
RESEARCH GUIDANCE	<b>Ph.D. Guidance</b> : 8 (5 Single + 3 Joint) Completed + 1 (Single) Defended + 1 (Joint) Submitted <ul style="list-style-type: none"><li>• <b>Saumava Dey</b> (2022): "A Generalized Finite Volume Based Framework for Unified Multi-Region Hydraulic Modeling" [<i>Department of Civil Engineering</i>, IIT Kharagpur]</li><li>• <b>Komal Kumari</b> (2022): "Coupled Analytic Element-Finite Volume Based Simulation of Groundwater-Surface Water Interaction for Canal Command Systems" [<i>Department of Civil Engineering</i>, IIT Kharagpur]</li><li>• <b>Chitaranjan Dalai</b> (2021): "Experimental Investigation of Saltwater Intrusion Dynamics in Porous Media Under the Influence of Beach Slope and Tidal Conditions" [<i>School of Water Resources</i>, IIT Kharagpur]</li><li>• <b>Selva Balaji M</b> (2019): "Analytical and Experimental Investigation of Tidal Influence in Coastal Aquifers" [<i>Department of Civil Engineering</i>, IIT Kharagpur]</li></ul>	

- **Uday Mandal** (2019) "Enhancement of Sustainable Agricultural Production in A Tropical River Basin Under Climate Uncertainty" Jointly with *Prof. S. N. Panda* In *School of Water Resources*, IIT Kharagpur.
  - **Satiprasad Sahoo** (2019): "Impact of Climate Change and Anthropogenic Interventions on HydroEnvironmental Regime of Dwarakeswar-Gandheswari River Basin" Jointly with *Prof. A. Debsarkar* In *Faculty of Interdisciplinary Studies, Law & Management*, Jadavpur University.
  - **Madhumita Sahoo** (2017): "On Assessment of Multi-scale Groundwater Scenarios using Multi-resolution Multi-attribute data" [*School of Water Resources*, IIT Kharagpur]
  - **Gourabananda Pahar** (2017): "A Volume-Conservative Incompressible Smoothed Particle Hydrodynamics Model for Multifluid Flow Interaction with Deformable Porous Media" [*Department of Civil Engineering*, IIT Kharagpur]
  - **Prabir Biswas** (2016): "Physically Based Numerical Simulation Model for Conjunctive Water use in Basin Irrigated Canal Command Areas" Jointly with *Prof. Dhrubajyoti Sen* [*Department of Civil Engineering*, IIT Kharagpur]
- M.S. (by Research):** 1 Completed
- **Satiprasad Sahoo** (2016): "Evaluating the Effectiveness of Methods for Identification of Groundwater Potential, Vulnerability and Environmental Vulnerability Zones" [*School of Water Resources*, IIT Kharagpur]

#### SUBJECTS TAUGHT At Undergraduate Level

- CE21003: Hydraulics
- CE20006: Water Resources Engineering
- CE29006: Water Resources Engineering Laboratory
- CE13001: Engineering Drawing and Computer Graphics

#### At Graduate Level

- CE60113: Geohydraulics
- CE60002: Advanced Computational Hydraulics
- CE69004: Case Studies in Computational Hydraulics and Sediment Transport
- CE69005: Computer Applications in Free Surface Flow and Applied Hydrology
- CE69003: Hydraulic and Water Res. Engg. Lab.

### Sponsored Research Projects

#### PROJECTS

#### ONGOING (As Principal Investigator):

- "Design and Development of Oscillatory Aquifer Pumping Tests System at Laboratory Scale with Implication to Field Scale" [Agency: SERB, INDIA] -Rs. 32.53 Lakhs

#### COMPLETED (As Principal Investigator):

- "Physical And Mathematical Modeling Of Tidal Influence On Seawater Transport Through Porous Media Laboratory Scale With Implications To Field Scale" [SERB, INDIA] -Rs. 22.66 Lakhs

- “Efficiency Study of Damodar Left Bank Irrigation System and Strategies for Integrated Command Area Water Management” [Ministry of Water Resources, INDIA] -*Rs. 46.96 Lakhs*
- ”Preparation of “Ganga River Basin Management Plan”, Joint Project of 7 IITs [National River Conservation Directorate, Ministry of Environment and Forest, INDIA] -*Rs. 25.00 Lakhs*

## Consultancy Projects

### ONGOING (As Principal Consultant):

- ”Preparation for Feasibility Report and Concept Plan for Intake Arrangement on Teesta River for Water Supply Project in Kalimpong” [PHE, GoWB] -*Rs. 20.06 Lakhs*

