

DEPARTMENT OF CIVIL ENGINEERING



OCTOBER 2024 ISSUE



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NEWSLETTER

An Insight into the Department of Civil Engineering. Exploring Key Events, Research Highlights and Sustainable Initiative - October 2024 Issue.

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Jharkhand - 826004

CONTENTS

01 HOD's Message

02 Patent

03 Publications

04 R&D and
Consultancy Projects

05 Outreach Activities

06 PhD Thesis
Submitted/Awarded

07 Achievement

08 MOU signed

09 Internship

10 International
Collaboration

11 Other Activities

12 Newly Joined
Faculties and Institute
Post-Doctoral Fellows

13 Message from Alumni



MESSAGE *from the* HOD's Desk

Dear Readers,

It is with great enthusiasm that I introduce the inaugural edition of "CiviLens", the monthly newsletter from the Department of Civil Engineering, IIT (ISM) Dhanbad.

It gives me immense pleasure to introduce our department's academic, research and other activities to you. The Department of Civil Engineering was set up in 2013 and it is one of the fastest growing departments. We expect you to be a part of the CIVIL fraternity at IIT(ISM) and look forward to have an enriching and long-lasting relationship with you. I can vouch on behalf of my faculty colleagues and staff that we will continue to strive for greater heights in teaching and research that it's relevant and shall help in nation building. Besides high quality teaching at both UG and PG levels, the department is actively involved in providing high quality technical advisory support through various R&D projects and consultancy to various organizations.

Through this newsletter, we aim to share the latest developments, research, and initiatives of our department, contributing to the global discourse on Infrastructure development. Each edition will provide insights into ongoing projects, and success stories that inspire positive action while fostering a deeper understanding of the challenges and solutions in civil engineering. We look forward to your active engagement and valuable feedback as we embark on this exciting journey together.

Thank you and Warm regards.



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

PATENT

Prof. Satadru Das Adhikary

Mr. Dipanshu Jain (PhD Student)

Published Indian patent No. 202431006089 on 16.02.2024 for their invention titled '**A cement-free mortar (CFM) composition**'.

Dr. Lalima Banerjee (Former PhD Student)

Prof. Sowmiya Chawla

Prof. Sujit Kumar Dash

Published Indian patent No.202331077988 on 16.11.2023 for their invention titled '**A Method of Building Geocell Reinforced Railway Tracks, Over Weak Subgrade, Using Recycled Coal Overburden As Subballast**'

Prof. Sekhar Chandra Dutta,

Prof. Sarat Kumar Panda,

Prof. Sanket Nayak,

Prof. Lohitkumar Nainegali,

Mr. S. Kundu,

Mr. Farah Nawaz,

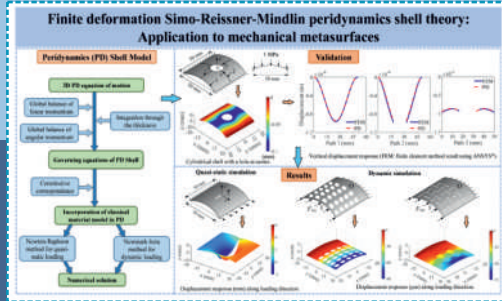
Prof. Sumit Kumar,

Mr. Rabindra Nath Jha

Published Indian patent No.202231040574 on 15.07.2022 for their invention titled '**A Method Of Constructing Building Structures On Backfilled Opencast Mines**'.

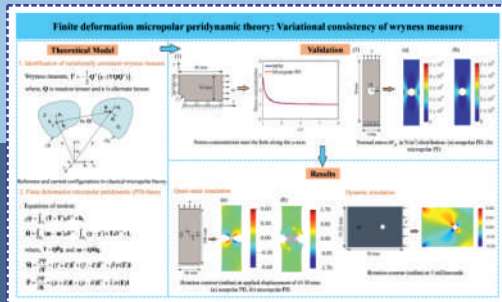
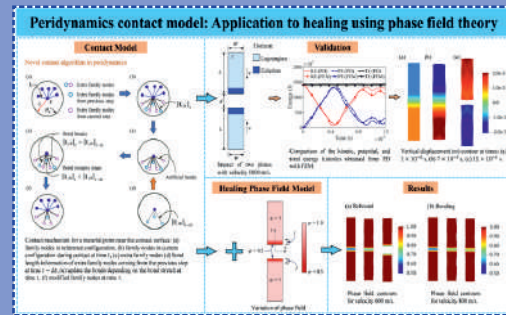
PUBLICATIONS

