

Bibhuti Bhushan Bhardwaj

Assistant Professor

Department of Civil Engineering

Assam Skill Univesristy, Mangaldai, Darrang-784125, India

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RESEARCH INTEREST

Concrete Pavement Engineering, Recycled Aggregates, Pavement Management System (PMS)

ACADEMIC DETAILS

Degree/Exam	Institute/Board	Year	Score
Ph.D in Pavement Engineering	Indian Institute of Technology (IIT) Madras	2021- Ongoing*	9.75/10
M.Tech in Transportation Engg.	Indian Institute of Technology (IIT) Guwahati	2014-16	9.82/10
B.Tech in Civil Engineering	Tezpur Central University	2009-13	9.13/10
HSSLC/10+2 (Science)	Cotton College, Guwahati (AHSEC)	2007-09	81.00%
HSLC (Matriculation)	Mangaldai Govt. H. S. School (SEBA)	2007	86.17%

*Research Colloquium Seminar-II presented on 12th December, 2024

SCHOLASTIC ACHIEVEMENTS

- Secured Rank 5 in the recruitment drive conducted by Assam Public Service Commission (APSC) for the position of Assistant Professor (Technical) in the Government Engineering Colleges of Assam, July 2024.
- Secured All India Rank 56 in NPIU-Assistant Professor (Civil) recruitment drive under TEQIP-III in December, 2017.
- Secured 1st position, M.Tech in Transportation Systems Engineering, batch 2014-2016, Indian Institute of Technology- Guwahati
- Secured Gold Medal, B.Tech in Civil Engineering, batch 2009-2013, Tezpur Central University, Assam
- Qualified GATE-2014 with a percentile of 99.2 (All India Rank: 763, Score: 706)
- Qualified GATE-2013 with a percentile of 97.9 (All India Rank: 1437, Score: 588)
- Secured Highest Marks in General Mathematics throughout Assam in HSLC (SEBA)

SCHOLARSHIPS

- Prime Minister's Research Fellowship (PMRF) during Ph.D, IIT Madras (January 2022- January 2024) (Stipend of ₹75,000/- per month and contingency of ₹2 lacs per annum)
- Chief Minister's scheme for financial assistance to meritorious students of Assam for the year 2015-16, awarded by Govt. of Assam (₹1,00,000/- lumpsum)

3. HTRA-Ministry of Education scholarship during Ph.D, IIT Madras (August 2021- December 2021) (₹ 31,000/- per month)
4. MHRD scholarship during M.Tech, IIT Guwahati (July 2014- June 2016) (₹12,400/- per month)
5. Merit scholarship during B.Tech, under the Merit Scholarship Scheme of the Government of India, MHRD (August 2009-July 2011) (₹20,000/- lumpsum)
6. Institute scholarship of Tezpur University during B.Tech for being in the top 5 among the students of all branches (August 2011- May 2013) (₹10,000/- per semester)
7. Merit Scholarship in the year 2003 (District Rank: 6th) and year 2000 (District Rank: 5th)

PUBLICATIONS (IN REPUTED JOURNALS)

1. **Bhardwaj, B.B.**, Singh, S., and Swaroop, C.R.S (2025) "Role of Asphalt Binder Film Thickness on the Behaviour of RAP-incorporated Concrete", **Construction and Building Materials**, Volume 473, 141012, DOI: <https://doi.org/10.1016/j.conbuildmat.2025.141012>
2. **Bhardwaj, B.B.** and Singh, S. (2024) "Evaluation of the failure planes in concrete containing reclaimed asphalt pavement (RAP) aggregates", **Cement and Concrete Composites**, Volume 145, 105334, DOI: <https://doi.org/10.1016/j.cemconcomp.2023.105334>
3. **Bhardwaj, B.B.**, Singh, S., and Naik, B.P. (2024) "Suitability Assessment of Alternative Sands for Concrete Pavement Applications", **Journal of Materials in Civil Engineering**, Volume 36, Issue 5, American Society of Civil Engineers, **ASCE**, DOI: <https://doi.org/10.1061/JMCEE7.MTENG-17163>
4. Kasuri, M., Singh, S., and **Bhardwaj, B.B.** (2023) "Optimization of Slurry Impregnation Technique for Upcycling Carbonated Recycled Concrete Aggregates for Paving Concrete Applications", **Journal of Materials in Civil Engineering**, Volume 35, Issue 5, American Society of Civil Engineers, **ASCE**, DOI: [https://doi.org/10.1061/\(ASCE\)MT.1943-5533.0004712](https://doi.org/10.1061/(ASCE)MT.1943-5533.0004712)
5. **Bhardwaj, B.B.**, Sadasivan, S., Singh, S. and Kumari, M., "Tolerance Level of Bricks in Recycled Concrete Aggregates", Special Issue: STEER, **Transportation Research Record**, Accepted on 22nd February, 2025 [in press]

