Dr. ASHES BANERJEE

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Google Scholar, ORCID, VIDWAN

ACADEMIC WORK EXPERIENCE

- Assistant Professor, Civil Engineering Department, Swami Vivekananda University, Kolkata, West Bengal, India (15.05.2023-)
- **Assistant Professor**, Civil Engineering Department, Alliance college of Engineering and Design, Alliance University, Anekal, Karnataka 562106, India (02.08.2021- 29.04.2023)
- **Institute Post-Doctoral Fellow** (6th January 2020-20th July 2021) at Indian Institute of Technology, Guwahati.
- **Project Associate** (October 2019- January 2020) under the project entitled "Preparation of Master Plan – 2030 for Dhanbad Municipal Corporation", in the Department of Mining Engineering, IIT(ISM), Dhanbad.
- **Lecturer of Civil Engineering** (July 2013- July 2014) at **Camellia Institute of Polytechnic, Kalyan Educational Trust** under West Bengal State Council of Technical Education.

EDUCATIONAL DETAILS:

Degree	Specialization	Institute	University	Year	Marks
Ph.D (Integrated)*	Water Resources Engineering	Indian Institute of Technology (Indian School of Mines) Dhanbad, Jharkhand-826004, India		2014-2020	NA
B. Tech	Civil Engineering	Birbhum Institute of Engineering and Technology, Suri, West Bengal, India	West Bengal University of Technology	2009-2013	8.05 (10)
Higher Secondary (+2)	Science	Bankura Zilla School, Bankura, West Bengal, India	West Bengal Council of Higher Secondary Education	2009	79.4%
Secondary (10th)	NA	Helna Susunia M.S. High School, Bankura, West Bengal, India	West Bengal Board of Secondary Education	2007	92.75%

- *Thesis Title: **Applicability and Behavior of the Forchheimer and Wilkins equations for the Velocity and Hydraulic Gradient Characteristic in Post-Laminar Flow through Porous Media subjected to Parallel and Convergent Boundaries.**
- Supervisor: Dr. Srinivas Pasupuleti, Associate Professor (Dept. of Civil Engineering)

RESEARCH PROJECTS AND FELLOWSHIP:

1. **Title: Impact of Pore geometry on flow characteristics in non-linear filtration through porous media**

   Scheme: ANRF TARE (Teachers Associateship for Research Excellence (TARE))

   Role: PI, **Duration:** 3 years, **Total Amount Sanctioned:** 15 Lakhs; **Status:** Ongoing (2024-)

   Objective: The study intends to understand the impact of pore geometry on flow characteristics in porous media using a well-planned experimental programme in controlled porous packing.

2. **Solar Solution and Rural Empowerment of Tribal communities: Affordable Access, Livelihood Opportunities and green economy in Select Villages and Non-urban Sectors of India**

   Role: Co-Project Director

   Status: Submitted to ICSSR Collaborative Empirical Research Project on Solar Energy and Sustainability

   Objective: To study the feasibility of solar based renewable power supply and its impact on the Livelihood Opportunities and green economy of the tribal population in Purulia, West Bengal, India.

JOURNAL PUBLICATIONS

Publication During Ph.D (2014-2019)

1. **Ashes Banerjee**, Srinivas Pasupuleti, Mritunjay Kumar Singh, Sekhar Chandra Dutta & G. N. Pradeep Kumar (2019). Modeling of Flow through Porous Media over the Complete Flow Regime. **Transport in Porous Media**, **129 (1), 1-23**. (Springer, SCI, I.F: 3.019), https://doi.org/10.1007/s11242-019-01274-2
2. **Ashes Banerjee**, Srinivas Pasupuleti, (2019). Effect of convergent boundaries on post laminar flow through porous media. **Powder Technology**, **342, 288-300.** (Elsevier, SCI, I.F: 5.134), https://doi.org/10.1016/j.powtec.2018.09.085
3. **Ashes Banerjee**, Srinivas Pasupuleti, Mritunjay Kumar Singh & G. N. Pradeep Kumar (2018). An Investigation of Parallel Post-Laminar Flow through Coarse Granular Porous Media with the Wilkins Equation. **Energies**, **11 (2), 320.** (MDPI, SCIE, I.F: 3.004), **https://doi.org/10.3390/en11020320**
4. **Ashes Banerjee**, Srinivas Pasupuleti, Mritunjay Kumar Singh & Kumar, G.N.P (2018). A study on the Wilkins and Forchheimer equations used in coarse granular media flow. **Acta Geophysica**, **66 (1), 81-91**. (Springer, SCIE, I.F: **2.054),** https://doi.org/10.1007/s11600-017-0102-1

