

DEPARTMENT OF CIVIL ENGINEERING

NEWSLETTER

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



DECEMBER 2024 ISSUE



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MESSAGE *from the* HOD's Desk

Dear All,

Welcome to the second 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 activities.

These events and activities highlight the academic, research, and extracurricular environment at Department of Civil Engineering of IIT (ISM) Dhanbad.

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

Wish you all the best and a Very Happy New Year 2025.

Prof. Srinivas Pasupuleti

HoD, Department of Civil Engineering,
IIT (ISM) Dhanbad



PATENT

Prof. Avinash Kumar Singh

Filed Indian Patent No. 202431071315 on 20.09.2024 for his invention titled **"An equipment with advanced testing facility for precise characterization and distress analysis of flexible pavements under repeated longitudinal wheel movement"**.

Prof. Sekhar Chandra Dutta

Dr. Ishan Jha

Mr. Vikash Kumar

Mr. Subrat Kumar Sahu

Published Indian Patent No. 202431097321 on 20/12/2024 for their invention titled **"A concrete-filled quadruple steel tubular (CFQST) column for enhanced strength and ductility in seismic condition and the process of construction"**

COPYRIGHT

Dr. Umang Pulkit (Former PhD Student)

Prof. Satadru Das Adhikary

Filed Copyright Diary Number: 33764/2024-CO/SW dated 25.10.2024 for their computer program titled **TZTFM: "A GUI-based computer program for predicting the nominal and travelling fire inside concrete compartment"**.

Dr. Umang Pulkit (Former PhD Student)

Prof. Satadru Das Adhikary

Filed Copyright Diary Number: 34108/2024-CO/L dated 29.10.2024 for their computer program titled **STRUCT-FIRE: "A GUI-based computer program for analysis of reinforced concrete flexural members exposed to fire"**.

PUBLICATIONS

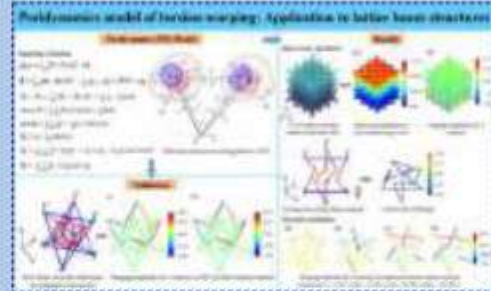
JOURNALS

Ranjana, K. N., Sajal, & Roy, P. (2025), "Riemannian geometry based peridynamics computational homogenization method for cellular metamaterials", Computer Methods in Applied Mechanics and Engineering, Elsevier, 436, 117714.

<https://doi.org/10.1016/j.cma.2024.117714> (accepted in 2024)

Sajal, Roy, P. (2025). "Peridynamics model of torsion-warping: Application to lattice beam structures", Thin-Walled Structures, Elsevier, 206, Part A, 112603.

<https://doi.org/10.1016/j.tws.2024.112603> (accepted in 2024)



R. K. Mishra, Barman, B., T. Pathania. 3D Modeling of Hydro-Morphodynamic Characteristics of Mining Affected Alluvial Channel using TELEMAC3D and GAIA, Physics of Fluids, 36 (10), 2024.

DOI: <https://doi.org/10.1063/5.0227477>

Jain, D. and Adhikary, S.D. (2024) "Sustainable Utilization of Basalt Waste Dust as Replacement of River Sand in One-Part Geopolymer Mortar" Structural Concrete Journal, DOI: <https://doi.org/10.1002/suco.202400979>

Musitefa A. Y. and Dey, T. Dynamic behavior of full-scale GFRP bar-reinforced ultra-high-performance concrete-encased concrete-filled double-skin steel tubular bridge columns under lateral impact loading, Structures, 70, 107674, 2024. DOI: <https://doi.org/10.1016/j.istruc.2024.107674>

Dash, S., Dey, T. and Rajesh Kumar, Instability characteristics of variable stiffness composite panels under thermomechanical loadings, Acta Mechanica, 1-24, 2024. DOI: [10.1007/s00707-024-04154-z](https://doi.org/10.1007/s00707-024-04154-z)

Kumar V., Khan P.K., Sarkar R. and Pal S.K. (2025). "Seismic Hazard Assessment of Faizabad Region of Uttar Pradesh, India using Deterministic and Probabilistic Approaches." Journal of Earth System Science, Indian Academy of Sciences, 134: 8, DOI: <https://doi.org/10.1007/s12040-024-02451-8>.

