



DEPARTMENT OF
CIVIL ENGINEERING

NEWSLETTER

An Insight into the Department of Civil Engineering. Exploring Key Events, Research Highlights and Sustainable Initiative - April 2025 Issue.

APRIL 2025 ISSUE



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MESSAGE *from the* HOD's Desk



Dear all,

Welcome to the fourth edition of our departmental newsletter! This newsletter serves as a platform to showcase our successes and keep informed about the major events, publications, projects of our R&D and Industrial consultancy activities.

It gives me immense satisfaction to witness the achievements of the Department with continuous efforts from dynamic faculty colleagues, talented research scholars duly supported by dedicated technical staff members.

Best Wishes!

Srinivas Pasupuleti



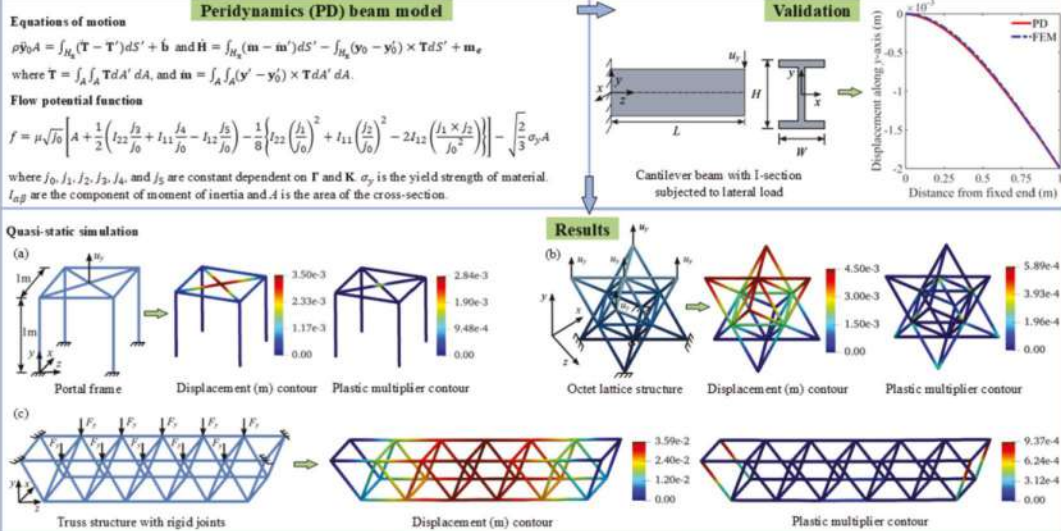
DEPARTMENT OF CIVIL ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY (ISM) DHANBAD

PUBLICATIONS

JOURNALS

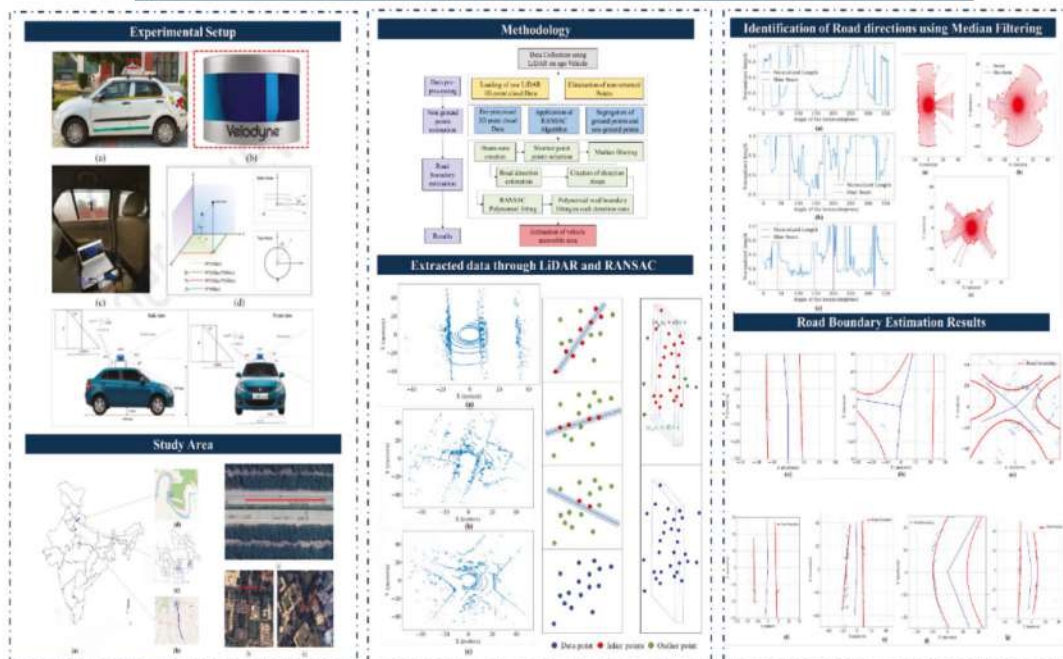
Choudhary, N., Sajal, & Roy, P. (2025) "Peridynamics beam plasticity theory: Yield surface for general cross-sectional geometry", International Journal of Mechanical Sciences, Elsevier, 295, 110249. <https://doi.org/10.1016/j.ijmecsci.2025.110249>