Publication During Post-Doctoral Research at IIT Guwahati (2019-2021)

5. Laveti N.V. Satish, **Ashes Banerjee**, Suresh A. Kartha, Subashisa Dutta, (2021) Anthropogenic Influence on Monthly Groundwater Utilization in an Irrigation Dominated Ganga River Sub-Basin. **Journal of Hydrology**, 593, 125800, ISSN 0022-1694. (Elsevier, SCI, I.F: **5.72**), https://doi.org/10.1016/j.jhydrol.2020.125800
6. Laveti N.V. Satish, **Ashes Banerjee**, Suresh A. Kartha, Subashisa Dutta (2021) Impact of Anthropogenic activities on river-aquifer exchange flux in an irrigation dominated Ganga river Sub-Basin, **Journal of Hydrology**, 602, 126811, Elsevier. ISSN 0022-1694. (Elsevier, SCI, I.F: **5.72**), https://doi.org/10.1016/j.jhydrol.2021.126811
7. **Ashes Banerjee**, Srinivas Pasupuleti, Vasant Govind Kumar Villuri, Abhay Kumar Pushkar, Rajesh Nune, Subashisa Dutta (2021), Nonlinear Filtration through Stratified Porous Media: An Experimental Approach to

Model the Volumetric Flow Rate and Pressure Drop Relationship. **Journal of Porous Media**, 24(10). 17-30 (**SCI, Begell House, IF:1.752**), 10.1615/JPorMedia.2021035082

Publication During Assistant Professor at Alliance University (2021-2023)

8. Prabhakara Chowdary Pathakamuri, V. G. K. Villuri, Srinivas Pasupuleti, **Ashes Banerjee** and A. S. Venkatesh (2023). A Holistic Approach for Understanding the Status of Water Quality and Causes of Its Deterioration in Drought Prone Area - Kadiri basin in Ananthapuramu district of Andhra Pradesh, India. **Environmental Science and Pollution Research** (Springer, SCIE, I.F: **4.223), https://doi.org/10.1007/s11356-022-22906-z.**
9. **Ashes Banerjee**, Sarath Chandra K. Jagupilla, Srinivas Pasupuleti, Chandra Sekhara Rao Annavarapu (2022). Alternative Relationships to Enhance the Applicability of Non-linear Filtration Models in Porous Media, **Acta Geophysica** (Springer, SCIE, I.F: **2.054),** https://doi.org/10.1007/s11600-022-00950-0
10. **Ashes Banerjee**, Srinivas Pasupuleti, Koushik Mondal, and M. Mousavi Nezhad, (2021) Application of data driven machine learning approach for modelling of non-linear filtration through granular porous media. **International Journal of Heat and Mass Transfer,** 179, 121650. (Elsevier, SCI, I.F: **5.584**), https://doi.org/10.1016/j.ijheatmasstransfer.2021.121650
11. **Ashes Banerjee**, Srinivas Pasupuleti, Mritunjay Kumar Singh, Dandu Jagan Mohan (2021), Modeling the Influence of Fluid Viscosity and Flow Transition over Non-Linear Filtration through Porous Media, **Journal of Earth System Science**, 130(4), pp.1-15 (Springer, SCIE, I.F: **1.371**). https://doi.org/10.1007/s12040-021-01686-z
12. Purushottam Agarwal, Alok Sinha, Satish Kumar, Ankit Agarwal, **Ashes Banerjee**, Vasanta Govind Kuma Villuri, Chandra Sekhara Rao Annavarapu, Rajesh Dwivedi, Vijaya Vardhan Reddy Dera, Jitendra Sinha, Srinivas Pasupuleti, (2021). Exploring Artificial Intelligence Techniques for Groundwater Quality Assessment. **Water**, 13(9), 1172. (**MDPI, SCI, I.F: 3.103), https://doi.org/10.3390/w13091172**