JOURNAL PAPERS UNDER REVIEW/ IN PREPARATION

6. **Bhardwaj, B.B.** and Singh, S. "Elucidation of Asphalt Characteristics influencing Cement Mortar constituted with Reclaimed Asphalt Pavement (RAP) Aggregates", **Journal of Materials in Civil Engineering (ASCE)** (Under Review, Draft submitted on 12th March 2025)
7. **Bhardwaj, B. B.** and Singh, S. "A Strategic Framework for Using Reclaimed Asphalt Pavement (RAP) Aggregates in Concrete Pavements" [in preparation]

PUBLICATIONS (IN CONFERENCE PROCEEDINGS)

1. **Bhardwaj, B.B.**, Goswami, S., Dutta, S., Mazumder, S.A., Paul, S., Sharma, H. J., and Akhter, S. (2021). *Development of an android application to compute priority score for road sections*, Weentech Proceedings in Energy 7 (1), pp 206-216, 3rd International Conference on Innovative

Development in Engineering Applications (IDEA), Gaya College of Engineering, Gaya, India, 08-10 Feb, 2021 [ISSN: 2059-2353, <https://doi.org/10.32438/WPE.202021>]

2. **Bhardwaj, B.B.**, Choudhary, R., and Julaganti, A. (2018). *Effect of production temperature on permanent deformation characteristics of WMA mixes*, Proceedings of 2nd International Conference on Civil Engineering for Sustainable Development - Opportunities and Challenges (CESDOC), Assam Engineering College, Guwahati, India, 18-19 Dec, 2018
3. **Bhardwaj, B.B.** and Sapkota, G. (2018). *Assessment of hill cut slopes using C-Programming*, Proceedings of 2nd International Conference on Civil Engineering for Sustainable Development - Opportunities and Challenges (CESDOC), Assam Engineering College, Guwahati, India, 18-19 Dec, 2018
4. Thoker, A.M., **Bhardwaj, B.B.**, Vivek (2025). *Assessment of Walnut Shell Powder as Alternative to Filler in Rigid Pavement*. 3rd International Conference on Transportation Infrastructure Projects: Conception to Execution (TIPCE 2025), IIT Roorkee [Accepted]

CONFERENCE PRESENTATIONS

1. **Bhardwaj, B. B.** and Singh, S. "*Assessment of intermolecular interaction of RAP aggregates with varied cement-mortar phases*", 77th Réunion Internationale des Laboratoires et Experts des Matériaux (RILEM) Annual Week, **Vancouver- Canada, Sep. 4 - 8, 2023 (Oral)**
2. **Bhardwaj, B. B.** and Singh, S. "*Assessment of Mineralogical Effect of Aggregates on the Bonding Potential with Asphalt using Surface Free Energy Approach*", 2nd International Conference on Transportation Infrastructure Projects: Conception to Execution (TIPCE), Transportation Engineering Group Dept. of Civil Engineering, **IIT Roorkee, Sep. 14 – 17, 2022 (Oral)**
3. **Bhardwaj, B. B.** and Singh, S. "*Impact Assessment of Different Surface Free Energy Components on Work of Adhesion between varied Aggregate types and VG-40 bitumen*", 14th International Conference on Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC), **IIT Bombay, Dec. 19-21, 2022 (Oral)**
4. **Bhardwaj, B. B.**, Sumukh, S.C.R., and Singh, S. "*The Role of Asphalt Film-Thickness around RAP-Aggregates on the Fresh-State Properties of Rigid Pavements*", 2nd International Conference on Net-Zero Emission Technologies for Sustainable Development: Challenges & Opportunities (N0ET-2023), **IIT (ISM) Dhanbad, Dec. 16-17, 2023 (Oral)**
5. **Bhardwaj, B.B.** and Singh, S. "*Evaluation of bond strength at different interfaces in RAP-incorporated concrete systems*", Poster presentation at the workshop of Technologies for Low Carbon and Lean Construction (TLC2), **IIT Madras, Jan. 30 – Feb. 03, 2023 (Poster)**
6. **Bhardwaj, B.B.** and Singh, S. "*Analyzing key factors influencing interfacial bond strengths in RAP-concrete via SFE and POTS approach*", National workshop on Recent Advances in Pavement and Traffic Engineering, **IIT Madras, Dec. 01-02, 2023 (Poster)**
7. **Bhardwaj, B.B.**, Devi, H. C., Boruah, B. B., Borah, R., Hazarika, B. J., Agarwalla, S., and Terang, B. (2018). *Design of signalized traffic intersections on Guwahati bypass road*, 2nd International Conference on Civil Engineering for Sustainable Development- Opportunities and Challenges (CESDOC), **Assam Engineering College, Guwahati, Dec. 18-19, 2018 (Oral)**