Peridynamics beam plasticity theory: Yield surface for general cross-sectional geometry



Gupta A., Kishore A, Choudhary P, Parida M., (2025). Dynamic Road Boundary Detection Using Sparse 3D-LiDAR in Complex Road and Environmental Conditions. Transportation Research Record (Accepted, April 2025).

Dynamic Road Boundary Detection using Sparse 3D-LiDAR in Complex Road and Environmental Conditions



PUBLICATIONS

Gupta A., Choudhary P, Parida M., (2025). Exploring Relations among Drivers' Characteristics and Risky Driving Behaviour on Expressways Using Association Rules Mining. International Journal of Crashworthiness. (Accepted, April 2025)

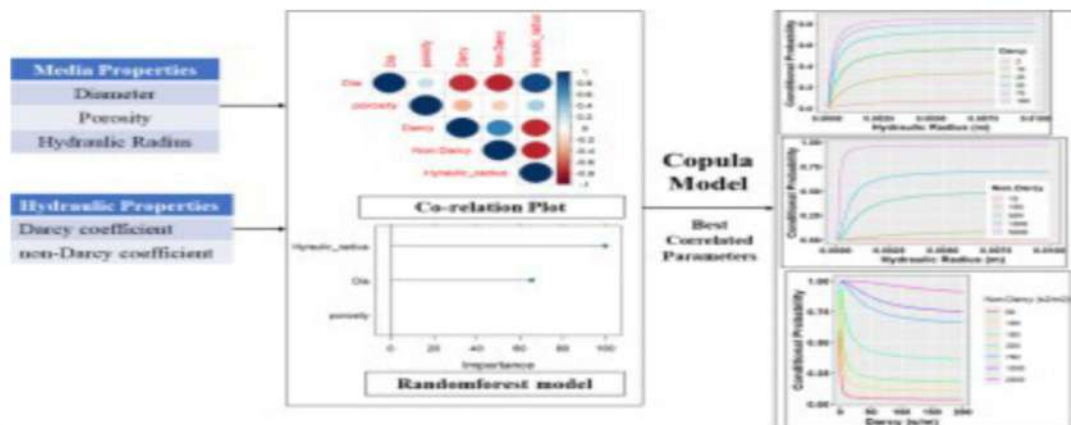
Gurugubelli, Y., Timbadiya, P. V., & Barman, B. (2025). Probability density functions in an asymmetric alluvial sinuous channel. Stochastic Environmental Research and Risk Assessment, 1-19. <https://doi.org/10.1007/s00477-025-02981-7>

Mallikarjuna, A., Yadav, D., Bhartiya, R., Oinam, R.M. and Sahoo, D.R., (2025). Seismic retrofitting of an existing non-ductile open-ground story RC frame by partial infilling with RC shear walls: An experimental study. Engineering Structures, 335, p.120397. <https://doi.org/10.1016/j.engstruct.2025.120397>



Sequence of retrofitting of the damaged ground story columns using shear walls

S. Shrivastava , A. Banerjee , A. Singh , M.K. Singh , Pasupuleti S., (2025), "Copula - based dependency modelling of hydraulic properties for non-linear filtration through porous media", Powder Technology, Available online, 121069. <https://doi.org/10.1016/j.powtec.2025.121069>



R&D AND CONSULTANCY PROJECT

Sl. No.	PI/Co-PI or CI/Co-CI	Project Title	Status	Project Value (Lakhs)	Funding Agency
1.	CI: Prof. Sarat K. Das, CE	Quotation for the Fly Ash audit of our CPP installed at the ESL Steel Ltd.	Ongoing (Consultancy Project)	Rs. 1.18	M/s ESL Steel Ltd., Bokaro
2.	CI: Prof. Sekhar Chandra Dutta, CE	Proof checking of 5 nos. minor bridges in connection with proposed Railway Siding at Konar (Near Phusro) and 1 no. major bridge of proposed Railway siding at Karo for Central Coalfields Limited under IPRCL, Ranchi	Ongoing (Consultancy Project)	Rs. 2.06	M/s J.K. Project Services, Kolkata
3.	CI: Prof. Renu V., CE, Co-CI: Prof. S. Pasupuleti, CE, Co-CI: Prof. Kironmala Chanda, CE, Co-CI: Prof. Sowmiya Chawla, CE Co-CI: Prof. Pranesh Roy, CE Co-CI: Prof. D. G. Krishna, MNE	Scientific Study and Diversion Proposal for Ekra Jore, Kumari Jore and Nagari Jore in Jharia Coalfield of BCCL	Ongoing (Consultancy Project)	Rs. 94.87	M/s BCCL, Dhanbad

