

CURRICULUM VITAE

(a) Name & Address:

Dr. Dipankana Bhattacharjee [Sex: Female]
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(b) Area of expertise of the candidate:

- *Geotechnical Engineering and Applied Soil Mechanics*
- *Geotechnical Physical Modelling at normal and enhanced gravity*
- *GLOF, Debris flow and Disaster Risk Reduction*
- *Geosynthetics in Geotechnical Engineering*
- *Rainfall induced landslides and mitigation measures*
- *River Bank Erosion and mitigation measures*
- *Unsaturated Soil Mechanics and its application to slope stability*

(c) Academic Qualification:

Year	Degree	University/Institution
2005	Madhyamik Pariksha (10 th) [Score: 90.38%]	WBBSE, West Bengal
Awarded with Shield for securing highest total marks in aggregate in Class X Board Examination		
2007	Higher Secondary (12 th) [Score: 96%]	WBCHSE, West Bengal
Awarded with Dr. Monoranjan Biswas Physics Aptitude Scholarship		
2011	B.C. E [CGPA: 9.11]	Jadavpur University
2013	M.TECH. [CGPA: 9.86]	IIT BOMBAY
2018	Ph.D. [CGPA: 9.76]	IIT BOMBAY
Awarded with Excellence in Ph.D. Research for the year 2017-19		

(d) Positions held:

Year(s)	University/Institution	Position held
2018	IIT BOMBAY	Research Associate
2018-2019	IIT BOMBAY	Project Associate
2019-2023	IEST SHIBPUR	Assistant Professor (Gr II)
2013-ongoing	IEST SHIBPUR	Assistant Professor (Gr I)

(e) Awards/Recognitions/Honors

- ☐ **Young Faculty Research Award (YFRA)**-2021 bestowed by the IEST ALUMNI ASSOCIATION –WASHINGTON METROPOLITAN AREA (IESTAA – WMA) and GAABESU SHIBPUR FOUNDATION USA, Year: 2023
- ☐ **IGS-Kolkata Chapter Young Geotechnical Engineer (YGE) Award** on "Earth Retaining Structures", Year: 2021
- ☐ **Second Best paper Prize, sponsored by Springer Nature** in the Theme of "Numerical and Physical Modeling and Soil Dynamics" presented at Indian Geotechnical Conference, Year: 2020
- ☐ **Excellence in Ph.D. Research for the year 2017-19** by Indian Institute of Technology Bombay, Year: 2019
- ☐ **Young Geotechnical Engineer Award** by Centre for Geomechanics and Railway Engineering, University of Wollongong, Australia and the Organizing Committee of International Symposium on Geotechnics of Transportation Infrastructure (ISGTI), Year: 2018
- ☐ **IGS-Dr. B.B. Rai-S.N. Gupta Biannual Prize** for the BEST PAPER on "Earth and Earth-Retaining Structures, Including Interaction and Instrumentation" by Indian Geotechnical Society (IGS), Year: 2013
- ☐ **Dr. Monoranjan Biswas Physics Aptitude Scholarship** by Nava Nalanda High School, Year: 2007
- ☐ **Shield for highest aggregate, Class X Board Examination** from Gokhale Memorial Girls' School, Year: 2005

(f) List of ongoing and completed sponsored research projects

Project title	Start date	Completion date	Project cost (Rs)	Sponsoring organization
Construction Challenges of Strip Footings Resting on Low-Permeable Soil Slopes [PI]	13/01/2020	14/04/2021	1,20,000/-	TEQIP-III
Development of Bank Protection Methodologies for Various Vulnerable Reaches of Rivers in West Bengal through Model Studies and Preparation of Design Charts and Guidelines [EHPPL/CE/AG/009/22-23] [Co-PI]	01/03/2023	01/03/2025	12,00,000/-	East Hooghly Poly Plast Pvt. Ltd.

Note: There are two additional sponsored projects under active stage of scrutiny.