Dixit, A., Mishra, A., Singh, A. K, Das, S.K. (2024). "Experimental and modelling studies for deformation characteristics of coal mines overburden soil under cyclic loadings in construction of haul roads". International Journal of Geomechanics, ASCE (Accepted). DOI: <https://doi.org/10.1061/IJGNALGMENG-10243>

PUBLICATIONS

CONFERENCE PROCEEDINGS

Kumar, S., Chanda, K., & Pasupuleti, S. (2024). "Evidence of climate change in coastal India: Trends in extreme precipitation and temperature extremes", International conference HYDRO – 2024, held in CWPRS, Pune, India, from 18-20 December 2024.

Gupta, R.K., and Chawla, S. (2024). "Retrofitting of Existing Railway Tracks Using Micropiles as A Ground Improvement Technique: Finite-Element and Genetic Programming Approach", 5th International Conference on Transportation Geotechnics, 5th ICTG 2024, Sydney, Australia., November 20-22.

Vadavadagi, S.S. and Chawla, S. (2024). "Load-Bearing Behaviour of Geosynthetic Reinforced Soil Bridge Abutment for Railways with Waste Coal OB as Backfill Soil: Model Tests", 5th International Conference on Transportation Geotechnics, 5th ICTG 2024, Sydney, Australia., November 20-22.

Ravi Kumar Mishra, Barman, B., and Tinesh Pathania. Estimating Bathymetry of a Mining Affected Straight Alluvial Channel, 29th International Conference on Hydraulics, Water Resources, River and Coastal Engineering, CWPRS Pune, 18-20 December, 2024.

Laxman V Rathod, Timbadiya P.V., and Barman, B. Investigating the Flow Hydrodynamics in a Compound Channel with Flexible Vegetated Floodplains, 29th International Conference on Hydraulics, Water Resources, River and Coastal Engineering, Central Water & Power Research Station (CWPRS), Pune, India during 18-20 December, 2024.

Yatirajulu Gurugubelli, Timbadiya P.V., and Barman, B. Flow Turbulence and Third Order Correlations in an Asymmetric Sinuous Channel, 29th International Conference on Hydraulics, Water Resources, River and Coastal Engineering, Central Water & Power Research Station (CWPRS), Pune, India during 18-20 December, 2024.

Saundarya Narayan Kashyap and Barman, B. Velocity distribution in a narrow open channel with submerged rigid vegetation, 29th International Conference on Hydraulics, Water Resources, River and Coastal Engineering, CWPRS Pune during 18-20 December 2024.

Rozy Kumari and Barman, B. Numerical Modelling of Sediment Transport Dynamics in Braided Rivers: A Comprehensive Review, 29th International Conference on Hydraulics, Water Resources, River and Coastal Engineering, Central Water & Power Research Station, Pune, INDIA during 18-20 December, 2024.

Kumar, S., Pulkit, U., Adhikary, S.D., Rai A.K. (2024) "Numerical investigation on blast resistance of composite system with concrete filled thin-walled tube" 14th Structural Engineering Convention (SEC-2024), NIT Tiruchirappalli, India, December 12-14.

PUBLICATIONS

CONFERENCE PROCEEDINGS

Kumar, A., Adhikary, S.D., Rana A. (2024) "Local Damage Prediction of Concrete Slab Under Contact Detonation Through FEM-SPH Modelling Techniques" 14th Structural Engineering Convention (SEC-2024), NIT Tiruchirappalli, India, December 12-14.

