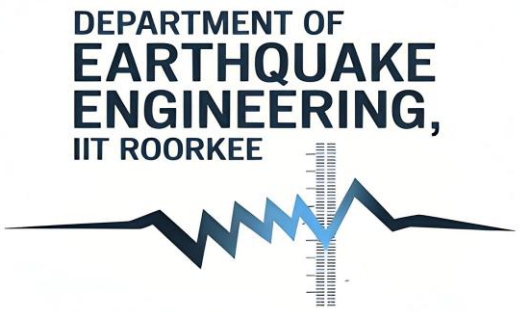
ANNUAL REPORT 2024-25



Department of Earthquake Engineering
Indian Institute of Technology Roorkee
Uttrakhand-247667

ANNUAL REPORT- 2024-25

- **Name of the Department:** EARTHQUAKE ENGINEERING
- **Brief description about the department:** The department of Earthquake Engineering is an interdisciplinary department which was established with the aim of training manpower in the specialized field of Earthquake Engineering to deal with the problems posed by strong earthquakes to engineering infrastructure.

Total no. of faculty/ Adjunct/ Visiting – teaching faculty	16
No. of Post Doc. Fellows	NIL
No. of PMRF	04

- **Kindly provide brief details about new faculty joined: -**

  Academic Activities: - The Department of Earthquake Engineering offers postgraduate M.Tech (admission through GATE/sponsorships) and Ph.D (through selections/ sponsorships) programs in following specializations:

- Soil Dynamics
- Structural Dynamics
- Seismic Vulnerability and Risk Assessment

Programmes Offered	Students on-roll	Degrees Awarded
B. Tech	NIL	NIL
M. Tech	30	29
Ph. D	05	06

- **R & D Activities: - Please provide brief information of research domains.**

Project Status	Total number of Sponsored	Total number of Consultancy
New	04	10
Ongoing	08	10
Completed	01	06

- **Major Facilities: -** Detail of new equipment installed in 2024-25.

1. Development of large-scale uni-axial shake table test facility of size 5.0 m x 7.2m with a payload capacity of about 100 tonnes. This facility will be ideal for performing seismic simulation and vibration tests on full-scale models as well as on assemblies for earthquake and vibration resistance. The shake table will be equipped with a data acquisition system with multiple accelerometers, displacement transducer, strain gauges and other transducers on the table as well as on the model/specimens during the test. The actuator data with instrumented structural data will be useful for numerical simulation and validation/calibration of analytical modelling.
2. Debris flow modeling facility has been developed in the department

3. Offshore foundation testing facility has been developed in the department

- **Student Achievement: -**

Ms. Nadia Mubarak	Nadia Mubarak visited Birmingham University UK as a visiting researcher for 6 months
Ms. Aashima Sharma	PhD Scholar Miss Aashima Sharma and Prof.P.C. Ashwin Kumar were part of the team with Indiawelds that received first prize award at the 2nd CII National Corrosion Management Practices – Competition & Awards. Team was recognized in the category "Addressing Corrosion through Better Material Selection / Alternate Material".

- **Faculty awards & recognition: -**

Dr. M.L. Sharma	1. Best commercialization for Strong Motion Sensor Award, IIT Roorkee, 2024 2. Patent Granted : Patent No 543662: A low cost Earthquake Early Warning Siren for public, 28-06-2024. 3. Patent Granted: Patent No 546838: A low cost Earthquake Early Warning System for Home/office, 31-07-2024.
Dr. P.C. Ashwin Kumar	Prof. P.C. Ashwin Kumar & PhD Scholar Miss Aashima Sharma were part of the team with Indiawelds that received first prize award at the 2nd CII National Corrosion Management Practices – Competition & Awards. Team was also recognized in the category "Addressing Corrosion through Better Material Selection / Alternate Material".
Dr. Pankaj Agrawal	ICI-Ultratech "Outstanding Concrete Technologist of the Year Award, 2024"
Dr. Ritesh Kumar	1. Awarded Humboldt EVR Fellowship at KIT Germany 2. Patent Granted: System and Method for Data Assimilated Geophysical Site
Dr. R.S. Jakka	1. Patent Granted: Jakka, R.S. and Bashir, K. "Bioinspired Skirted Footing and its Method of Installation", Patent No. 542117 (Granted in May 2024). 2. Editor to the 'International Journal of Geotechnical Earthquake Engineering' and 'ISET Journal of Earthquake Technology'. 3. Delivered a Theme Lecture at 8th International Conference on Recent Development on Geotechnical Earthquake Engineering, held at Indian Institute of Technology Guwahati, during 11-14 December, 2024.