SPONSORED RESEARCH

Principal Investigator (P.I.) of the project titled, “*Methodology for prioritization of secondary road network sections for planning and maintenance works*”; was granted ₹19,75,000/- by AICTE under the Collaborative Research Scheme of MHRD, Govt. of India (TEQIP-III), 18th June 2019 to 30th June 2021 (Status: **Successfully completed**)

LABORATORY ESTABLISHMENT

- Established a Road Construction Materials laboratory at Assam Skill University, Guwahati-16 as an Assistant Professor
Major Equipment procured: CTM, Cannon-Manning Viscometer, Rebound Hammer, etc.
Amount: ₹ 32,17,990/- (*funding agency: Asian Development Bank*)
- Established a pavement maintenance section in the transportation engineering laboratory at Assam Engineering College, Guwahati-13 as an Assistant Professor
Major Equipment procured: IRI meter, MERLIN, Benkelman Beam
Amount: ₹ 9,10,960/- (*funding agency: TEQIP-III project of World Bank*)
- Assisted in the establishment of Recycled Aggregate Laboratory at Indian Institute of Technology Madras, Chennai as a Research Scholar
Major Equipment procured: Helium Pycnometer, PATTI©, Aggregate Image Measurement System-2, etc.
Amount: ~₹ 1,50,00,000/-

INVOLVED CONSULTANCY PROJECTS (as Research Scholar)

- Investigation of possible causes for frequent potholes in Atal Setu bridge, Panaji, Goa (January 2022-May 2022)
- Job mix design of dry lean concrete for resurfacing of runway and taxi track at INS Rajali, Arrakkonam, Tamil Nadu (December 2021-January 2022)
- Performance evaluation of Dalmia cement in concrete for special applications- Metro rail, Highways, Pile caps (May 2022-August 2022)

MEMBERSHIP

- Life-time member of Indian Road Congress (**IRC**) [ID: eLM-101962]
- Staff member of Réunion Internationale des Laboratoires et Experts des Matériaux (**RILEM**) [ID: 44201]

PROFESSIONAL EXPERIENCES

1	Designation	Assistant Professor	Department	Civil Engineering
	Organization	Assam Skill University	Duration	10 months
	Time Period	22 nd of January, 2024 till now (Pay: Level 10, Basic: ₹ 59,400/-+ allowances)		
	Nature of work	Developed a state-of-the art laboratory named “Road Construction Laboratory” Developed syllabus for a certificate course and initiated MoUs with industries Courses taught: Certificate Course on Road Construction Technology		
2	Designation	Assistant Professor (Contractual under TEQIP-III project of MHRD)	Department	Civil Engineering
	Organization	Assam Engineering College	Duration	3 years and 7 months
	Time Period	2 nd of January, 2018 to 1 st August, 2021 (Pay: Consolidated ₹ 70,000/- pm)		
	Nature of work	Prepared the Self-Assessment Report (SAR) for the year 2018 and 2020 for accreditation of undergraduate civil engineering program under National Board of Accreditation (NBA) , Assam Engineering College Courses taught: <ul style="list-style-type: none"> • Transportation Engineering-I (CE 514) • Engineering Survey-I (CE 313) • Engineering Survey-II (CE 415) • Construction Management (CE 812) • Transportation Engineering-II Lab (CE 613L) • Engineering Survey-I Lab (CE 313L) • CAD Lab (CE181318) • Engineering Graphics and Design (CE181103) 		
3	Designation	Deputy Engineer	Department	Traffic & Transportation
	Organization	LEA Associates South Asia Pvt. Ltd., Fatasil Ambari	Duration	1 year and 1 month
	Time Period	28 th of November, 2016 to 1 st of January, 2018 (Pay: ₹ 37,500/- pm)		
	Nature of work	Assignments: <ul style="list-style-type: none"> • Development of Pavement Management System in ORACLE database • Traffic & axle data collection and analysis • Collection and processing of Road Inventory and Condition data using HAWKEYE-1000 • Road network creation using ArcGIS v10.4 		
4	Designation	Assistant Professor	Department	Civil Engineering
	Organization	ADAMAS University, Barasat	Duration	3 months
	Time Period	8 th of August, 2016 to 27 th of November, 2016 (Pay: ₹ 21,600/-+ allowances)		
	Nature of work	Department in Charge and Courses taught: <ul style="list-style-type: none"> • Fundamentals of Civil Engineering (CET 304) • Geotechnical Engineering (EETEL-1) • Water Resources Engineering (CE 702) • Hydraulic Structures (CE 704B) 		
5	Designation	Graduate Engineer Trainee	Department	Central Civil
	Organization	Jindal Steel & Power Ltd., Odisha	Duration	3 months
	Time Period	2 nd of July, 2013 to 2 nd of October, 2013 (Pay: ₹ 36,667/-)		
	Nature of work	Site engineer for the project: Construction of a 1700.00 m long concrete road surrounding the Coal Gasification Plant, JSPL, Angul		