BOOK CHAPTER

Sarangi, P., Manoj, M. (2024). "Evaluating the Variations in Discretionary Activity Episodes Before and During Lockdown Among Urban Indian University Students". In: Manoj, M., Roy, D. (eds) Urban Mobility Research in India. UMI2023 2023. Lecture Notes in Civil Engineering, vol 551. Springer, Singapore.

https://doi.org/10.1007/978-981-97-8116-4_29

R&D AND CONSULTANCY PROJECTS

Sl. No.	PI/Co-PI	Project Title	Status	Project Value (Lakhs)	Funding Agency
1.	CI: Prof. Piya Sengupta	Proof-Checking of Design and Drawing of Various Components of Bridges	Ongoing (Consultancy Project)	Rs. 70.8	M/s SPARSH Engineering Company Private Limited
2.	PI: Prof. Piya Sengupta	Component-Level and System-Level Vulnerability Assessment of Various Bridges under Diverse Loading Conditions	Ongoing (R&D Project)	Rs. 52.13	M/s SPARSH Engineering Company Private Limited
3.	CI: Prof. Rahul Bhartiya Co-CI: Prof. Tanish Dey	Proof checking for structural design and drawings of two buildings of NMDC 2 MTPA Pellet Plant at Nagarnar	Ongoing (Consultancy Project)	Rs. 5.90	M/s Engineering Design Research Centre, Larsen & Toubro Limited, Kolkata
4.	CI: Prof. Satadru Das Adhikary	Evaluation of Raw Materials & Concrete Mix Design for M25 Grade Concreting work for 755 MW GVREL Solar Park at Tilaiya	Ongoing (Consultancy Project)	Rs. 2.95	M/s SMS India Pvt. Ltd., Gurugram
5.	CI: Prof. Satadru Das Adhikary Co-CI: Prof. Srinivas Pasupuleti	Evaluation of Raw Materials & Concrete Mix Design for M25 & M20 Grade Concreting work for 310 MW Floating and Ground mounted Solar PV Project at DVC Reservoirs	Ongoing (Consultancy Project)	Rs. 5.90	M/s NTPC GE Power Services Private Limited (NGSL), Dhanbad

R&D AND CONSULTANCY PROJECTS

6.	CI: Prof. Vishwas N. Khatri Co-CI: Prof. Avinash Kumar Singh	Consultancy Work for Detailed Study of Ash Pond for Structural Strengthening and Modernization of Ash Dykes	Ongoing (Consultancy Project)	Rs. 25.46	M/s Bokaro Power Supply Company (P)Ltd. (a joint venture of SAIL and DVC), Bokaro Steel City
7.	PI: Prof. Sanket Nayak, Dept. of Civil Engg.	Cost-effective Safety Solution for Low-rise Masonry Dwellings Subjected to Rock Fall Impact Induced by Landslides: Laboratory Testing, Field Demonstration and Development of Guidelines for Hilly Regions	Ongoing (R&D Project)	Rs. 49	M/s National Mission on Himalayan Studies (NMHS)
8.	CI: Prof. Sarat Kumar Das, CE	6000115620 Compliance Audit of Ash Generation & 6000115619 Dyke Stability Study of Ash Pond of Coal Based Captive Power Plant of Capacity 185x85 Mw, Am/Ns India Udayabata, Paradeep	Ongoing (Consultancy Project)	Rs. 4.15	M/s AM/NS Limited, Paradeep, Odisha
9.	CI: Prof. Sanket Nayak, CE Co-CI: Prof. S.S. Mohapatra, CE	Structural Soundness for Human Habitation for ESIC Hospital Building and Staff Quarters-Reg.	Ongoing (Consultancy Project)	Rs. 8.26	M/s Employee's State Insurance Corporation (ESIC), Adityapur
10.	CI: Prof. Sarat K. Das, CE	The annual compliance audit for ash utilization of as per Para E(5) of Ash notification 31.12.2021 mentioned in the office memorandum of CPCB, No. IPC-IITPP/CP-11/76/2022/1252 Dt. 6.3.2023	Ongoing (Consultancy Project)	Rs. 2.72	M/s JSW Steel Ltd., Vijayanagar
11.	CI: Prof. Tanish Dey, CE Co-CI: Prof. Sukanta Chakraborty, CE	Proof Checking for Design and Drawings of Railway Truss Bridge (24.92m OWG)	Ongoing (Consultancy Project)	Rs. 2.95	M/s Metal Craft Engineering Pvt. Ltd., Kolkata
12.	CI: Prof. Tanish Dey, CE	Testing of Fly Ash of Koderma Thermal Power Station, DVC, Koderma	Ongoing (Consultancy Project)	Rs. 0.96	M/s DVC, Koderma