### COMPLETED (As Principal Consultant):

- ”Survey, Design and Preparation of DPR for Renovation of Main Drain and Construction of STP near Shankarpur under DMC” [DMC] -*Rs. 8.43 Lakhs*
- ”Technical Assistance for Design of Drainage System for Greenfield City, Kolkata” [Greenfield City Project] -*Rs. 5.90 Lakhs*
- ”Assessment of Evaporation and Infiltration Losses for Pre-Settling Ponds at WTP Site New Town, Kolkata” [PHE, GoWB] -*Rs. 4.72 Lakhs*
- Technical Assistance for Management of Sludge Handling System of Garden Reach Water Works of Kolkata Municipal Corporation (AHMC) [KMC] -*Rs. 5.90 Lakhs*

### ONGOING (As Co-Principal Consultant):

- ”Estimation of Design Basis Flood and Safe Grade Elevation for RR Site” [NPCIL] -*Rs. 134.99 Lakhs*

### COMPLETED (As Co-Principal Consultant):

- Morphological Studies of Rivers Mahanadi, Mahananda and Hooghly [Central Water Commission]- *Rs. 146.46 Lakhs*
- Study of Water Seepages from CRM Bara [Tata Steel Limited, Procurement Division]- *Rs. 27.60 Lakhs*
- Preparation of State Specific Action Plan for Water Sector in West Bengal [GoWB]- *Rs. 50.00 Lakhs*
- “Tokisud Flood Control Dike Vetting”, Jointly with Drs. D. Roy, B. Maitra [GVK POWER (GOINDWAL SAHIB) LIMITED]-*Rs. 7.07 Lakhs*
- “Evaluation of Flood Management Scheme For Keliaghai - Kapaleswari - Baghai River Basin” Under Flood Management Programme, Government of India [GoWB]- *Rs. 17.10 Lakhs*
- “Performance Evaluation Study In Respect of Work Keliaghai-Kapaleswari-Baghai Drainage Basin Scheme (Phase-II, 2012-2013)” Under Flood Management Programme, Government of India [GoWB]-*Rs. 22.47 Lakhs*
- “Performance Evaluation Study In Respect of Work Kapaleswari-Keliaghai-Baghai Drainage Basin Scheme (Phase-I, 2010-2011)” Under Flood Management Programme, Government of India [GoWB]-*Rs. 9.70 Lakhs*
- Storm Water Out Flow Drainage Plan and Subsurface Drainage Plan [KEVENTER PROJECTS LTD.]-*Rs. 6.17 Lakhs*

- The Source Sustainability Study of Water (Subarnarekha River) at Intake Point [ Adhunik Power Natural Resources Ltd.]-Rs. 5.07 Lakhs

## Curriculum Development Projects

- National Programme on Technology Enhanced Learning (NPTEL), Development of a course on "Computational Hydraulics", Ministry of Human Resource Development (MHRD), Government of India.
- QEEE (Quality Enhancement in Engineering Education) Course (supported by the Ministry of Human Resources Development, Govt. of India) on "Open Channel Flow", March 7-9, 2017.
- Pilot Phase of the National Mission Project on Pedagogic Development for the course "Hydraulics", National Mission Project on Education through ICT, Ministry of Human Resource Development (MHRD), Government of India, Jointly with Dr. V.R. Desai.
- Pilot Phase of the National Mission Project on Pedagogic Development for the course "Water Resources Engineering", National Mission Project on Education through ICT, Ministry of Human Resource Development (MHRD), Government of India, Jointly with Dr. R. Maity.
- National Programme on Technology Enhanced Learning (NPTEL), Development of a video course on "Ground Water Hydrology", Ministry of Human Resource Development (MHRD), Government of India, Jointly with Dr. V.R. Desai.

### AWARDS/ HONORS/ SCHOLARSHIPS

- *Certificate of Outstanding Contribution in Reviewing* by Journal of Hydrology (April 2018)
- "Young Scientist Award" (2014) by INC-International Association of Hydrogeologists
- "IEI Young Engineers Award 2013-2014" in Environmental Engineering
- Endeavour Research Fellowship 2008 (International Fellowship Funded by Australian Govt.)
- Cash Award - DRPG, IIT Kanpur (2006)
- University Silver Medal for B.E. (Civil Engg.), North Bengal University, WB, INDIA.