Publication During Assistant Professor at Swami Vivekananda University (2023-)

13. Shrivastava, Subodh, **Ashes Banerjee,** Vishwas N Khatri**,** Srinivas Pasupuleti, Evaluating the Impact of Core Position and Material on Seepage and Stability of Rockfill dam Through Experimental and Numerical analysis (2025), Acta Geophysica (Accepted, Springer, SCIE, I.F: **2.054),**
14. Shrivastava, Subodh, **Ashes Banerjee**, Ashwin Singh, Mrityunjay Kumar Singh, and Srinivas Pasupuleti. (2025) Copula-based dependency modelling of hydraulic properties for non-linear filtration through porous media. *Powder Technology*, 460, 121069. (Elsevier, SCI, I.F: 4.5), https://doi.org/10.1016/j.powtec.2025.121069
15. Purushottam Agrawal, Jitendra Sinha, Nilima Jangre, Fanesh Kumar, Alok Sinha, Ashwin Singh, **Ashes Banerjee**, Akella Satya Venkatesh, and Srinivas Pasupuleti (2025) Developing an efficient and optimized irrigation plan under varying water-supply regimes. Ain Shams Engineering Journal 16(2), 103272. (Elsevier, SCIE, IF: .6.0) https://doi.org/10.1016/j.asej.2025.103272.
16. **Ashes Banerjee**, Ayan Chatterjee, Ashwin Singh, Srinivas Pasupuleti, Venkatesh Uddameri (2024) A risk assessment framework utilizing bivariate copula for contaminate monitoring in groundwater, **Environmental Science and Pollution Research** (Springer, SCIE, I.F: 4.223). https://doi.org/10.1007/s11356-024-34417-0

17. **Ashes Banerjee,** Sunil Priyadarshi, & Samir Kumar (2024). Proposing a Characteristic Length Definition for Flow Characterization in Porous Media: A Methodology for Estimating Hydraulic Radius. **Journal of Mines, Metals and Fuels**, 71(12A), 398–403. (Scopus), https://doi.org/10.18311/jmmf/2023/43591

BOOK CHAPTERS:

During Ph.D (2014-2019)

1. **Ashes Banerjee**, Srinivas Pasupuleti, Pradeep Kumar G.N. and Sekhar Chandra Dutta (2018) A Three-dimensional CFD simulation for the non-linear parallel flow phenomena through coarse granular porous media, Applications of Fluid Dynamics, Lecture notes in Mechanical Engineering. Springer (Scopus), 469-480.
2. **Ashes Banerjee**, Srinivas Pasupuleti, Pradeep Kumar G.N. (2018) A critical study on the applicability of Forchheimer and Wilkins equations for non-linear flow through coarse granular media Water Quality Management, Selected Proceedings of ICWEES-2016, Vol. 79, 307-316.

During Assistant Professor at Alliance University (2021-2023)

3. **Ashes Banerjee**, Srinivas Pasupuleti, Mritunjay Kumar Singh (2023) Addressing the Characteristic Length Enigma in Non-linear Filtration Through Granular Porous Media. HYDRO 2022 Proceedings: Vol. 2, ISBN 978-81-959936-9-7, 143
4. **Ashes Banerjee**, and Asha Rani N. R (2023) Application of Artificial Intelligence and Machine Learning Technique for Nonlinear Flow Modelling Applicable in Petroleum Exploration and in Porous Media Flow. In International Symposium on Sustainable Energy and Technological Advancements, pp. 105-112. Singapore: Springer Nature Singapore.

During Assistant Professor at Swami Vivekananda University (2023-)