- **Highlights: -**

Dr. Ritesh Kumar	• Collaborated with KIT Germany • Collaborated with IIT Indore • Collaborated with Nit Rourkela

- **Webinars/ Symposiums/ Workshops/Conferences/Colloquium: -**

NAME OF THE WEBINAR/ SYMPOSIUM / CONFERENCE /COLLOQUIUM	SPEAKERS	DATES
Workshop on Numerical Applications of OPTUM Geotechnical Software	1. Dr. Anindya Pain 2. Dr. Kristian Krabbenhoft 3. Dr. Ritesh Kumar 4. Dr. Akanksha Tyagi 5. Mr. Anubhav Tyagi 6. Mr. Madhu Nayak	January 29th, 2025
IGS Webinar Series on Challenges and Opportunities in Offshore Geotechnics in India.	Prof. Sumanta Haldar	March 03, 2025
PRIME Lecture Series	Shri Praveen Kumar	December 03, 2024


PRIME Lecture Series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- **<u>Faculty Entrepreneurship details: -</u>**
- Rathore, G., Kumar, A., Jakka, R.S., Sharma, M.L., and Kamal, K. (2024) "A Strong Ground Motion Sensor", Patent No: 496293, Technology transferred to Seismic Hazard and Risk Investigations Pvt Ltd.

- **<u>Publication</u>: - Please provide details in the below table:**

	Book Published	**Book Chapters**	**Paper in conferences**	**Paper in Journal**	**IP (Patent/Copyright, Design/International Patent/ PCT) filed**	**IP (Patent/Copyright, Design/International Patent/ PCT) granted/Registered**
Total		05	43	49	03	04

Please attach list of Publication (Annexures-I) and list of Conference Proceedings (Annexures-II)

ANNEXURE-I

LIST OF PUBLICATIONS

DR. B.K. MAHESHWARI

1. Padmanabhan, G., **Maheshwari, B.K**., Ueda, K. and Uzuoka, R., (2025). Mesoscopic Mechanism behind the Inherent Reliquefaction Resistance subjected to Repeated Earthquakes using Centrifuge Modelling and Advanced Digital Image Processing. **Soil and Foundations,** 65(2), p.101589. https://doi.org/10.1016/j.sandf.2025.101589
2. Das S. and **Maheshwari B.K.** (2025), "Bearing Capacity of Strip Footings on Slopes under Eccentric and Inclined Loads", accepted for publication in **Geotechnical and Geological Engineering,** December 2024.
3. **Maheshwari, B.K.** and Padmanabhan, G., (2025). Liquefaction and Reliquefaction Mitigation of Sand Specimen Treated with Prefabricated Vertical Drains: an Experimental Investigation. **Geotextiles and Geomembranes,** pp.295-310. https://doi.org/10.1016/j.geotexmem.2024.09.018
4. Padmanabhan G., **Maheshwari B.K.** and Muley P. (2025), "A Review on Liquefaction Potential Assessment with a Case Study on Roorkee Region, Uttarakhand", **Indian Geotechnical Journal,** Vol. 55(1), pp. 119-134 https://doi.org/10.1007/s40098-024-00915-8
5. Padmanabhan, G. Ueda K., Uzuoka R. and **Maheshwari B.K.,** (2024). Influence of Foreshock and Aftershock Events on Reliquefaction Potential of Saturated Sand Specimen using Centrifuge Modelling Experiments, **Japanese Geotechnical Society Special Publication** 10 (37), 1401-1406.
6. Suyal T. and **Maheshwari B.K.** (2024). Railway Induced Ground Vibrations in Soft Soil. **Japanese Geotechnical Society Special Publication** 10 (35), 1353-1358.
7. Padmanabhan, G. and **Maheshwari, B.K.,** (2024). Reliquefaction resistance of Solani sand subjected to repeated excitations using shaking table experiments. **Bulletin of Earthquake Engineering,** pp.1-26. https://doi.org/10.1007/s10518-024-01937-6
8. Padmanabhan, G., Ueda, K., **Maheshwari, B.K.** and Uzuoka, R., (2024a). Reliquefaction behavior of sand and response of pile group subjected to repeated shaking sequence using centrifuge model experiments. **Soil Dynamics and Earthquake Engineering,** 182, p.108741. https://doi.org/10.1016/j.soildyn.2024.108741
9. **Maheshwari B.K.** and Firoj M. (2024), "Seismic response of combined piled raft foundation using advanced liquefaction model", **Soil Dynamics and Earthquake Engineering,** Volume 181, 108694, https://doi.org/10.1016/j.soildyn.2024.108694.
10. Das S. and **Maheshwari B.K.** (2024), "Influence of Slope Topography on Soil-Structure Interaction during Earthquakes", **Acta Geotechnica,** https://doi.org/10.1007/s11440-023-02186-8
11. Maheshwari B.K., Singla V.K. and Das S. (2024), "Reconnaissance Report of July 21, 2023 Jaipur Earthquakes", **Current Science,** Vol. 6, No. 5, pp. 603-606.