JOURNAL



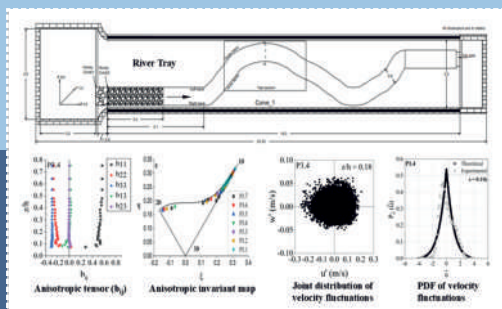
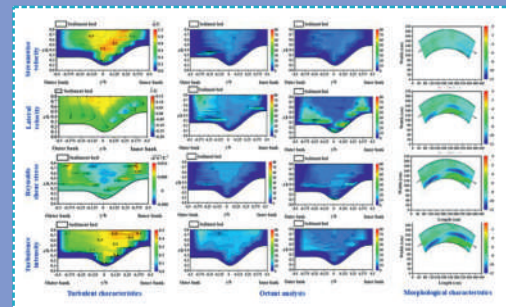
Mahadeshwar, V., Sajal, Roy, P. (2024)
 “Finite deformation peridynamics shell theory: Application to mechanical metasurfaces”, Thin-Walled Structures, Elsevier, 205, Part B, 112401.
<https://doi.org/10.1016/j.tws.2024.112401>

Kumar, A., Sajal, Roy, P. (2024),
 “Peridynamics contact model: Application to healing using phase field theory”, International Journal of Mechanical Sciences, Elsevier, 280, 109553.
<https://doi.org/10.1016/j.ijmecsci.2024.109553>



Sajal, Roy, P. (2024),
 “Finite deformation micropolar peridynamic theory: Variational consistency of wryness measure”, International Journal of Mechanical Sciences, Elsevier, 271, 109306.
<https://doi.org/10.1016/j.ijmecsci.2024.109306>

Gurugubelli Y., Timbadiya P.V., and Barman B.
 Flow turbulence and morphological characteristics in an asymmetric alluvial sinuous channel. Ocean Engineering, 312, 119341, 2024.
<https://doi.org/10.1016/j.oceaneng.2024.119341>



Gurugubelli Y., Timbadiya P.V., and Barman B.
 Turbulent flow structures and Reynolds stress anisotropy in an asymmetric sinuous mobile channel. Physics of Fluids, 36 (8), 085173, 2024.
<https://doi.org/10.1063/5.0218915>

PUBLICATIONS

JOURNAL

Pulkit, U., Adhikary, S.D. and V. Kodur (2024) "Influence of fire severity and concrete properties on the thermo-hygral behavior of concrete during fire exposure," Structural Concrete Journal, DOI:

<https://doi.org/10.1002/suco.202400067>

Srivastava, A., Valsala, R. & Jagadevan, S. Biogeochemical modelling to assess the effect of bioclogging on multiple electron acceptor-mediated petroleum hydrocarbon bioremediation in vadose zone. Environ Sci Pollut Res 31, 29902–29915 (2024).

<https://doi.org/10.1007/s11356-024-33232-x>

Roy, G., Valsala, R. Numerical model to assess the effect of hydrogeological characteristics of mine waste piles on capping efficiency in unsaturated conditions. Multiscale and Multidiscip. Model. Exp. and Des. 7, 4475–4486 (2024).

<https://doi.org/10.1007/s41939-024-00488-2>

Sahu, S. K., Kumar, V., Dutta, S. C., Sarkar, R., Bhattacharya, S., & Debnath, P. (2024). Structural safety of offshore wind turbines: Present state of knowledge and future challenges. Ocean Engineering, 309, 118383.

<https://doi.org/10.1016/j.oceaneng.2024.118383>

Ansari, M. G., Dutta, S. C., Dwivedi, A. S., & Jha, I. (2024). Impact of incidence angle of seismic excitation on vertically irregular structures. Earthquakes and Structures, 27(3), 227.

<https://doi.org/10.12989/eas.2024.27.3.227>

Banik, N., & Sarkar, R. (2024). Effects of bacterial strains on undrained cyclic behavior of bio-cemented sand considering wetting and drying cycles. Journal of Rock Mechanics and Geotechnical Engineering.