### SHORT TERM COURSES AND LECTURES

#### GIAN Course

- 151001C07 : Groundwater Modeling Characterization and Management, Foreign Faculty : Professor Bithin Datta, Australia (Duration : 05-12-2016 to 13-12-2016)

#### Short Term Courses

- Mathematical Methods in Civil Engineering in Feb 2018 (Co-coordinator)
- Advances in Numerical Simulation Techniques for Hydraulics, Hydrology and Water Resources Management-I (ANST-HHWM-I) in 2015
- Advances in Numerical Simulation Techniques for Hydraulics, Hydrology and Water Resources Management-II (ANST-HHWM-II) in 2015

## TALKS

- Groundwater contaminant source identification: QIP short-term course on 'Solid and Hazardous Waste Management', Indian Institute of Technology Kharagpur, Kharagpur, 19th Nov, 2010.
- Saltwater intrusion in coastal aquifers: Water Resources Day, The Institution of Engineers (India), Khargapur Local Chapter, Khargapur, 10th June, 2009.
- Prediction of earthquake from ground water table fluctuation: Training of faculty members of state resource institutes under the National Programme for Capacity Building of Engineers in Earthquake Risk Management (NPCBEERM), Indian Institute of Technology Kharagpur, Kharagpur, 26th June, 2009.

## SERVICES

### **Committee Membership** (National/International Level):

- Co-opted Member of Expert Committee on Earth and Atmospheric Sciences (EC-EAS), Science Engineering Research Board, INDIA (2022- till date)
- Member of Leadership Team of the IAHR (International Association for Hydro-Environment Engineering and Research) Groundwater Hydraulics and Management Committee (2017-2019).
- Member of Executive Council of Indian National Committee-International Association of Hydrogeologists (IAH) (2015-2016)
- Member of DPR Appraisal Committee of IIT(C) for NMCG [for Third Party Appraisal (TPA)]

### **Examination of Ph.D. Theses:**

- Monash University, Australia (2022)
- Flinders University, Australia (2021)
- James Cook University, Australia (2018, 2020)
- Indian Institute of Science (2020)
- Indian Institute of Technology Roorkee (2021, 2022)
- Visvesvaraya National Institute Of Technology, Nagpur (2018)

### **Reviewer of Referred Journals:**

- Water Resources Research, AGU: Published by Wiley
- Environmental Science & Technology: Published by ACS Publications
- Journal of Water Resources Planning and Management: Published by ASCE
- Journal of Hydrologic Engineering: Published by ASCE
- Journal of Hydraulic Engineering: Published by ASCE
- Journal of Pipeline Systems - Engineering and Practice: Published by ASCE
- Hydrogeology Journal, IAH: Published by Springer
- Water Resources Management: Published by Springer

- Water, Air, & Soil Pollution: Focus: Published by Springer
- KSCE Journal of Civil Engineering: Published by Springer
- Journal of Earth Systems Science: Published by Springer
- Environmental Earth Sciences: Published by Springer
- Geotechnical and Geological Engineering: Published by Springer
- Applied Water Science: Published by Springer
- Journal of The Institution of Engineers (India): Series A: Published by Springer
- Advances in Water Resources: Published by Elsevier
- Journal of Hydrology: Published by Elsevier
- Journal of Hydrodynamics: Published by Elsevier
- Journal of Contaminant Hydrology: Published by Elsevier
- International Journal of Sediment Research: Published by Elsevier
- Journal of Hydro-environment Research: Published by Elsevier
- Flow Measurement and Instrumentation: Published by Elsevier
- Journal of Hydraulic Research, IAHR: Published by Taylor and Francis
- Desalination and Water Treatment: Published by Taylor and Francis
- Hydrological Sciences Journal: Published by Taylor and Francis
- ISH Journal of Hydraulic Engineering: Published by Taylor and Francis
- Geocarto International: Published by Taylor and Francis
- Cogent Engineering: Published by Taylor and Francis
- Engineering Computations: Emerald Publishing
- Current Science: Published by Indian Academy of Sciences
- Sadhana: Published by Indian Academy of Sciences

**Reviewer of Projects:**

- Science and Engineering Research Board (SERB), Government of India.
- Indian Institute of Technology (ISM) Dhanbad (2022)

**Institute Committees:**

Served as

- Member, Campus Master Plan Committee
- Member, Task Force for Hybrid Mode of Teaching and Learning (Feb., 2022)

**Departmental Committees:**

Served as

- Section-In-Charge, Hydraulic and Water Resources Engineering (*Continuing*)
- In-Charge, Time Table In-Charge, Civil Engineering (*Continuing*)

- Faculty Advisor, UG, Civil Engineering
- Member, Departmental Academic Committee(PG & R), Civil Engineering
- Member, Departmental Academic Committee(UG), Civil Engineering
- Member, Departmental Faculty Recruitment Committee, Civil Engineering
- In-Charge, Training And Placement, Civil Engineering
- Member, Planning And Budget Committee, Civil Engineering
- In-Charge, Water Resources Engineering Laboratory, Civil Engineering
- Member, Purchase Committee, School of Water Resources

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