DR. DAYA SHANKER

1. Ram Krishna Tiwari, Shiva Chaudhary, Harihar Paudyal and **Daya Shanker** (2024). Identifying Seismicity Pattern Before Major Earthquakes in Western Himalayas (28.5°N to 31.0°N-78°E to 82.96°E) and Adjoining Region through Fractal Analysis; Journal of Geodesy, Environmental Earth Sciences (2024) 83:444, https://doi.org/10.1007/s12665-024-11764-2.

DR. J.P NARAYAN

1. **J.P. Narayan**, Vishal and Shailendra Kumar (2025) Quantification of percentage conversion of incident SV-wave energy, spectral bandwidth and dominant frequency of generated Rayleigh wave in terms of depth and rise-time of earthquake, Pure & Applied Geophysics, 1-19, 182, https://doi.org/10.1007/s00024-025-03662-w.
2. Lav Joshi and **J.P. Narayan** (2024) Quantification of site city interaction effects on responses of buildings and basin under earthquake loading, Jr. of Earthquake Engineering, 28:16, 4513-4545, DOI: 10.1080/13632469.2024.2402431.
3. Lav Joshi and **J.P. Narayan** (2024) Pseudo-dynamic simulation of Mw=8.2 Nahan Himalaya seismic gap earthquake and seismic hazard microzonation of NCT Delhi for design of high-rise buildings, Natural Hazards, 120:9551–9584, https://doi.org/10.1007/s11069-024-06577-2

DR. JOSODHIR DAS

1. Gupta, N., **Das, J**., & Kanungo, D. P. (2025). Earthquake-induced landslide hazard assessment using ground motion parameters: A case study for Bhagirathi Valley, Uttarakhand, India. Journal of Earth System Science, 134(1), 1-21.
2. Gupta, N., Kanungo, D. P., & **Das, J**. (2024). Multi-hazard susceptibility mapping of landslides and earthquakes in Bhagirathi Valley region of Uttarakhand Himalaya, India. Journal of Spatial Science, 1-26.
3. Kundu, P., **Das, J**., Pain, A., & Pal, I. (2024). Unveiling earthquake hazard in Noida, India: a combined probabilistic and deterministic seismic hazard assessment. Innovative Infrastructure Solutions, 9(4), 93.(Impact Factor: 2.4, Q2, ESCI, Pub: Springer).
4. Kundu, P., Pain, A., & **Das, J**. (2024). Earthquake-induced liquefaction potential and risk assessment of the world's largest mobile manufacturing plant, Noida, Uttar Pradesh. Environmental Earth Sciences, 83(7), 194.(Impact Factor: 2.8, Q2, SCI, Pub: Springer).
5. Kundu, P., Pain, A., & **Das, J**. (2024). One-dimensional ground response analysis near Yamuna riverbank, Noida, India. Japanese Geotechnical Society Special Publication, 10(58), 2170-2174. (Online ISSN : 2188-8027)
6. Kundu, P., Pain, A., **Das, J**. & Kumar, A. (2024). Study of seismic site effects and development of soil-building resonance map of Noida city, The Industrial hub of India. Indian Geotechnical Journal (Impact Factor: 1.4, Q2, ESCI, Pub: Springer).