R&D AND CONSULTANCY PROJECTS

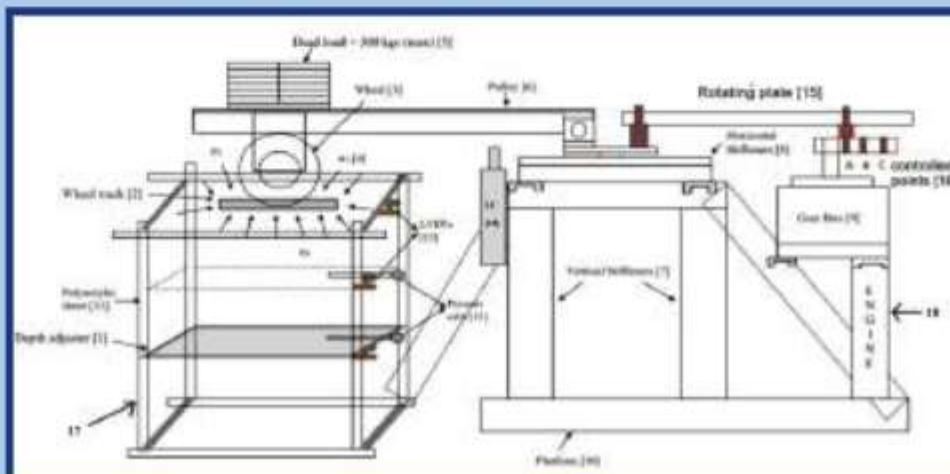
13.	CI: Tanish Dey, CE	Testing of Fly Ash of Raghunathpur Thermal Power Station, DVC, Raghunathpur	Ongoing (Consultancy Project)	Rs. 0.99	M/s DVC, Raghunathpur
14.	Prof. Sarat Kumar Das, CE	The Annual Compliance Audit for Ash Utilisation of Coal Based Thermal Power Plant having Two Unit with a Total Generation Capacity of 550 MW (Unit#7=300 MW and Unit#8 = 250 MW), Department of Power, Government of West Bengal for FY-2023-24	Ongoing (Consultancy Project)	Rs. 2.05	M/s DPL, Durgapur
15.	CI: Prof. Tanish Dey, CE	Testing of Fly Ash of Bokaro Thermal Power Station, DVC, Bokaro	Ongoing (Consultancy Project)	Rs. 0.96	M/s DVC Bokaro
16.	CI: Prof. Tanish Dey, CE Co-CI: Prof. Sukanta Chakraborty, CE	Vetting of Structural Drawings & Design for Jabalpur Zone Works of Military Engineering Services	Ongoing (Consultancy Project)	Rs. 1.41	M/s Engineers and Consultancy, Koderma, Chennai
17.	CI: Prof. Tanish Dey, CE	Proof Checking for Drawings & Designs of Solar plant in Jodhpur	Ongoing (Consultancy Project)	Rs. 0.59	M/s EnviroInfra Engineers Pvt. Ltd., Delhi
18.	CI: Prof. Sarat Kumar Das, CE	Audit on Ash Disposal Annual Report and Ash Pond Stability Study of JSW Energy Ltd. Vijayanagar Dist. Bellary, Karnataka Operating the Thermal Power Plant (Coal Based)	Ongoing (Consultancy Project)	Rs. 10.12	M/s JSW Steel Limited, Vijayanagar
19.	CI: Prof. B. K. Mishra, ESE Co-CI: Prof. Rajib Sarkar, CE	A Scientific Study for the Comprehensive Environmental and Stability Assessment of Iron Ore Tailings.	Ongoing (Consultancy Project)	Rs. 53.10	M/s Lloyds, Maharashtra
20.	CI: Prof. Srinivas Pasupuleti, CE Co-CI: Prof. A.S. Venkatesh, AGL Co-CI: Prof. A. K. Pandey, CE	Hydrological Study for the Gare Palma Sector-I Coal Mine, Tamnar, Raigarh (CG)	Ongoing (Consultancy Project)	Rs. 88.77	M/s Jindal Power Ltd., Raigarh