5. Santanu Karmakar, Sk Md Asfak, & **Ashes Banerjee.** (2025). A review on enhancing soil index properties through the addition of stone dust mix. In Recent Advancements in Computational Intelligence and Design Engineering (pp. 123–135). CRC Press. https://doi.org/10.1201/9781003595745
6. Rakhal Jana, Bushnu Pada Bose, & **Ashes Banerjee**. (2025). Optimizing furrow irrigation for sustainable agriculture in a changing world. In Recent Advancements in Computational Intelligence and Design Engineering (pp. 136–150). CRC Press. https://doi.org/10.1201/9781003595745
7. Ashim Roy, Abir Sarkar, & **Ashes Banerjee.** (2025). Optimized water supply network design for rural West Bengal: A case study. In Recent Advancements in Computational Intelligence and Design Engineering (pp. 151–165). CRC Press. https://doi.org/10.1201/9781003595745
8. Narayan Chandra Saha, Joy Kumar Mondal, & **Ashes Banerjee.** (2025). Applicability of random forest model for predicting groundwater table in Birbhum District, West Bengal, India. In Recent Advancements in Computational Intelligence and Design Engineering (pp. 166–180). CRC Press. https://doi.org/10.1201/9781003595745

CONFERENCE PRESENTATIONS:

1. **2nd International Symposium on Sustainable Energy and Technological Advancements (ISSETA 2023) organised by** NIT Meghalaya from 24th – 25th February, 2023
2. **International Conference on Hydraulics, Water Resources, Environmental and Coastal Engineering (HYDRO-2022),** Organised by ISH Pune and Punjab Engineering College, Chandigarh, December 22-24, 2022
3. International Conference **"Sustainable Technologies for River Erosion Alleviation and Management" (STREAM 2022)**, organized by Brahmaputra Board and Civil Engineering Department, Indian Institute of Technology Guwahati, December 14-15, 2022
4. **Human-centered Sustainability and Innovation for an AI-assisted Future: New Interdisciplinary Education & Research for the Next Stages in Japan and Europe** hosted by Kagawa University in Takamatsu, Japan October 22nd - 24th, 2021.
5. **International Conference on Water, Environment, Energy and Society** organised by AISCTE University and Texas A & M University in Bhopal from March 15 -18, 2016 (**Received the best paper award of the relevant theme**).
6. **International Conference on Applications of Fluid Dynamics** organised by Indian Institute of Technology (Indian School of Mines), Jharkhand, India from December 19-21, 2016.

INVITED TALKS

1. Brain Storming Session on "**Cumulative Impact Assessment for Cascading Interventions in Himalayan Rivers (CI^{2}HR)**'' to be held on 13th December 2022 at IIT Guwahati.
2. "Social - Hydrology: A 21st Century Approach for Sustainable Water Resources Management" in one week faculty development programme titled **"CURRENT TRENDS IN CIVIL ENGINEERING - 21"** organized by BMS Institute of Technology and Management, Bengaluru, India (https://www.youtube.com/watch?v=lO1aReCDK8c&t=1206s)
3. "Counting the Cost: Impact of Socio-Economic Development in terms of Alteration in Groundwater Storage and River Discharge" at **India international Science Festival, 2020**.
4. **"**Living with the River- an efforts to understand the mighty Brahmaputra" **as a part of "Aamantran Brahmaputra Abhiyaan"-** A research expedition arranged by **Brahmaputra Board (CWC) (**https://www.youtube.com/watch?v=YvXKRX66ejQ&t=422s)
5. **"Green Technology & Sustainable Development**" during 19-23rd July 2021, organized by the Civil Engg. Dept., RKGIT Ghaziabad.
6. **"Mathematics and its application"** jointly organized by Alliance School of applied mathematics and Mizoram Mathematics Society during 2nd to 3rd December 2021.

WORKSHOPS AND TRAINING PROGRAMS ORGANISED/ VOLUNTEERED

1. Co-ordinator of International Workshop on **The Joy, Opportunities and Challenges in Field Hydrological Research**, Organised by Departments of Civil Engineering at The National Institute of Engineering, Mysuru, India and **Indian Institute of Technology, Guwahati**, India in Association with Indian Institute of Science, Bengaluru, India, Global Institute for Water Security Uniersity of Saskatchewa, Canada, during 2nd - 6th November 2020.
2. Co-ordinator of Training programme on "Visual Modflow Flex 2015.1 Professional Software" conducted by M/S Aditi Infotech at IIT(ISM), Dhanbad, India during May 19-20, 2016
3. Co-ordinator of "Recent Advances in Water Resources and Environmental Engineering Computation" organised by Department of Civil Engineering and Department of Environmental Science and Engineering, **IIT(ISM) Dhanbad** and Water Resources Center, **Texas Tech University** Lubbok, Texas, USA during December 22-26, 2015.
3. Co-ordinator of One Week Short Term Course on "Geoinformatics and Geo-computational Modeling for Water Resources Engineering and Environmental Science" in association with **GIAN, Ministry of Human Resource Development** at **IIT(ISM), Dhanbad** during September 17-22, 2018.