(g) List of ongoing and completed consultancy projects (exceeding Rs. 5 Lakhs) executed as Co-PI

Sl. No.	Sponsoring Agency	Title of the Project(s)/ Patent(s)	Period	Status
1	ABCI Infrastructures Pvt. Ltd.	Widening and Up-gradation 2- Lane with paved shoulder configuration and geometric improvements: from km 208.00 to km 250.00 (Package 5) on Aiwawal - Tui Pang section of NH-54 in the state of Mizoram	2020-2021	Completed
2	ABCI Infrastructures Pvt. Ltd.	Widening and Up-gradation 2- Lane with paved shoulder configuration and geometric improvements: from km 166.00 to km 208.00 (Package 4) on Aiwawal - Tui Pang section of NH-54 in the state of Mizoram	2020-2021	Completed
3	BLAPPL-GPPL (Joint Venture)	Widening to 2 (Two) Lane with Paved shoulder of Imphal to Jiribam section of NH37 from Design Chainage 66.110 km to 101.280 Km (Existing Chainage km 67.496 to Km 103.557) (PKG- 4) in the State of Manipur on Engineering, Procurement & Construction (EPC) mode	2022-2025	Ongoing
4	Simplex Infrastructures Limited	Widening/ Improvement to 4 (Four) Lane with Paved Shoulder of existing single lane from Srirampur (near Bhairiguri village) to Kachukhana Harichara Paglagaunj Section (PKG -I) of Srirampur to Dhubri Road of newly declared NH-127B of existing KM 0.000 to KM28.050 (Design KM. 0.000 to KM. 27.650), (Design Length= 27.650km) On EPC Bas is in the state of Assam under JICA	2023-2025	Ongoing
5	Bharat Coking Coal Limited	Scientific Study for determining the Safe Method of Working, Ultimate Pit Slope and Dump Slope with Monitoring of Slope Stability of Basantimata-Dahibari Colliery Under CV AREA-XII	2022-2023	Completed
6	Minsol India Private Limited	Preparation of Geotechnical report on Highwall mining at Amalgamated Amlo Dhor	2023-2024	Completed
7	Eastern Coalfields Limited (ECL)	Scientific study of West Kenda OCP of New Kenda colliery, Kenda Area, ECL as per regulation no. 138(1) and 37(2) c of CMR-2017, proposal for dealing/ sealing of fire in the developed galleries of disused working of R-VI seam and stabilization of ground in the pot hole/ subsided area	2024-2025	Completed
8	Bharat Coking Coal Limited	Scientific monitoring of dump and pit slope stability by determining FOS and pore pressure at Basantimata Dahibari Colliery under CV area of BCCL	2024-2025	Completed

(h) Thesis supervised

Program	Responsibility	Status	Number
Ph.D	Supervisor	Ongoing	04
	Co-Supervisor	Ongoing	01
M.Tech.	Supervisor	Completed	13
		Ongoing	02
B.Tech.	Supervisor	Completed	26
		Ongoing	5

(i) Reviewer of Reputed Journals

- ☐ Journal of Geotechnical and Geoenvironmental Engineering (ASCE)
- ☐ International Journal of Geomechanics (ASCE)
- ☐ Geotextiles and Geomembranes (Elsevier)
- ☐ Journal of Rock Mechanics and Geotechnical Engineering (Elsevier)
- ☐ Indian Geotechnical Journal (Springer)

(j) Administrative support work

- ☐ Faculty in Charge of Institute Works Division, 18-09-2019 – Ongoing
- ☐ Warden of Lt. Williams Hall of Residence, 03-02-2020– Ongoing
- ☐ Faculty in Charge of Geotechnical Engineering Laboratory, 15-07-2023 – Ongoing
- ☐ Member of Internal Complaints Committee (ICC), 23-11-2020– 31-12-2022, May 2025-ongoing
- ☐ Member of the Grievance Redressal Cell of the institute, 22-11-2022– Ongoing
- ☐ Member of the Core Committee for the Central Time Table for the Institute, 03-03-2021– Ongoing
- ☐ Faculty in Charge of "Society for Creative Arts and Green Environment", 18-06-2021– Ongoing
- ☐ Member of the committee constituted for Centralized Counselling (CCMT), 14-06-2022– Ongoing
- ☐ Member of Admission Committee for Enrolment Process in PhD program, 19.10.2022 – Ongoing
- ☐ Member of the committee constituted for preparation of Annual Report, 04-08-2021– Ongoing
- ☐ Member of the Core Committee for reviewing the Ordinances of of the Institute, 23-02-2024 – Ongoing
- ☐ Member of Departmental Under-Graduate Committee (DUGC), August 2020 – Ongoing
- ☐ Member of Departmental Routine Committee, December 2019 – Ongoing

(k) Members of Learned Societies (International and National)

- ☐ Life Member, Indian Geotechnical Society (IGS), Delhi : 2017
- ☐ Associate Member, American Society of Civil Engineers (ASCE) : 2018
- ☐ Life Member, Kolkata Chapter of Indian Geotechnical Society (IGS), Delhi : 2023
- ☐