MAJOR INSTRUMENTAL FACILITIES CREATED

A testing facility or equipment has been designed and developed by **Dr. Avinash Kumar Singh, Assistant Professor**, titled **"Advanced testing facility for precise characterization of pavement materials and distress analysis of flexible pavements under repeated longitudinal wheel movement"**. This equipment is available in the foundation engineering laboratory and currently his research scholars are working on it. This invention has also been filed for the patent under the product category.

BRIEF DESCRIPTION OF THE EQUIPMENT

This proposed equipment is a combination of cuboid tank set up with depth adjuster and a wheel movement arrangement to simulate the realistic vehicular loadings on the pavements. The invention aims to provide precise resilient characterization of subgrade soils and granular materials as per in-situ confining pressure and distress analysis of partial or full-scale pavement models. The depth adjuster is provided to adjust the depths corresponding to one layer for material characterization, and multiple layers for full or partial scale pavement modelling. It is also provided with varying track length to account for different vehicle speed and traffic intensities in terms of load and rest period. Three different lengths of wheel track have been provided i.e. 50 mm, 100 mm and 150 mm to obtain the loading and rest period of 0.2 sec and 0.8 sec, 0.1 sec and 0.9 sec, and 0.067 sec and 0.933 sec, respectively. The pressure cells and LVDTs can be placed at different locations to capture variations in modulus and strain across different pavement cross-sections for comprehensive understanding of how the pavement materials respond to applied pressure and strain under varying conditions. The current invention not only improves the accuracy of material characterization and distress evaluation but also bypasses the limitations associated with using external mediums to apply confining pressure in traditional cyclic triaxial facilities. By directly measuring in-situ conditions, a more realistic representation of the behaviour of subgrade soils and granular materials can be obtained, leading to more precise analysis and better-informed decision-making in pavement construction. An acrylic sheet is provided on one side of model tank to visually inspect the deformations or distress patterns developing throughout the depth of pavement model.



CONFERENCES, SEMINAR, FACULTY INVITED TALK ETC.



Department of Civil Engineering, IIT (ISM) Dhanbad organized a one-day technical seminar on the valorisation of industrial and mine waste in highway construction on 3rd October 2024. The seminar, aimed at exploring the latest breakthroughs in utilising industrial and mining waste as construction material, discussed both the opportunities and challenges of this innovative approach. The seminar was organised by the Indian Geotechnical Society (IGS) Dhanbad Chapter in collaboration with the Central Road Research Institute (CSIR-CRRI), New Delhi. It was inaugurated by Prof. Manoranjan Parida of CSIR-CRRI and featured four key addresses.

[illegible]

OUTREACH ACTIVITIES

KEYNOTE SPEAKERS

Keynote Speakers



Dr. Anil Kumar Saha
Head Geotechnical Engineering &
Senior Principal Scientist, CSIR-CRII New Delhi
Topic: Advanced Finite Materials for road construction



Dr. Shikha Swarnappa Kar
Principal Scientist, Flexible Pavement Division,
CSIR-CRII New Delhi
Topic: Flexible Roads with Extruded Bit. II
Green Replacement for Natural Aggregates



Prof. Sonalika Choudhary
Associate Professor, Dept. of Civil Engg.,
IIT (ISM) Dhanbad
Topic: Soil Mass Characterization Potential
Innovative in Transportation Infrastructure using
Geosynthetics