WORKSHOPS AND TRAINING PROGRAMME ATTENDED

1. DST's Geospatial Capacity Building (Level 1) Program sponsored by DST, Govt. of India from 10.02.2023 to 02.03.2023 at IIT(ISM) Dhanbad.
2. "Introductory Training on EDEM" by CAEZEN Technologies at IIT(ISM), Dhanbad during October 28-29, 2017.
3. Professional Skill Development Programme on Matlab and Simulink for Engineering Applications at IIT(ISM), Dhanbad during December 5-10, 2014.
4. Short course/training of “ArcGIS Desktop Basic-ArcView 10.5 software with spatial analyst, Network Analyst and ArcHydro Groundwater extensions.” conducted by M/S Aditi Infotech at ISM Dhanbad, India during July 06-08, 2017.
5. A Three-Day Workshop on "Design and Style of a PhD Thesis and Reference Management using Open Source Solutions" under the aegis of TEQIP-III at IIT(ISM) Industry Institute Interaction Facility, New Delhi during January 16-18, 2017.

AWARDS AND HONORS

1. Received “Elite” badge (for securing >90% marks) in NPTEL faculty development course “Remote Sensing and GIS for Rural Development” organised by IIT Bombay.
2. Secured Grade ‘A’ (highest grade) DST's Geospatial Capacity Building (Level 1 and level 2) Program sponsored by DST, Govt. of India.
3. Teachers Associateship for Research Excellence (TARE) Fellowship from Science and Engineering Research Board, Department of Science and Technology, Govt. of India.
4. Life member of Indian Society of Hydraulics.
5. Life member of International Association for Water, Environment, Energy, and Society (IAWEES).

6. Best paper award from ICWEES organized by AISCTE University and Texas A&M University in Bhopal, March 2016.
7. Received "National Scholarship at the secondary level.
8. Received multiple awards at club level competitions and district level competitions of All Bengal Teacher's association for recitation.

SUBJECT TAUGHT

- Fluid Mechanics, Geotechnical Engineering, Hydraulics and Hydraulic machines, Engineering Drawing, Engineering Mechanics, Surveying-I, Surveying-II, Remote Sensing and GIS, Programming with R, Introduction to Python.

MEMBERS OF PROFESSIONAL BODY

- Life member of Indian Society of Hydraulics (**ISH**); Membership ID- 1535
- Life member of International Association for Water, Environment, Energy, and Society (**IAWEES**): Membership ID- 5323
- Institution of Engineering and Technology (**IET**): Membership ID- 1101054452

EXTRACURRICULAR ACTIVITIES

- **Organizer and Host, Asia Pacific Literary Fesival-2022,** Alliance University, Anekal, Karnataka 562106, India
- **Organiser and Host Alliance Literary Festival-2022,** Alliance University, Anekal, Karnataka 562106, India
- **Faculty Co-ordinator, Alliance Cultural Club,** Alliance University, Anekal, Karnataka 562106, India
- **Placement Co-ordinator, Civil Engineering Department**, Alliance college of Engineering and Design, Alliance University, Anekal, Karnataka 562106, India
- Actively participated in organizing cultural events under the banner of "OITIJYO"(Bengali cultural organization of IIT(ISM), Dhanbad).

REFEREES

- **Prof. Srinivas Pasupuleti**

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- **Prof. Mritunjay Kumar Singh**

  Dean (Student Welfare), Professor, Department of Mathematics and Computing, Indian Institute of Technology (Indian School of Mines), Dhanbad, Jharkhand-826004, India**,** Tel: +91-326-223-5488; Cell: +919431125817; E-mail: drmks29@iitism.ac.in

- **Prof. Subashisa Dutta**

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- **Prof. Venki Uddameri**

  Professor and Chair, Civil Engineering, Lamar University

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Declaration: I hereby declare that all the details furnished above are true to the best of my knowledge and belief.

Place: Bankura, West Bengal, India

(**Ashes Banerjee**)