(l) Seminars/Workshops organized

Sl.	From	To	Name of the Course(s)	Sponsors	Participants
1	08.03.2021	12.03.2021	Planning and Design of Sustainable Transportation Infrastructures [Webinar]	TEQIP- Phase III	100
2	02.08.2019		Studies on the simulation of climatic events in a geotechnical centrifuge [Technical Lecture]	IISTE and IGS Kolkata Chapter	100

(m) Professional Trainings

Organization	Period		Details of Trainings
	From	To	
IIT (ISM) Dhanbad	24/06/2024	28/06/2024	Five — day residential Faculty Leadership Development program titled "Nurturing Future Leadership Program" under the aegis of Malaviya Mission Teacher Training Programme (MMTTP)
IIT Hyderabad	09/11/2024	10/11/2024	The First National Wellbeing Conclave(NWC) under 'Integrated Approach to Promoting Positive Mental Health, Resilience and Well being in HEIs'

(n) Courses Taught

Academic Program	Course
UG: B.Tech & Dual Degree	• Ground Improvement Methods • Geotechnical Engineering-II • Slope Stability and Underground Space Technology • Advanced Foundation Design Project • Geotechnical Engineering Laboratory • Estimation, Valuation and Project Management • Introduction to Civil Engineering • CAD in Civil Engineering • Civil Engineering Materials Laboratory • Estimation Practice Sessional • General Civil Engineering Problems (Minor Project)
M.Tech & Ph.D.	• Geotechnical Earthquake Engineering • Advanced Soil Mechanics • Foundation Engineering • Geotechnical Model Laboratory • Advanced Geotechnical Engineering Project

(o) Detailed list of publications (Papers/articles in standard referred national and international journals/conferences/book chapters)**Referred Journals**

1. Ray, P., Ghosh, A., and **Bhattacharjee, D.**, *Behaviour of Strip Footing Resting on Encapsulated Soil Mass: A Numerical Study*, 11 (37), 1-21, <https://doi.org/10.1007/s40808-024-02253-3>, Modeling Earth Systems and Environment (5-Year Impact factor: 3.0/2023), Springer Nature, 2025
2. Ray, P., Ghosh, A., and **Bhattacharjee, D.**, *Theoretical and numerical studies on strip footing resting on encapsulated soil mass*, 12, Article no 21, <https://doi.org/10.1007/s40515-024-00481-9>, Transportation Infrastructure Geotechnology (Impact factor: 2.6/2023), Springer, 2025
3. Guin, S. and **Bhattacharjee, D.**, *Applicability of Geobags as a Sustainable Riverbank Protection Measure*, 54, 800–813, Indian Geotechnical Journal (ISSN: 0971-9555, **5-year Impact Factor: 1.5**), Springer, <https://doi.org/10.1007/s40098-024-00895-9>, 2024
4. Ray, P., Tabish, Q., Ghosh, A., Kundu, S., and **Bhattacharjee, D.**, *Physical model study on failure mechanism of strip footing on reinforced granular deposit*, 28(16), 3709–3733, <https://doi.org/10.1080/19648189.2024.2356703>, European Journal of Environmental and Civil Engineering (5 year Impact Factor: 2.3), Taylor and Francis, 2024
5. **Bhattacharjee, D.** and Viswanadham, BVS, *Centrifuge Model Studies on the Use of Hybrid-Geosynthetic Inclusions in slopes Subjected to Infiltration*, 54, 1897–1911, <https://doi.org/10.1007/s40098-024-00976-9>, Indian Geotechnical Journal (5 Year Impact factor: 1.5), Springer, 2024,
6. **Bhattacharjee, D.** and Viswanadham, BVS, *Centrifuge Model Studies on Performance of Hybrid Geosynthetic--Reinforced Slopes with Poorly Draining Soil Subjected to Rainfall*, 145, 04019108:1-13, Journal of Geotechnical and Geoenvironmental Engineering, (ISSN: 1090-0241, **5-year Impact Factor: 4.70**), American Society of Civil Engineers (ASCE), United States, 2019
7. **Bhattacharjee, D.** and Viswanadham, BVS, *Effect of Geocomposite Layers on Slope Stability Under Rainfall Condition*, 48 (2), 316-326, Indian Geotechnical Journal (ISSN: 0971-9555, **5-year Impact Factor: 1.5**), Springer, 2018
8. **Bhattacharjee, D.** and Viswanadham, BVS, *Design and performance of an in-flight rainfall simulator in a geotechnical centrifuge*, 41(1), 72-91, Geotechnical Testing Journal (ISSN: 0149-6115, **5-year Impact Factor: 1.7**), American Society for Testing and Materials (ASTM), United States, 2017
9. **Bhattacharjee, D.**, Viswanadham, BVS., *Effect of hybrid geosynthetic layers on soil walls with marginal backfill subjected to rainfall*, 362-371, Geotechnical Special Publication, Themed issue: Sustainability and Resiliency in Geotechnical Engineering, GSP 269,