<https://doi.org/10.1016/j.jrmge.2024.05.035>

Mahmoudi, P., Maity, R., Amir Jahanshahi, S. M., & Chanda, K. (2024). Changing Pattern of Drought Proneness Across Iran. Iranian Journal of Science and Technology, Transactions of Civil Engineering, 1-21.

<https://doi.org/10.1007/s40996-024-01579-3>

Kumar, S., Das, P., Mandal, N., Chanda, K., & Pasupuleti, S. (2024). Joint probabilistic behaviour of climate extremes over the Godavari River basin, India. International Journal of Climatology, 44(9), 2876-2896.

<https://doi.org/10.1002/joc.8486>

PUBLICATIONS

CONFERENCE PROCEEDINGS

Srivastava, A., Valsala, R., and Jagadevan, S.: Hydrogeobiochemical Modelling for Bioremediation of Mono-Aromatic Hydrocarbons Using Nitrate-Sulfate-Reducing Assemblages in Aquifers, EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-4243, <https://doi.org/10.5194/egusphere-egu24-4243>, 2024.

Srivastava, A., Valsala, R. and Jagadevan, S., 2024, June. Nitrate Mediated Biostimulation of Petroleum-based NAPLs in Subsurface Environment with Dynamic pH Scenarios: A Hydrogeochemical Modelling Approach. 21st Annual Meeting of the Asia Oceania Geosciences Society held at Pyeongchang-gun, Gangwon-do during the period 23 Jun to 28 Jun, 2024.

Sudarshan L. N. & Chaudhary S., (2024) “Analyzing the Effects of Meteorological Drought on Vegetation Cover across India”, National Conference on Emerging Trend in Earth Sciences (ETES), Dhanbad, 27-29 September.

Sajal, & Roy, P, "Peridynamics Simulation of Wave Isolation in Metamaterials", 9th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2024), 3rd - 7th June 2024, Lisbon, Portugal (ID: 356).

Kumar, S., Dutta, S. C., & Debnath, P. (2024). Vulnerability of structures designed with seismic provision due to explosion in mines. Proceedings of the Institution of Civil Engineers-Structures and Buildings, 1-1.
<https://doi.org/10.1680/jstbu.23.00038>

Sajal, & Roy, P, "A finite deformation micropolar peridynamic theory and its application to metamaterials", 16th World Congress on Computational Mechanics and 4th Pan American Congress on Computational Mechanics (WCCM 2024 / PANACM 2024), 21-26 July 2024, Vancouver, Canada.
<https://doi.org/10.23967/c.wccm.2024.067>

Jain, D. and Adhikary, S.D. (2024) “Investigation on Effect of Basalt Waste Fines as Replacement of River Sand in One-part Geopolymer Mortar” 10th International Conference on Concrete under Severe Conditions (CONSEC-2024), Chennai, India, September 25-27

Sarangi, P. and Manoj, M. (2024). “Travel Behavior of Children to Non-School Destinations” 17th Urban Mobility India Conference & Expo (UMI-2024), Gandhinagar, India, October 25-27, 2024.

Mandal, N., Das, P., & Chanda, K. (2024). Performance of two-step technique for gap-filling and reconstruction of basin-scale Terrestrial Water Storage Anomalies (TWSA) (No. EGU24-18755). Copernicus Meetings.
<https://doi.org/10.5194/egusphere-egu24-18755>, 2024.

PUBLICATIONS

BOOK CHAPTER

Sahoo, D.R., Bhartiya, R. (2024). Cyclic Stress–Strain Model for Circular Concrete-Filled Steel Tubular Columns. In: Alam, M.S., Hasan, G.M.J., Billah, A.H.M.M., Islam, K. (eds) Proceedings of the 2nd International Conference on Advances in Civil Infrastructure and Construction Materials (CICM 2023), Volume 1. CICM 2023. Lecture Notes in Civil Engineering, vol 511. Springer, Cham.

https://doi.org/10.1007/978-3-031-63276-1_12

Srivastava, A., Valsala, R. and Jagadevan, S., 2024, June. Nitrate Mediated Biostimulation of Petroleum-based NAPLs in Subsurface Environment with Dynamic pH Scenarios: A Hydrogeochemical Modelling Approach. 21st Annual Meeting of the Asia Oceania Geosciences Society held at Pyeongchang-gun, Gangwon-do during the period 23 Jun to 28 Jun, 2024.