DR. MANISH SHRIKHANDE

1. Patankar, D.B., Chatzis, M. and **Shrikhande, M.** Design considerations and optimum design parameters of a friction damper in SDOF systems for seismic response reduction, Journal of Earthquake Engineering, 28(5):1299–1311, 2024. (ID: 2239369 DOI:10.1080/13632469.2023.2239369)
2. **Shrikhande, M.** Sliding mass floor system for seismic response control, Soil Dynamics and Earth-quake Engineering, 181, 108682, 2024.

DR. M.L.SHARMA

1. Tyagi, A., **M. L. Sharma** and J. Das (2024). Impact of External Triggering Factors on Landslide Hazard in Garhwal Himalayas, Indian Geotechnical Journal, 1-17.
2. Lallawmawma, C., J.D. Das, **M. L. Sharma** (2024). Evaluating and comparing seismic hazard parameters for Northeast India: a comprehensive study, Arabian Journal of Geosciences, 17(12), 1-16.

3. Kumar, Deepak, Suresh Gaddale, **M. L. Sharma** and S. C. Gupta (2024). Local Magnitude Scale and 1-D Velocity Model for Central Northern India, Annals of Geophysics, 67(1), SE110. https://doi.org/10.4401/ag-9072.
4. Kumar, Pankaj, Kamal, **M. L. Sharma**, R. S. Jakka and Pratibha (2024). Uttarakhand State Earthquake Early Warning System: A Case Study of the Himalayan Environment. Sensors, 24(11), 3272. doi: 10.3390/s24113272.
5. Rawat, Deepak, **M. L. Sharma**, Divyesh Varade, Roshan Kumar, Debi Prasanna Kanungo, Rayees Ahmed, S. C. Gupta, Hemant Singh and Nishant Saxena (2024). Early Warning Potential of Regional Seismic Network: Seismic Assessment of One of the Precursors of Chamoli 2021 Disaster, Earth Systems and Environment, 8, 85-104. Doi: 10.1007/s41748-023-00364-y.
6. Kumar Pankaj, Kamal, **M. L. Sharma**, R.S. Jakka, Pratibha, a. Kumar, G. C. Joshi and P. Rautela (2024). Successful Alert Issuance with Sufficient Lead Time by Uttarakhand State Earthquake Early Warning System: Case Study of Nepal Earthquakes, Journal of The Geological Society of India, 99(3), 303-310. DOI10.1007/s12594-023-2311-3.

DR. P.C. ASHWIN KUMAR

1. Nambirajan, T. and **Kumar, P. C. A.** (2025), Comparative study on ultra-low-cycle-fatigue behaviour of three Indian structural steel grades, Journal of Constructional Steel Research (Special Edition), 226, 109268. IF:4.0, Q1, Special Edition.
2. Tewatia, D. and **Kumar P. C. A**. (2025), Local and global integrative retrofitting of reinforced concrete frames using in-plane buckling steel braces, Earthquake Engineering Structural Dynamics, 54(1), 5-31. IF:4.3, Q1.
3. Khuptong L., **Kumar P. C. A.**, and Sharma U. K. (2025). Impact of Chloride-Induced Corrosion Pits on the Mechanical Properties of Reinforcement Bars through 3D Scanning and Degradation Analysis, Construction and Building Materials, 470. IF: 7.4, Q1.

DR. PANKAJ AGRAWAL

1. Configuration and scale effect on cyclic performance of integrated plate dampers; Authors: Mohan Bajaj, **Pankaj Agarwal**; Publication date: 2025/1/1; Journal: Journal of Constructional Steel Research; Volume: 224; Pages: 109111; Publisher: Elsevier
2. Cyclic testing and diagonal strut modelling of different types of masonry infills in reinforced concrete frames designed for modern codes; Authors: Zeeshan Manzoor Bhat, Yogendra Singh, **Pankaj Agarwal**; Publication date: 2024/10/15; Journal: Engineering Structures; Volume: 317; Pages 118695; Publisher: Elsevier.
3. A Comparative Dynamic Evaluation of Energy Dissipating Hysteretic and Conventional Brick Infilled Buildings Considering Bi-Axial Interaction; Authors: Nidhin S Pachappoyil, **Pankaj Agarwal**; Publication date: 2024/7/26; Journal: Journal of Earthquake Engineering; Volume: 28; Issue: 10; Pages: 2909-2923; Publisher: Taylor & Francis