- American Society of Civil Engineers (ASCE), United States, 2016
10. BVS, Viswanadham and **Bhattacharjee, D.**, *Studies on the performance of geocomposite reinforced low-permeable slopes subjected to rainfall*, 2(69), 2362- 2367, Japanese Geotechnical Society Special Publication, Themed issue: Geosynthetics - Mechanical and general aspects of barriers, The Japanese Geotechnical Society (ISSN: 2188-8027), 2016
 11. **Bhattacharjee, D** and Viswanadham, BVS, *Numerical studies on the performance of hybrid-geosynthetic-reinforced soil slopes subjected to rainfall*, 22(6), 411-427, Geosynthetics International (ISSN: 1072-6349, **5-year Impact Factor: 4.3**), ICE Publishing, United Kingdom, 2015

Reputed Conference publications

12. Mondal, R., Ghosh, S., and **Bhattacharjee, D.** *Seepage Analysis of Conventional Levee and Fly Ash Levee Subjected to Flooding using Different Filter Media*, In print, Indian Geotechnical Conference, 19-21 December, MIT Aurangabad, Maharashtra, 2024
13. Gupta, S., Kundu S., and **Bhattacharjee, D.** *Optimal location of free head pile as reinforcement in slopes using the finite element method*, Theme 6, Landslides and Slope Stability, ID 508, 1-11, Indian Geotechnical Conference, 14-16 December 2023, IIT Roorkee, 2023
14. Banerjee, S., **Bhattacharjee, D.** and Kundu S., *Geotechnical Characterization of Soil Reinforced with Vetiver Grass*, Theme 17, Sustainability in Geotechnical Engineering, ID 507, 1-15, Indian Geotechnical Conference, 14-16 December 2023, IIT Roorkee, 2023
15. Gupta, S. and **Bhattacharjee, D.** *Analysis of Pile-Reinforced Slopes considering the effects of soil-structure interaction*, 1, 338-347, GEO-RARP 2023, Kolkata Chapter of Indian Geotechnical Society, 2023
16. Banerjee, S. and **Bhattacharjee, D.** *Numerical Analysis on the stability of root- reinforced soil slopes*, 1, 348-359, GEO-RARP, Kolkata Chapter of Indian Geotechnical Society, 2023
17. **Bhattacharjee, D.**, Viswanadham, BVS., *Centrifuge model studies on geogrid and hybrid geosynthetic reinforced slopes subjected to rainfall*, 1, 221-226, 4th European Conference on Physical Modelling in Geotechnics (ECPMG) 2020 Luleå, Sweden, 2020
18. Viswanadham, BVS, Jayanandan, M., **Bhattacharjee D.**, and Kumar P., *Performance of Geogrid reinforced soil walls with low permeable backfill: Centrifuge Study*, 1, 213-220, 4th European Conference on Physical Modelling in Geotechnics (ECPMG) 2020 Luleå, Sweden, 2020
19. **Bhattacharjee, D.** and Viswanadham, B.V.S., *Prediction of threshold curves for mitigating rainfall induced landslides in low permeable soil slopes*, 1, 77-78, Second ASCE India Conference (CRSIDE 2020), Kolkata; In association with ASCE, India, 2020
20. **Bhattacharjee, D.** and Viswanadham, BVS, *Development of a rainfall simulator in centrifuge using Modified Mariotte's principle*, 1, 337-342, Physical Modelling in Geotechnics, Volume 1: Proceedings of the 9th International Conference on Physical Modelling in Geotechnics (ICPMG 2018), July 17-20, 2018, London, United Kingdom, 2018
21. **Bhattacharjee, D.** and Viswanadham, B.V.S., *Effect of geosynthetic layers on slopes subjected to rainfall*, Paper ID: FM 031, Young Geotechnical Engineers' Symposium on Finite Element Method (YGESFEM); In association with ISSMGE, DST and IGS Mumbai, Mumbai, India, May 17-18, 2015
22. **Bhattacharjee, D** and Viswanadham, BVS, *Some studies on the performance of geocomposite reinforced slopes subjected to rainfall*, 2, 1153-1159, Proceedings of the 8th International Conference on Physical Modelling in Geotechnics, Perth, Australia, 14-17 January 2014, Gaudin & White (Eds), Taylor & Francis Group (Pubs.), 2014
23. Viswanadham, B.V.S., Guha, A., Sudarshan, B.V., Kundu, S. and **Bhattacharjee, D.**, *Centrifuge model tests on the measurement of impact energy on bridge pier foundations embedded in sand*, 2, 1061-1066, Proceedings of the 8th International Conference on Physical Modelling in Geotechnics, Perth, Australia, 14-17 January 2014, Gaudin & White (Eds), Taylor & Francis Group (Pubs.), 2014
24. **Bhattacharjee, D.**, Balakrishnan, S., and Viswanadham, B.V.S., 2012, *Some studies on the seepage analysis of geosynthetic reinforced soil walls constructed with low- permeability backfill soils*, *Proceedings of the Indian Geotechnical Conference (IGC)*, Delhi, India, 13-15 December 2012, Vol. 1, pp 347-350, 2012