OUTREACH ACTIVITIES

WORKSHOP

A three-day workshop on "Technological Advances in Hydrodynamic Modelling & Measurement: Application in Flood & Stream Flow Studies" was conducted by the Civil Engineering Department, IIT (ISM) Dhanbad. Dr. Bandita Barman was the organizing secretary of the workshop. Prof. Sukumar Mishra, the director of IIT (ISM) Dhanbad inaugurated the workshop. The workshop sessions featured experts Mr. Rishi DS (TUFLOW), Prof. Arup Kumar Sarma (IIT Guwahati), Dr. Anurag Sharma (NIT Rourkela), Dr. P V Timbadiya (SVNIT Surat), Dr. Tinesh Pathania (IIT (ISM) Dhanbad), and Dr. Manish Pandey (IIT Kharagpur). It was a great opportunity for students and participants to explore flood simulation, hydrodynamics modelling, and measurement techniques through hands-on training and expert lectures.



OUTREACH ACTIVITIES



PhD THESIS SUBMITTED/ AWARDED

Awardee	Supervisor	Thesis Title	Submitted/ Awarded
Ms. Akanksha Srivastava	Prof. Renu V.	Numerical Modeling of Biogeochemical Interactions Influencing Bioremediation of BTEX in Unsaturated Zones	Awarded

MESSAGE FROM ALUMNI



Chandra Prakash
 IAS (2023 Batch)
 Ministry of Shipping
 B.Tech. Civil Engg.,
 IIT (ISM) Dhanbad
 (Class of 2021)
 UPSC CSE 2022

My journey began at IIT (ISM) Dhanbad, where I pursued my B.Tech. in Civil Engineering. More than just an academic institution, ISM was a life-shaping experience that taught me lessons far beyond the classroom.

Clearing the UPSC Civil Services Examination in 2022 and joining the Indian Administrative Service (IAS), 2023 batch, currently posted in the Ministry of Shipping, has been a fulfilling and transformative chapter of my life. The demands of public service—patience, decisiveness, and emotional resilience are immense. And many of the qualities I rely on today were first nurtured during my college days.

At IIT (ISM), I didn't just gain knowledge—I gained perspective. I learned how to stay calm under pressure, manage my time effectively, and persist even when results didn't come immediately. These habits proved crucial not just during UPSC preparation but also now, in my professional responsibilities.

One of the most cherished parts of my time at ISM was the friendships I made. I was fortunate to find a circle of genuine, supportive friends who stood by me through thick and thin. They were not just my emotional anchors, but also sources of motivation and joy.

As Dr. A.P.J. Abdul Kalam once said, "One best book is equal to a hundred good friends, but one good friend is equal to a library." That quote deeply resonates with me because the support of close friends during demanding times is something that no amount of books or strategies can replace.

To all my juniors—focus not just on academic excellence, but also on building meaningful relationships and discovering your own rhythm. Use your time to grow as a person, not just as a student.

IITians are known for their intellect, but it's your values, integrity, and compassion that will define your legacy. Let your journey be guided not just by ambition, but by purpose.

Stay humble, stay focused, and surround yourself with good books—and even better friends.

MY JOURNEY AT IIT (ISM) DHANBAD: A TRANSFORMATIVE EXPERIENCE



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B. Tech, BPUT, Odisha
M. Tech, NIT, Rourkela
PhD, IIT (ISM), Dhanbad

After obtaining my Master's Degree in Transportation Specialization from NIT, Rourkela, Odisha, and six years of teaching experience from Parala Maharaja Engineering College, a constituent college of BPUT, Odisha, I joined as an Institute Research Scholar in the Civil Engineering Department at IIT (ISM), Dhanbad, in 2020, under the AICTE-Quality Improvement Programme Scheme. IIT (ISM), Dhanbad is an incredible college, which provides opportunities to grow and learn more about yourself. I had a great time there and I will cherish those memories for a lifetime. There I worked under the guidance of Dr. Smruti Sourava Mohapatra, who is a wonderful mentor. His advice and insights have been instrumental in my career growth. My research topic was "Sustainable Utilisation of Coal Overburden Material in Low-Volume Road Construction". We have published four journal papers related to this research area and two papers are under review.