Prof. Sanket Sankar Mohapatra
Associate Professor, Dept. of Civil Engg.,
IIT (ISM) Dhanbad
Topic: Exploring Sustainability and Green Geotechnical
Materials for low carbon road construction



Date : 3rd October 2024

8th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics (8ICRAGEE) was organized by Indian Society of Earthquake Technology (ISET) during 11–14th December 2024 at IIT Guwahati. This International Conference is in continuation of previous seven such conferences in which five were organized by Missouri University of Science & Technology, Rolla, USA, and the 6th one was organized in Greater Noida Campus of IIT Roorkee under the leadership of Prof. Shamsher Prakash. The 7th conference was organized online due to COVID-19 situation. The ISET is a founding member of the International Association for Earthquake Engineering (IAEE) and represents India on this world forum dealing with various-aspects of earthquake engineering. The conference was attended by about 15 international speakers and 250 participants from around the world. Prof. T.G. Sitharam, Chairman AICTE was the Chief Guest of the inauguration ceremony of the conference and Prof. A.W. Elgamal, University of California San Diego was the Chief Guest for the valedictory session of the conference. The conference proceedings will be published as Lecture Notes in Civil Engineering in five volumes from Springer Nature. **Prof. Rajib Sarkar** and **Prof. Sanket Nayak** have acted as the Organizing Secretaries of the reputed conference.



OUTREACH ACTIVITIES

Prof. Sowmiya Chawla, Associate Professor, Department of Civil Engineering, has attended and presented the research work in the 5th International Conference on Transportation Geotechnics (ICTG) 2024, which was held at Sydney Masonic Centre (SMC) during 20-22 November 2024. This conference was organised by Transport Research Centre, University of Technology Sydney (UTS-TRC). In this conference, the latest developments in Transportation Geotechnics together with were amply reverberated by over 15 keynote lectures and nearly 20 invited theme lectures during three days of intensive intellectual discourse, knowledge sharing and brainstorming sessions.

In this conference, she had an opportunity to present two research findings. The details of the research papers are as follows: Paper 1: "Retrofitting of Existing Railway Tracks Using Micropiles as a Ground Improvement Technique: Finite-Element and Genetic Programming Approach". Paper 2: "Load-Bearing Behaviour of Geosynthetic Reinforced Soil Bridge Abutment for Railways with Waste Coal OB as Backfill Soil: Model Tests".

In this conference, the latest developments in Transportation Geotechnics together with were amply reverberated by over 15 keynote lectures and nearly 20 invited theme lectures during three days of intensive intellectual discourse, knowledge sharing and brainstorming sessions. There are over 450 delegates were attended the conference from over 30 countries, representing three prominent geo-paradigms embracing: (i) Transportation Geotechnics (TC202) as the primary theme, in tandem with two co-themes, Ground Improvement (TC211) and Sustainability (Tc307).

During the visit to attend the 5th International Conference on Transportation Geotechnics (ICTG) 2024, Prof. Sowmiya Chawla has visited University of Technology Sydney (UTS-TRC) and University of Wollongong (UOW). This visit will help for future collaboration between India and Australia in terms of student exchange programme, research collaboration etc.



Prof. Sowmiya Chawla, during International Conference on Transportation Geotechnics (ICTG) 2024, held at Sydney Masonic Centre (SMC), Australia during 20-22 November 2024.

OUTREACH ACTIVITIES

Prof. Sowmiya Chawla, Associate Professor, Department of Civil Engineering, has attended and presented the invited lecture in the Indian Geotechnical Conference (IGC) 2024, which was held at Civil Engineering Department, MIT, Chhatrapati Sambhajnagar (Aurangabad) during December 19-21, 2024. This conference was organised by Indian Geotechnical Society, Aurangabad Chapter. This conference was organized under the main theme of "Geotechnical Engineering for a Sustainable Tomorrow".