Book Chapters

1. Mondal, A., Saha, S., Kundu, S., and **Bhattacharjee, D.**, Studies on the performance of geogrid reinforced marginal soil slopes subjected to surcharge loading, Chapter 25, Geosynthetics and Reinforced Soil Structures, Geotechnics for Sustainable Cities, and Forensic Geotechnical Engineering, ISBN: 978-981-96-7778-8, Vol 6, Springer Nature (pubs.), 2025
2. Pal, A., and **Bhattacharjee, D.**, Numerical studies on vetiver root reinforced soil slope subjected to rainfall in the North-Eastern terrain of India, Slope Stability and Landslides, Lecture Notes in Civil Engineering, Volume 669, ISBN 978-981-96-7766-5, M.S. Dixit et. al (Eds), Springer Nature (pubs.), 449-465, , 2025
3. Ray, P., Ghosh A., and **Bhattacharjee, D.**, A Guideline of Bearing Capacity of Strip Footing Resting on Reinforced Granular Soil Deposit, Analytical, Physical, and Numerical Modeling in Geotechnical Engineering, Lecture Notes in Civil Engineering, Volume 651, ISBN 978-981-96-7284-4, Pain et. al (Eds), Springer Nature (pubs.), 235-245, 2025
4. Rehman, M., Kundu, S., and **Bhattacharjee, D.**, Numerical Analysis on the Stability of Upstream Mine Tailings Dam under Seismic Loading, Chapter 29, Lecture Notes in Civil Engineering, Vol. 491, Babu T. Jose et al. (Eds), Springer (pubs.), 2024, doi:10.1007/978-981-97-2700-1,
5. Ray, P., Ghosh A., and **Bhattacharjee, D.** *Simplified Plane Strain Consolidation Modeling of Stone Column*, Soil Dynamics, Earthquake and Computational Geotechnical Engineering, (ISBN: 978-981-19-6997-3), Lecture notes in Civil Engineering, Volume 300, Springer Nature, 2023, https://doi.org/10.1007/978-981-19-6998-0_11
6. **Bhattacharjee, D** and Viswanadham, BVS, *Studies on Centrifuge Modelling of Rainfall Induced Landslides*, Dynamics of Soil and Modelling of Geotechnical Problems - (ISBN: 978-981-16-5604-0), Lecture notes in Civil Engineering, Volume 186, 207-216, 2022
7. **Bhattacharjee, D** and Viswanadham, BVS, Centrifuge Modelling of Marginal Soil Slopes under Rainfall with Hybrid Geosynthetic Inclusions, Springer Singapore, Ground Improvement Techniques (ISBN: 978-981-15-9987-3). Lecture notes in Civil Engineering, Volume 118, 329-338, 2021
8. **Bhattacharjee, D** and Viswanadham, BVS, Use of hybrid geosynthetics in mitigating rainfall induced slope instability, Geotechnics for Transportation Infrastructure: Recent Developments, Upcoming Technologies and New Concepts (ISBN: 978-981-13-6700-7; doi: 10.1007/978-981-13-6701-4) by Springer Singapore (pubs.)1, 689-702, 2019

Major Scientific Contribution

Designed and developed an in-flight rainfall simulator at enhanced gravity levels in centrifuge, capable of inducing in-flight rainfall of various intensities and durations (varying from 2 - 80 mm/h, the maximum recorded intensity globally) using specially designed pneumatic nozzles. Hence, all the extreme cases of natural hazards could be simulated, ranging from cloudbursts in Uttarakhand to prolonged monsoons in Meghalaya. The developed rainfall simulator is indigenous, low cost and technologically very efficient in triggering rainfall simulations on various geotechnical structures at enhanced gravities and is predominantly 'MADE IN INDIA'.