R&D AND CONSULTANCY PROJECTS

| Sl. No. | PI/Co-PI | Project Title | Project Value (Lakhs) | Funding Agency |
|---------|---|--|-----------------------|--|
| 1. | Prof. Srinivas Pasupuleti -PI, Prof. Renu V., Prof. K.Chanda, Prof. A. Sinha and Prof. S.K. Gupta | Study to verify Mine wise availability and Potential of Mine Water for Community use in BCCL | Rs. 79.95 | M/s BCCL |
| 2. | Prof. Sekhar Chandra Dutta | Proof checking of minor and major bridges in connection with construction of Rly. Sliding of DVC to serve RTPS at Raghunathpur by Rites Ltd., Ministry of Railway | Rs. 4.6 | M/s RITES Ltd. |
| 3. | Prof. Srinivas Pasupuleti -CI Prof. V. N. Khatri-Co-CI | Comprehensive Hydrological Study to assess the impact of Nalas and Damodar River on Kalyaneswari Tasra Mining Pvt. Ltd. (KT MPL) Mining area, Tasra, Sindri” | Rs 177.0 | M/s Kalyaneswari Tasra Mining Pvt. Ltd. (KT MPL) |
| 4. | CI: Prof. Prof. Sarat K. Das, CE Co -CI: Prof. Sanket Nayak, CE Member: Prof. P. K. Nayak, EE | Technical Vetting of Detailed Project Report (DPR) including all the Design, Drawings for Construction of 06 Nos. New Water Treatment Plant (WTPS), 01 No. New Sewage Treatment Plant (STPS) and 4 Nos. Existing STP/DETSP in different areas of | Rs. 11.6 | M/s CCL. Ltd., Ranchi |

R&D AND CONSULTANCY PROJECTS

| | | | | |
|-----|---|--|-----------|--|
| | | Central Coalfields Limited (CCL), Ranchi prepared by Mecon Ltd. Ranchi by Engaging IIT(ISM) Dhanbad | | |
| 5. | CI: Prof. Rahul Bhartiya, CE Co-CI: Prof. Tanish Dey, CE | Proof checking for design and drawings of Phase-1 of Medical College at Bihar | Rs. 4.72 | M/s Inmitable Consultants Pvt. Ltd., New Delhi |
| 6. | CI: Prof. Rajib Sarkar, CE Co-CI: Prof. Sukanta Chakraborty, CE | Re-verification of the Geotechnical Investigation Report and Recommendation for Broad Type of Foundations for 375 MLD Sewage Treatment Plant at Vasna, Ahmedabad | Rs. 1.18 | M/s Khilari Infrastructure Pvt. Ltd., Navi Mumbai |
| 7. | CI: Prof. Satadru Das Adhikary, CE Co-CI: Prof. V. N. Khatri, CE | Evaluation of Raw Materials & Concrete Mix Design for M25 Grade Concreting Work | Rs. 2.36 | M/s SMS India Pvt. Ltd., Gurugram |
| 8. | CI: Prof. Tanish Dey, CE Co-CI: Prof. Rahul Bhartiya, CE Co-CI: Prof. S. Choudhary, CE Co-CI: Prof. Anirban Ghosal, EE | Proof Checking for Design and Drawings of 17 MLD Sewerage Treatment Plant in Ramgarh Town, Jharkhand | Rs. 5.01 | M/s Enviro Infra Engineers Ltd., Ramgarh |
| 9. | CI: Prof. Rajib Sarkar, CE Co-CI: Prof. Sukanta Chakraborty, CE Co-CI: Prof. Tanish Dey, CE | Proof Checking for Design and Drawings of Grinding Building Structures along with 3 Ball Mill Foundations and Downhill Conveyor of NMDC BP05 Project | Rs. 10.62 | M/s Kalpataru Projects International Limited, Bachel |
| 10. | PI: Prof. Avinash Kr. Singh, Dept. of Civil Engg. Co-PI: Prof. Shushobhit Chaudhary, Dept. of Civil Engg. | Making subgrade layer in flexible pavements water resistant using organosilane based chemical technology | Rs. 17.36 | M/s Zydex Industries Private Limited |
| 11. | PI: Prof. Smruti Sourava Mohapatra, Dept. of Civil Engg. Co-PI: Prof. Sanket Nayak, Dept. of Civil Engg. | Performance assessment of bridge for design and operation rationalisation | Rs. 4.13 | M/s Rajbir Construction Pvt. Ltd |