DR. R.S. JAKKA

1. Desai, A., & **Jakka, R.S.** (2024). Uncertainty reduction in MASW inversion and ground response analysis using a-priori Information, Geotechnical Engineering (Proceedings of the ICE), 1-13, doi.org/10.1680/jgeen.24.00007.
2. Mugesh, A., Desai, A., and **Jakka, R. S**., & Kamal. (2024). Site class based seismic magnitude prediction equations for earthquake early warning. Journal of Seismology (Springer), 28, 765–786.
3. Desai, A. Narayan Roy, & **Jakka, R.S**. (2024). Combined effect of a-priori information and varying source offset in minimizing propagation of near-field effects in MASW testing and subsequent site response analysis, Indian Geotechnical Journal, 1-21, doi.org/10.1007/s40098-024-00932-7.

4. Zachariah, J. P., & **Jakka, R. S**. (2025). Cyclic behavior and liquefaction resistance of sand with partial bagasse replacement. Soil Dynamics and Earthquake Engineering (SDEE), 191, 109237. https://doi.org/10.1016/j.soildyn.2025.109237
5. Zachariah, J.P., & **Jakka, R.S**. (2025). Experimental Investigation on Shear Behavior and Mechanical Properties of Fine Sand Reinforced with Sugarcane Bagasse Fibers. International Journal of Geosynthetics and Ground Engineering (IJGGE), 11(2). https://doi.org/10.1007/s40891-024-00607-6
6. Ravi Kiran, N., **Jakka, R. S**., & Singh, Y. (2025). Effective height based interaction surface approach for the seismic design of shallow foundations resting on homogeneous slopes. Soil Dynamics and Earthquake Engineering (SDEE), 188(B), 109063. https://doi.org/10.1016/J.SOILDYN.2024.109063
7. Bashir, K., & **Jakka, R. S.** (2025). Lateral capacity and failure mechanisms of skirted foundation resting on slopes. Acta Geotechnica, 20(1), 89-117.

DR. RITESH KUMAR

1. Physics-based modeling of debris flows and assessing the performance of effective mitigation measures(Mubarak, N., Kumar, P., Kumar, R., Jakka,R.S.) "Geoenvironmental Disasters" (https://doi.org/10.1186/s40677-024-00291-8)
2. Physics-Based Site-Specific Seismic Vulnerability Assessment of Railway Embankment Using Smoothed Particle Hydrodynamics (Mubarak, N., Kumar, R.) "Geotechnical and Geological Engineering" (https://doi.org/10.1007/s10706-024-02869-3)

DR. YOGENDRA SINGH

1. Aman Srivastava, **Yogendra Singh**, and Subhamoy Bhattacharya, (2025) V–H–M Capacity Envelopes for Well Foundations on Slopes under Gravity and Seismic Conditions, ASCE Int. J. Geomech., 2025, 25(5): 04025071 DOI: 10.1061/IJGNAI. GMENG-10548.
2. N. Ravi Kiran, Ravi S. Jakka, **Yogendra Singh**, (2025) Effective height based interaction surface approach for the seismic design of shallow foundations resting on homogeneous slopes, Soil Dynamics and Earthquake Engineering, Volume 188, Part B, 109063, DOI: 10.1016/j.soildyn.2024.109063.
3. Bhat, Z. M., & **Singh, Y**. (2025). Out-of-plane behavior of masonry infills of different types and slenderness ratios under reversed cyclic loading. ASCE J. Struct. Eng., 151(6): 04025056, DOI: 10.1061/JSENDH/STENG-13761.
4. Aman Srivastava, **Yogendra Singh**, Subhamoy Bhattacharya. (2024) V-H-M capacity of well foundations under gravity and seismic loading, Bulletin of Earthquake Engineering, DOI: 10.1007/s10518-024-02083-9.
5. Zeeshan Manzoor Bhat, **Yogendra Singh**. (2024) Cyclic Testing and Diagonal Strut Modelling of Different Types of Masonry Infills in Reinforced Concrete Frames Designed for Modern Codes. Engineering Structures, 317, 118695, DOI: 10.1016/j.engstruct.2024.118695.