Indian Geotechnical Conference (IGC) 2024, and 4th Indo-Japan Pre-Conference Workshop on High-Speed Rail & Geotechnical Challenges, held at Indian Geotechnical Society, Aurangabad Chapter and Civil Engineering Department, MIT, Chhatrapati Sambhajnagar (Aurangabad) during December 19-21, 2024.

Prof. Sowmiya Chawla was invited to this conference to deliver the theme lecture. She has delivered the theme lecture under the topic entitled "Enhancement of Existing Railway Tracks for Higher Speed and Heavier Axle Loads – Innovative Retrofitting Techniques". As a honorary secretary of Indian Geotechnical Society (IGS), Dhanbad Chapter, Prof. Sowmiya Chawla has attended the national Executive committee meeting during the conference. Also, she actively participated in the 4th Indo-Japan Pre-Conference Workshop on "High-Speed Rail & Geotechnical Challenges" which was held before the IGC-2024.



Prof. Sowmiya Chawla, during Indian Geotechnical Conference (IGC) 2024, held at Indian Geotechnical Society, Aurangabad Chapter and Civil Engineering Department, MIT, Chhatrapati Sambhajnagar (Aurangabad) during December 19-21, 2024.

During Indian Geotechnical Conference (IGC) at MIT Aurangabad at IGC Aurangabad held from Dec, 19-21, 2024, Dr. Avinash Singh sessioned a Chair on the theme "Soil Dynamics and Geotechnical Earthquake Engineering".



PhD THESIS SUBMITTED/ AWARDED

Awardee	Supervisor	Thesis Title	Submitted/ Awarded
Dr. Manish Prabhakar Mokul	Prof. Sanket Nayak	"Development of Sustainable High-Strength Mass Concrete with Enhanced Thermal Control and Durability"	Awarded
Dr. Gautam Roy	Prof. Renu V	"Hydrogeochemical Modeling for Assessing the Mobility of Pyrite Oxidation Ions in Unsaturated Mine Overburden Dumps"	Awarded
Dr. Umang Pulkit	Prof. S. D. Adhikary	"Development of GUI-based Computer Program for Thermo-hygro-Mechanical Behavior Assessment of Concrete Structures Under Fire"	Awarded

ACHIEVEMENTS

Prof. S.K Das received IGS Best Reviewer Award (EBM) for the year 2023 at IGC Aurangabad during Dec, 19-21 for his exceptional contribution to Indian Geotechnical Journal (IGJ) from Indian Geotechnical Society.



Mr. Vibhav Chandra Srivastava received gold medal in B.Tech. in Civil Engineering at 44th Convocation 2024, IIT (ISM) Dhanbad. He worked under Prof. S.C Dutta on his Btech final year project titled "*Structural Safety of Offshore Wind Turbines*".



Ms. Vaibhavi Sandip Mahadeshwar received gold medal in M.Tech. in Civil Engineering at the 44th convocation 2024, IIT (ISM) Dhanbad. She worked under the supervision of Prof. Pranesh Roy on her M.Tech. final year project entitled "*Finite Deformation Simo - Reissner - Mindlin Peridynamics Shell Theory: Application To Mechanical Metasurfaces*".



Mr. Kingshuk Jana, Research Scholar received best technical paper award in Indian Symposium on Offshore Geotechnics 2024- An International Convention for his paper "*Seismic performance evaluation of Monopile Foundations for Offshore Wind Turbines in Gujarat and Mumbai coastal regions*" authored Kingshuk Jana, Rajib Sarkar, Subhamoy Bhattacharya. The symposium was held in Mangalore during 8-9 November 2024.

MOU SIGNED

Prof. Sarat Kumar Das Department Civil Engineering, of IIT (ISM) Dhanbad signed an MoU with CSIR-Central Road Research Institute, New Delhi on 03/10/24 for a period of 5 years.

Prof. Bandita Barman Department Civil Engineering, of IIT (ISM) Dhanbad signed an MoU with S V National Institute of Technology Surat on 05/11/24 for a period of 2 years.