R&D AND CONSULTANCY PROJECTS

| | | | | |
|-----|--|---|----------|---|
| 12. | CI: Prof. Piyali Sengupta, CE | Proof Checking of Sheet Piling Protection | Rs. 1.18 | M/s PIR Projects and Consultancy Pvt. Ltd., Kolkata |
| 13. | CI: Prof. S. C. Dutta, CE | Proof checking of 23 nos. of minor Bridge in connection with Proposed Railway Sliding for M/s JSW Cement Limited taking-off from Badwasi Railway Station under Jodhpur division | Rs. 4.54 | M/s. JSW Cement Limited, Mumbai |
| 14. | PI: Prof. Smruti Sourava Mohapatra, Dept.of Civil Engg. Co-PI: Prof. Sanket Nayak, Dept. of Civil Engg. | Design rationalization of bridges for structural performance and traffic operation | Rs. 4.72 | M/s Rotrans Infra Projects Private Limited |

OUTREACH ACTIVITIES

LECTURES AND FACULTY INVITED TALK



Prof. Rajib Sarkar, Dept. of Civil Engg. along with Prof. Shibayan Sarkar, Dept. of Mechanical Engg. visited different laboratories of the Faculty of Power and Aeronautical Engineering at Warsaw University of Technology, Poland, from 18th to 20th June 2024. On 19th June, they toured the airport facility of the WTU in LotniskoPrzasnysz. Later, on 20th June, Prof. Rajib Sarkar delivered a lecture on *“Seismic Performance of Monopile Foundations of Offshore Wind Turbines in Indian Context”*.



In this talk, design for suitable monopile foundations for multi-megawatt offshore wind turbines (OWT) for seven Indian coastal regions was presented. Methodology of seismic hazard analysis and evaluation of liquefaction potential were discussed in detail. Next, seismic behaviours of monopile foundations were presented for the expected seismicity of the regions. Further, seismic fragility of OWT for Gujarat coast of India was presented considering 3D finite element modelling.

OUTREACH ACTIVITIES

EXPERT LECTURES



Expert talk on "CFD Modeling of Supercritical Narrow Channel Flows using OpenFOAM" was delivered by Dr. Subhojit Kadia on 12.04.2024 (Friday) in the Conference room of the Department of Civil Engineering. Dr. Kadia is currently working as a Research Assistant in the Chair of Hydraulic Engineering at the Technical University of Munich, Germany. He completed his Ph.D. from the Department of Civil and Environmental Engineering at the Norwegian University of Science and Technology (NTNU), Norway. The expert talk was organized by Dr. Pranesh Roy.

Expert talk on "Constructing Habitats on Open Cast Back Filled Mines" was given by Prof. Sekhar Chandra Dutta at 3rd International Conference on Advances in Concrete, Structural & Geotechnical Engineering (ACSGE -2024) during February 26-28, 2024, organized by Department of Civil Engineering, BITS Pilani – Pilani campus.



Expert talk on "Dynamic Analysis of Offshore Structures" by Prof. A. K. Jain, on 07.09.2024 (Saturday) in the Conference room of the Department of Civil Engineering. Prof. A. K. Jain is a Former Faculty of Dept. of Civil Engineering, IIT Delhi. Professor A.K. Jain obtained B.E. (Civil Engineering) from the then University of Roorkee, now Indian Institute of Technology (IIT) Roorkee and Ph.D. (Structural Engineering) from IIT Delhi. He is a member of the American Society of Civil Engineers (ASCE) and the International Society of Offshore and Polar Engineers, USA. He has undertaken a large number of consultancy projects in the area of Tall Buildings, Earthquake Analysis, Water Tanks, Treatment Plants, Communication Towers, Bridge etc.



OUTREACH ACTIVITIES

EXPERT LECTURES



Expert talk on "Advances in Formwork and Scaffold for RC Construction" by Prof. K. N. Jha, on 07.09.2024 (Saturday) in the Conference room of the Department of Civil Engineering. Prof. K. N. Jha is a Faculty in the Dept. of Civil Engineering, IIT Delhi. His illustrious career began at Larsen and Toubro Ltd as a Graduate Engineer Trainee, where he quickly rose to hold several significant positions. His extensive experience spans various high-profile construction projects, with a specialization in project management and formwork. Prof. K.N. Jha has authored six influential books, which are widely used as textbooks in universities worldwide. In addition to his books, Prof. K.N. Jha has published over 152 papers in renowned international and national journals and frequently presents his research at prestigious international conferences. Both the expert talks by Prof. A K. Jain and Prof. K. N. Jha were organized by Prof. Rahul Bhartiya and Prof. Pranesh Roy.