ANNEXURE-II

CONFERENCE PROCEEDINGS

DR. B.K. MAHESHWARI

1. Padmanabhan G. and **Maheshwari B.K.** (2024), "Reliquefaction Behavior of Solani Sand subjected to Repeated Shaking Events using Numerical Approach", Proc. of 8th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, IIT Guwahati, Dec. 11-14, 2024.
2. Saraswat S. and **Maheshwari B.K** (2024), "Effect of Lateral Earth Pressure on Forces in Tunnel Lining under Seismic Condition", Proc. of 8th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, IIT Guwahati, Dec. 11-14, 2024.
3. Suyal T. and **Maheshwari B.K** (2024), "Effect of Layering of Soil on the Amplification of Train Induced Vibration", Proc. of 8th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, IIT Guwahati, Dec. 11-14, 2024.
4. Rana R. and **Maheshwari B.K** (2024), "Rainfall and Earthquake Induced Landslides in Himalayan Region: A Review on Mitigation Measures", Proc. of 8th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, IIT Guwahati, Dec. 11-14, 2024.
5. Suyal T. and **Maheshwari B.K.** (2024), "Behavior of Railway Embankment under Seismic Excitations", Proc. of 18th World Conference on Earthquake Engineering, Milan, July 1-5, 2024.
6. Saraswat S. and **Maheshwari B.K** (2024), "Seismic Behaviour of Twin Tunnels in Jointed Rock Mass", Proc. of 18th World Conference on Earthquake Engineering, Milan, July 1-5, 2024.
7. **Maheshwari B.K.** and Gowtham P. (2024), "Performance of Prefabricated Vertical Drains in Mitigating Reliquefaction", Proc. of 18th World Conference on Earthquake Engineering, Milan, July 1-5, 2024.
8. Saraswat S. and **Maheshwari B.K**., "Seismic Behaviour of Tunnels of Different Shapes in Rocks", Proc. of 8th International Conference on Earthquake Geotechnical Engineering, Osaka, May 7-10, 2024.

DR. DAYA SHANKER

1. **Shanker, D**. and Rafih AP, M. (2025). Seismic hazard and loss assessment for Calicut, Kerala (India), 4th General Assembly of the African Seismological Commission, Namibia, Africa Feb 24-28, 2025,
2. **Daya Shanker** and Vladimir Kulikov (2024). Building Trust for a Sustainable Future, Peterburg Dialogues of the "joint meeting of the working group Economy, Ecological Modernization, and Healthcare", Moscow, Russia, October 18, 2024
3. **D. Shanker** and A. Panthi (2024). Statistical Diagnostic of Regional Appraise of Seismicity of Northeast India Himalaya, International Conference on the 70th Anniversary of the Geophysical Center of the Russian Academy of Sciences and the 300th Anniversary of the Russian Academy of Sciences, Data Science, Geoinformatics and Systems Analysis in Earth Science), Suzdal, Moscow, Russia, Sept 25-27, 2024
4. **D.Shanker** and Nazeel Sabah (2024). Estimating tsunami magnitude (Mt) in the Indo Pacific region using machine learning, 18th World Conference on Earthquake Engineering (WCEE), Milan, Italy, June 30 - July 5, 2024.
5. **D.Shanker** and Nazeel Sabah (2024). Estimation of Tsunami Hazard in the Indo-Pacific Region, 18th World Conference on Earthquake Engineering (WCEE), Milan, Italy, June 30 - July 5, 2024.
6. **D.Shanker** and Ashish Bahuguna (2024). The Evolution, Tectonics and Historical Seismicity of the Himalayas with reference to intraplate stress modelling of Indian Plate, 36th HKT

(Himalaya-Karakorum-Tibet) Workshop held at the AGH University of Krakow, Poland, 17–24 June 2024), AGH University of Science and Technology Faculty of Geology, Geophysics and Environmental Protection Department of General Geology and Geotourism.