OTHER EXPERIENCES

- **Teaching Assistant** for the IIT Madras Centre for Outreach and Digital education (CODE) program - Construction Technology and Management - Cohort 1 (2023), Cohort 2 (2024), Cohort 3 (2025).
- **Examination Superintendent** for B.Tech, M.Tech and MCA end semester examinations of Assam Engineering College; **Sessions:** December 2019, March 2021, and July 2021
- **Deputy Centre Superintendent** of Assam Engineering College centre for the following examinations- CTET 2019 (December), NEET (UG) 2020, and ICRB 2020
- Appointed as **Observer** by Assam Science & Technological University (ASTU) for CEE-2024 examination at Nalbari centre
- Appointed as **Observer** by National Testing Agency (NTA) for NEET (UG)-2019 examination in Sarla Birla Gyanjyoti School, North Guwahati centre
- Coordinator of **Management Information Systems (MIS)** tool for UG program of civil engineering in Assam Engineering College (August 2019 to July 2021)
- **Presiding Officer**, Panchayat Election Assam-2018, Polling Booth: Dekachang High School (B), Sontali-Tupamari, Kamrup (R)

COURSES / WORKSHOPS (as Resource Person)

1. Resource Person for a course on “**3D-Printing & Design**”, organized by Dept. of Civil Engineering, **Assam Engineering College**, 14th Dec’23-16th March’2024
2. Resource Person for a course on “**Pavement Analysis & Design**”, organized by Dept. of Civil Engineering, **Assam Engineering College**, 25th April-16th July, 2023 (*online*)
3. Resource Person for Ten-day online workshop on “**MS-Office**” funded by TEQIP-III, organized by Department of Civil Engineering, Assam Engineering College, 27th May-5th June, 2020
4. Resource Person at Rural Connectivity Training and Research Centre (RCTRC), Guwahati, funded by Assam Road Research & Training Institute (ARR&TI) and delivered lectures on “**Planning, Execution and Maintenance of PMGSY roads at World bank and ADB states**”, 25th February, 2019
5. Resource Person for the thirteen-day course on “**3D Printing & Design**” funded by TEQIP-III, organized by Assam Engineering College, 27th Jan-8th Feb, 2021
6. Resource person at Assam Road Research & Training Institute, Guwahati, funded by Road Rehabilitation Project (RRP)|The World Bank and delivered a lecture on “**Construction and Maintenance of Flexible and Rigid Pavements- New materials and technology for rigid pavements in rural roads**”, 26th August, 2018

COURSES / WORKSHOPS (as Participant)

1. Completed a one-week induction program for officers/employees of Assam Skill University organized by Shri Vishwakarma Skill University, Haryana, May 20-24, 2024