Expert talk on "Wraparound Reinforcement Technique for Strengthening the Foundation Soil" on April 12, 2024 by Prof. Sanjay Kumar Shukla, Founding Geotechnical and Geoenvironmental Engineering Research Group Leader, Edith Cowan University, Australia - under the aegis of IGS-Dhanbad Chapter.

TECHNICAL WORKSHOP



Department of Civil Engineering, IIT (ISM) Dhanbad organized a 2-day technical workshop on "Electromagnetic Properties of Geomaterials" as part of the Social and scientific responsibility (SSR) of DST (SERB) project titled "Corrosion potential of industrial wastes using inverse dielectric spectroscopy" on 13th and 14th September 2024. The two-day technical workshop on "Electromagnetic Properties of Geomaterials" was designed to provide a comprehensive platform for geotechnical professionals, researchers, and students to explore the integration of advanced electromagnetic measurement techniques into geotechnical engineering. The primary objectives were to enhance participants'

OUTREACH ACTIVITIES

TECHNICAL WORKSHOP

understanding of how electromagnetic properties can be used to characterize geomaterials, including industrial and mining wastes, and to demonstrate the application of these techniques through practical sessions and expert-led discussions. By focusing on both theoretical principles and practical tools, the workshop aimed to open new research avenues in material characterization and geo-environmental engineering, equipping participants with the knowledge to tackle contemporary geotechnical challenges using cutting-edge methodologies.

EXECUTIVE DEVELOPMENT PROGRAM (EDP)

An Executive Development Program (EDP) on "Blast Resilience of Civil Infrastructures: Emerging Global Trends" was organized by the Department of Civil Engineering in Hybrid Mode from 8-12 July 2024 at IIIF Kolkata by coordinator Prof. SatadruDas Adhikary. Numerous esteemed experts namely Prof. Vasant Matsagar and Prof. Tanusree Chakraborty from IIT Delhi, Prof. Guoxing Lu from Swinburne University of Technology, Australia, Dr. Anandavalli N. from SERC, Chennai, Prof. Alex Remennikov from University of Wollongong, Australia, Prof. Masuhiro Beppu from National Defense Academy, Japan, Prof. Manish Kumar from IIT Bombay, Prof. Ganesh Thiagarajan from University of Missouri, USA, Prof. Hrishikesh Sharma from IIT Guwahati, Prof. Sam Rigby from University of Sheffield, UK, Prof. M. D. Goel from VNIT Nagpur, Prof. Ricardo Castedo from Universidad Politecnica de Madrid, Spain, Prof. Rajib Sarkar and Prof. Pranesh Roy from IIT (ISM) Dhanbad, Dr. Aditya Rana from CSIR-CIMFR Dhanbad, Prof. T. P. Tezeswi from NIT Warangal, Prof. Hezi Grisaro from Israel Institute of Technology delivered talks during the EDP. Around 31 participants from various IITs, NITs, BITS-Pilani, BIT Mesra and L&T Constructions, attended the EDP course.



OUTREACH ACTIVITIES

SUMMER SCHOOL

DST-NGP, Govt. of India sponsored program Three Weeks Summer School in Geospatial Science and Technology (Level-2) –“Geospatial Solutions for the Sustainable Development Goals” for Rs. 11 Lakhs was organised during 14-06-2024 to 04-07-2024 at IIT(ISM), Dhanbad -- Prof. Srinivas Pasupuleti as Coordinator and Prof. S.R.



NPTEL COURSE

Title: Bridge Engineering by Prof. Piyali Sengupta
https://onlinecourses.nptel.ac.in/noc23_ce81/prview



PHD THESIS SUBMITTED/ AWARDED

| Awardee | Supervisor | Thesis Title |
|--------------------|----------------------------|---|
| Mr. Umang Pulkit | Prof. Satadru Das Adhikary | ‘Development of GUI-based Computer Program for Thermo - Hygro - Mechanical Behavior Assessment of Concrete Structures under Fire’ |
| Dr. Pranoy Debnath | Prof. Sekhar Chandra Dutta | ‘Seismic vulnerability assessment and possible remedies of unreinforced masonry buildings’ |

ACHIEVEMENTS

Ms Akanksha Srivastava, a full time scholar received DST-SERB ITS Travel Grant by the Department of Science and Technology (DST) for participating in “21st Annual Meeting of the Asia Oceania Geosciences Society (AOGS), South Korea 2024”.