DETAILS OF NEW FACULTY JOINED



Prof. Punyabeet Sarangi recently joined as an Assistant Professor in the department of Civil Engineering in October, 2024. He received his M.Tech. degree in Transportation Engineering from NIT Patna, India in 2015 and completed his Ph.D. from IIT Delhi in 2023. Prior to joining IIT (ISM) Dhanbad, Dr. Punyabeet worked as an IOE postdoctoral fellow in the IfCA project at IISc Bengaluru. His research interest lies in Travel Demand Modelling, Transportation Planning, Structural Equation Modelling, Transport and Energy.

DETAILS OF NEW PDF JOINED



Dr. Kuldeep Sharma joined the department as a Post-Doctoral Fellow and is currently working with Prof. Sarat Kumar Das. He has completed his Ph.D. in Geotechnical and Geoenvironmental Engineering from Dr. B. R. Ambedkar National Institute of Technology, Jalandhar and completed his M.Tech. from Madan Mohan Malaviya University of Technology, Gorakhpur. Currently, his work is focused on developing sustainable construction materials using industrial waste.



Dr. Aamir Hassan joined the department as an Institute-Post Doctoral fellow in October-2024, after completing his Ph.D. in Structural engineering from NIT Srinagar. He is currently working with Prof. Rahul Bhartiya with the research interest of Steel and Steel-concrete composite sections. He is currently working in the development of Concrete-filled steel sections with high axial load carrying capacity.

MESSAGE FROM ALUMNI



Dr. Sumit Kumar
 BE (BIT Mesra)
 M.Tech (NIT Warangal)
 PhD (IIT(ISM) Dhanbad)
 (Best Thesis Award)

After my post-graduation and one year of teaching experience, I decided to pursue my Ph.D. I took admission in the year 2015 as a research scholar of Department of Civil Engineering at IIT (ISM) Dhanbad and was awarded my Ph.D. in the year Jan 2021. I worked under the guidance of Prof. Sekhar Chandra Dutta. My research was centered around developing building structures facilities on opencast backfilled land. Major challenge in developing infrastructural facilities on backfilled land included settlement of foundation and influence of blast vibration from underground mine blasts. Through the effective guidance of my supervisor, departmental support and my hard work led to publication of 6 quality research article. We also got a patent in my research area entitled "A method of constructing building structures on backfilled opencast mines." I also received best Ph.D. thesis award for the year 2022 in my convocation.

ALUMNI BITES



Aval Singhal

How did you decide on your career path. Were there other roles that you considered? What skills or knowledge from your college do you find most valueable in your career?

I graduated from ISM in 2019. For the longest time, I wanted to enter PSU / IES. But as fate would have it, many new companies were hiring for non-core roles that year. I applied for one of them (a Bank) - since it was tech and finance oriented - an area I found interesting. From there I went on to pursue MBA, to eventually land in management consulting.

One of the most important things that college taught me was discipline. In college - you are in control of your time. Being disciplined about it can help you balance academics and co-curricular activities - both of which I found are critical for my current role.

Another lesson would be to keep an open mind set and to experiment. Being in an IIT gives you exposure to a lot of opportunities outside academics. Taking time to explore and enjoy these opportunities will help build a well rounded personality, and truly help you discover what you like.

What advise do you have for someone looking to enter this industry?

On a practical note, entering consulting typically requires completing an MBA from a premier management institute. These institutes focus on both your academic and non-academic achievements. This is because the single most important requirement in the management domain is well-rounded growth.

Hence I would strongly advise to try a lot of things, and with dedication. Academics are undoubtedly the foundation and take precedence over everything, but your experiences and achievements outside academics are what will set you apart. So take time to polish your presence and communication, maybe explore research as a career, learn new sports, join and manage clubs to learn management skills, or maybe try a start-up. These are skills/experiences that you cannot learn anywhere else. And our college has a very strong support system to enable you to do all that.

Another recommendation would be to build deep connects with alumni. It always helps to know someone who has experience and can guide you. (Plus, a free meal never hurts!)