2. Completed a one-week course on “**Direct Trainer Skills (DTS)**” organized by Department of Personnel & training at Administrative Staff College, Khanapara, Assam, February 12-16, 2024
3. Completed an 8-week AICTE-FDP module on “**Orientation Towards Technical Education and Curriculum Aspects**” of National Initiative of Technical Teacher Training (NITTT) on *Swayam*, February 2021
4. Completed an 8 week AICTE-FDP module on “**Professional Ethics and Sustainability**” of National Initiative of Technical Teacher Training (NITTT) on *Swayam*, February 2021
5. Completed a 2-Week course on “**Digital Transformation in Teaching Learning Process (DTITLP)**” organized by NPIU, and conducted by **IIT Bombay** on *Swayam*, January 17-February 7, 2020
6. Participated in the “**Faculty Induction Workshop**” organized by Continuing Education Cell & Centre for Educational Technology, **IIT Kharagpur**, February 6-10, 2018
7. Completed a course on “**3-D Printing & Design**” by The National Association of Software and Service Companies (NASSCOM) in collaboration with **IIT Hyderabad** under the “Train the trainer” program of NPIU, November 28- December 02, 2020
8. Participated in a TEQIP-III training program on “**Advanced Pedagogy & Digital Tool for TEQIP-III faculty members**” organized by **IIT Kharagpur**, July 01-05, 2019
9. Participated in a pedagogy workshop on “**Effective Teaching**”, organized by Center of Education Technology, **IIT Guwahati**, June 03-07, 2019
10. Participated in an FDP on “**Disaster Management Mitigation and Responses**”, organized by Civil Engineering Department, **Assam Engineering College**, August 10-14, 2020
11. Participated in an online workshop on “**STAAD-Pro**” organized by Department of Civil Engineering, **Nalla Malla Reddy Engineering College, Hyderabad**, July 13-18, 2020
12. Participated in One-week online short-term course in “**Emerging Trends in Highway Engineering Infrastructure Development**” organized by Dept. of Civil Engineering, Dr. B.R Ambedkar **National Institute of Technology Jalandhar**, June 23-27, 2020
13. Participated in the International Webinar on “**Recent Trends in Concrete Pavement**” organized by **CSIR-Central Road Research Institute**, New-Delhi in association with Indian Concrete Institute (ICI) Ghaziabad, June 19-20, 2020
14. Participated in a 3-Day training course on “**Introduction to Road Safety Engineering**” organized by **Intercontinental Consultants & Technocrats Pvt. Ltd.**, New Delhi in collaboration with Multi-Skilling & Sustainability Centre of Assam Engineering College, February 12-14, 2020
15. Participated in a workshop on “**Data Analysis using SPSS-A foundation course for researchers**” jointly organized by Department of Bioengineering & Technology, **Gauhati University** and Rehoboth Academic Services at Gauhati University, January 31, 2020
16. Participated in an FDP on “**3-D Printing**”, organized by Mechanical Engineering Department, **Assam Engineering College**, November 25-29, 2019
17. Participated in an FDP on “**Industrial & Fire Safety Engineering**”, organized by Civil Engineering Department, Assam Engineering College, November 4-8, 2019
18. Participated in a 3-Day Workshop on “**Application of GIS in Civil Engineering**”, organized by Civil Engineering Department, Assam Engineering College, September 9-11, 2019

19. Participated in an FDP on “**Recent Advances in Concrete Technology**”, organized by Civil Engineering Department, **Assam Engineering College**, July 15-19, 2019
20. Participated in a One-day sensitization workshop on “**Collaborative Research Scheme**”, organized by **Dibrugarh University Institute of Engineering & Technology** under TEQIP-III, April 12, 2019
21. Participated in a course on **Urban Traffic Modelling and Control**, organized by the Department of Civil Engineering, **IIT Guwahati** in collaboration with GIAN and TEQIP, September 04-08, 2018
22. Participated in a course on **Optimization Methods for Engineering Planning and Design** by GIAN program, **IIT Guwahati**, May 04-08, 2016
23. Participated in a three-day workshop on **Pavement Design, Evaluation and Material Characterization (PAVE)** organized by Transportation Engineering Section, Civil Engineering Department, **IIT Kharagpur**, December 21-23, 2015
24. Participated in an executive course on **Improving Road Safety & Accessibility** organized as a part of the **3rd Conference of the Transportation Research Group (CTRG)** of India, Kolkata, December 17, 2015
25. Completed a certificate course in **Advanced AutoCAD** in **Tool Room & Training Centre (MSME)** at Bamunimaidam, Guwahati, December, 2010
26. Completed a six-month certificate course in **Basic French**, certified by the Department of English and Foreign Language, **Tezpur Central University**, 2011

SOFTWARE SKILLS

MS-Office	AutoCAD	Vissim	MX-Road	Arc-GIS
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HDM-4	Primavera	Origin	Fusion 360	C
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LANGUAGE PROFICIENCY

	Assamese	English	Hindi	Bengali	Sanskrit	French
Writing	██████████	██████████	██████████	██████████	██████████	██████████
Speaking	██████████	██████████	██████████	██████████	██████████	██████████
Reading	██████████	██████████	██████████	██████████	██████████	██████████

EVENTS ORGANIZED AS COORDINATOR

• Conferences	2	• Expert Lectures	6
• Workshops	5	• Industrial Visits	4
• Seminars/Webinars	4	• FDPs	4

DECLARATION

I hereby declare that the details and information given in this curriculum vitae are complete and true to the best of my knowledge.

-Bibhuti Bhushan Bhardwaj

This CV was last updated on: 10.02.2025