Mr. Sajal, a full time research scholar received DST-SERB ITS Travel Grant by the Department of Science and Technology (DST) for participating in “16th World Congress on Computational Mechanics and 4th Pan American Congress on Computational Mechanics (WCCM 2024 / PANACM

ACHIEVEMENTS

2024), 21-26 July 2024, Vancouver, Canada”.

Prof. Satadru Das Adhikary received Certificate of Excellence in Reviewing of Defence Science Journal, DRDO in May 2024

MOU SIGNED



Department of Civil Engineering, IIT(ISM) Dhanbad and M/s. Teree Armee, Reinforced Earth India Pvt Ltd, had an MoU signed on 6th May in the office of Dean R&D. This MoU will help mutually for collaborative research work related to real site problems, research internship of our students. Col. Soumendra Banerjee (Retd), the Vice President of M/S. Teree Armee, was present during the MoU. Prof. Sowmiya Chawla, Department of Civil Engineering, is the Faculty Coordinator from IIT (ISM) Dhanbad of this MoU.

INTERNSHIP

| Sl. No. | Student Name | Organization with logo | Project Details | Period |
|---------|-------------------------|--|--|-----------------------------------|
| 1. | Suman Jha (23IM0011) | Midas Research and Development Centre India Pvt. Ltd.  | Numerical Modelling of MSW Landfill under various loading conditions | 6 months (From September 2024) |

INTERNATIONAL COLLABORATION



As part of a collaboration between IIT (ISM) Dhanbad (Principal Investigator: Prof. Leeza Malik) and International Transport Forum France, the first comprehensive "Life-cycle Assessment Tool for India (v2.0 BETA)" was developed. This tool enables an India-specific analysis of emissions in urban passenger and freight transport through a life-cycle perspective. Created by Prof. Leeza Malik and PhD student Subrajeet Sengupta, the LCA tool provides insights into how policy choices impact greenhouse gas emissions across vehicle and infrastructure development and use stages. A hands-on training session for the tool was conducted with participants from organizations including the World Bank, NITI Aayog, GIZ India, and the Wuppertal Institute for Climate, Environment and Energy, Germany. The tool is accessible at [ITF-OECD](#), and media coverage is available [here](#).

OUR ACTIVITIES

FIELD VISIT



DIRECTOR VISIT

Director and Deputy Director of the institute has visited the Department of Civil Engineering on 30th September 2024(Monday) from 11:30 AM. Prof. Srinivas, HOD(CE) along with Faculty In-Charges of various laboratories have shown different laboratories and facilities of the department to the Director and Deputy Director. After the visit of department laboratories, the interaction session was held in the Conference room of Dept. of Civil Engineering.



OUR ACTIVITIES

TEACHER'S DAY CELEBRATION

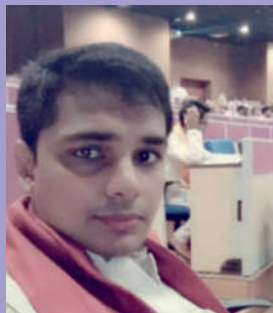


DETAILS OF NEW FACULTY JOINED



Prof. Ankti Srivastava joined as an Assistant Professor in the department of Civil Engineering. He received his B.Tech. degree in Civil Engineering from the NIT Srinagar Jammu and Kashmir, India, 190006 and Ph.D degree in Geotechnical Engineering IIT Guwahati Assam, India, 781039. Before joining IIT(ISM) Dhanbad, he was the Project Engineer – Tailings, iCRC Global Specialist Mining Team WSP India Private Limited October 2023 – September 2024 Noida, UP, India.

DETAILS OF NEW PDF JOINED



Dr. Ishan Jha joined the department as a Post Doctoral Fellow and is currently working with Prof. S. C. Dutta. His academic journey includes M.Tech from the National Institute of Technology, Patna, and Ph.D. from the Indian Institute of Technology (BHU), Varanasi. Currently, his work is focused on innovating concrete-filled steel tubular (CFST) column designs, aimed at enhancing both construction efficiency and structural resilience.



Dr. Ande Bhuvaneshwari Devi has joined the department as an Institute-Post Doctoral Fellow recently. She completed her PhD in the field of Water Resource Engineering from IIT Guwahati and MTech from NIT Warangal. Currently, she is working on the topic of groundwater quality and data analytics with Prof. Srinivas Pasupuleti.

MESSAGE FROM ALUMNI



Dr. Ashes Banerjee

Post-Doctoral fellow,
IIT Guwahati and
Assistant Professor,
Dept. of Civil Engg.,
Swami Vivekananda
University, Kolkata

I earned my Ph.D. from the Department of Civil Engineering at IIT (ISM) Dhanbad, under the guidance of Prof. Srinivas Pasupuleti. My research focused on understanding the hydraulic characteristics of flow through porous media, leading to the publication of five research papers and presentations at two academic conferences.

The support from the Civil Engineering Department was pivotal throughout my journey. The expertise of my mentor and other faculty members, round-the-clock access to laboratory facilities, and the freedom to ideate, plan, and execute my research were instrumental in the success of my project. The collaborative work environment at IIT (ISM), nurtured by my supervisor, played a key role in fostering creativity and innovation.

Even after the completion of my degree, the department has continued to support me by providing access to laboratory and computational facilities as needed, enabling me to extend my research further. My time at IIT (ISM) greatly enhanced my technical skills and provided a collaborative academic environment that shaped my professional growth. I am deeply grateful to Prof. Srinivas Pasupuleti for his consistent guidance, which was instrumental in shaping the direction and outcomes of my research.

ALUMNI BITES : Captain Manu Garg, B.Tech., Civil Engineering, 2018 Batch



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

I passed out from college in 2018. I think, we as students of civil engineering have a neck of govt jobs from the beginning- be it IES or IAS. Most of us are generally preparing for Gate by the time we are in final year.

Following Skills and knowledge helped me become an army officer

- Relevant tools (CAD design, simulation software, GIS mapping, programming languages),
- Soft skills (leadership, communication, problem-solving).
- Communication, navigation, (logistics) and electives (robotics, aerospace, computer
- Certifications in sports, jnterit competitions and active participation in SAC
- Recommended software proficiency - AutoCAD, MATLAB, ArcGIS, C++, Java, Python, Excel, and Tableau.



ALUMNI BITES : Captain Manu Garg, B.Tech., Civil Engineering, 2018 Batch

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

To become an army officer, I advise make full use of college time. Try to focus on developing physical fitness, academic excellence, and leadership skills from an early age. Maintain a strong foundation of self-discipline and training programs for mental toughness and resilience.

Army doesn't discriminate on the basis of religion, ethnicity, caste, creed and gender. Remember there are no men and women in army, there are only officers in army. Prioritize integrity, discipline, and professionalism, and stay adaptable and flexible in dynamic environments.

As an army officer, demonstrate courage, loyalty, and commitment, and foster strong communication and teamwork skills. Develop emotional intelligence and empathy, and prioritize self-discipline and accountability.

Balance personal and professional life, stay informed about global events, and seek opportunities for professional growth. Continuously learn and adapt to make a positive impact as an army officer. It is not a job, it a service to the nation. The noble profession of arms and serve with Honor.

CALENDER 2024

| जनवरी / JANUARY 2024 | | | | | | |
|----------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | |

| फरवरी / FEBRUARY 2024 | | | | | | |
|-----------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | | |

| मार्च / MARCH 2024 | | | | | | |
|--------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| 31 | | | | | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

| अप्रैल / APRIL 2024 | | | | | | |
|---------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | | | | |

| मई / MAY 2024 | | | | | | |
|---------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| | | | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | |

| जून / JUNE 2024 | | | | | | |
|-----------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| 30 | | | | | | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |

| जुलाई / JULY 2024 | | | | | | |
|-------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | |

| अगस्त / AUGUST 2024 | | | | | | |
|---------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 |

| सितम्बर / SEPTEMBER 2024 | | | | | | |
|--------------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | | | | | |

| अक्टूबर / OCTOBER 2024 | | | | | | |
|------------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

| नवम्बर / NOVEMBER 2024 | | | | | | |
|------------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| | | | | 1 | 2 | |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

| दिसम्बर / DECEMBER 2024 | | | | | | |
|-------------------------|---------|----------|---------|----------|-----------|---------|
| रवि/SUN | सोम/MON | मंगल/TUE | बुध/WED | गुरु/THU | शुक्र/FRI | शनि/SAT |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