7. **D.Shanker** and Vladimir Kulikov (2024). World climatic crisis, challenges and sustainability towards urban environment", Russian-Indian Conference Joint meeting of the working groups «Economics» and Environmental Modernization» of the Forum Petersburg Dialogue, June, 14th, 2024, Shimla, India
8. **D. Shanker** and A. Panthi (2024). Present Seismicity Scenario and Earthquake Statistics of Northeast India Himalaya and Vicinity, 34th Conference on Mathematical Geophysics (Mathematical Geophysics for Sustainable Development), June 2 - 7, 2024, Department of Earth Sciences, Indian Institute of Bombay, Mumbai, India
9. **Shanker, D.** and Rafih AP, M. (2024). Seismic Hazard in terms of Peak Ground Acceleration (PGA) for coast of Calicut, State of Kerala (INDIA), EGU General Assembly 2024, Vienna, Austria, 14–19 Apr 2024, EGU24-437, https://doi.org/10.5194/egusphere-egu24-437, 2024

DR. J.P NARAYAN

1. **J. P. Narayan** and R. Bheeshma (2024) Quantification of role of basement focusing effects on dynamic response of standalone buildings, Proc. of 18th World Conference on Earthquake Engineering (18WCEE), Milan, Italy, June 30 -July 5.
2. **J. P. Narayan** and S. V. G. Bobbili (2024) Quantification of role of basin generated love waves in dynamic response of standalone buildings, Proc. of 18th World Conference on Earthquake Engineering (18WCEE), Milan, Italy, June 30 -July 5.
3. Sameer Malik, **J. P. Narayan**, and Vishal (2024) Modeling of Rayleigh wave generation, propagation across water body and engineering implications, Proc. of 18th World Conference on Earthquake Engineering (18WCEE), Milan, Italy, June 30 -July 5.

DR. JOSODHIR DAS

1. **J. Das**, C. Lallawmawma & M. L. Sharma (2024) Seismogenic Zone Dimension Influence for The Probabilistic Seismic Hazard Assessment in The Himalayan Region. 18th World Conference on Earthquake Engineering, Milan, Italy, July 2024.

2. Gupta, N., Kanungo, D. P., & **Das, J**. (2024). "Integrating the combined Impact of Rainfall and Earthquakes on landslide susceptibility in Bhagirathi valley of the Indian Himalaya using Machine learning and GIS". 8th International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics,11-14 December 2024, IIT Guwahati, India (8ICRAGEE).

DR. MANISH SHRIKHANDE

1. Santosh Kumar, **Manish Shrikhande**, and Pallavi Khanna. Seismic instrumentation & data analysis NHPC network for seismic monitoring of Himalayan dams. In Proceedings of the International Conference on Dam Safety, July, 18–19, 2024, Kevadia, Gujarat, India

DR. M.L. SHARMA

1. **Sharma, M. L.** and Deepak Rawat (2024). Seismic Signal Analysis for Landslide: Detection and Classification Check for updates. Natural Geo-disasters and Resiliency: Select Proceedings of CREST 2023, 445,335.
2. **Sharma, M. L.** and Deepak Rawat (2024). Seismic Signal Analysis for Landslide: Detection and Classification, International Conference on Construction Resources for Environmentally Sustainable Technologies, Springer Nature Singapore, pp-335-346. https://doi.org/10.1007/978-981-99-9223-2_29.

DR. P.C. ASHWIN KUMAR

1. Sharma A, Painuly A, Nambirajan T, Ghosh D, Kumar P.C.A.(June 2024). Effect of Accelerated Corrosion on Mechanical Properties of 409M Stainless Steel. International Conference on the Behaviour of Steel Structures in Seismic Areas (STESSA 2024), Salerno, Italy.
2. Balasubramaniam T, Kumar P. C. A, Dar M. A. (2024). Seismic Performance of Hybrid Cold-Formed and Hot-Rolled Steel Modular Shear Wall System. 18th World Conference on Earthquake Engineering (18WCEE2024), Milan, Italy.
3. Balasubramaniam T, Kumar P. C. A, Dar M. A. (2024). Seismic Characteristics of Cold-Formed and Hot-Rolled Steel Hybrid Modular Wall Panels with Opening. 11th International Conference on Behaviour of Steel Structures in Seismic Areas (STESSA 2024), Salerno, Italy.
4. Tewatia, D. and Kumar P. C. A. (2024). "Experimental Testing of RC Frame Retrofitted with Steel Brace using Post-installed Chemical Anchors", In: 18th World Conference on Earthquake Engineering (WCEE2024), Milan, Italy.
5. Murari, K., Kumar, P. C. A., & Shiradhonkar, S. (July, 2024). Seismic Behavior of Exterior RC Column-to-Steel Beam Joints with and without Transverse Beam. In 18thWorld Conference on Earthquake Engineering, (WCEE 2024) Milan, Italy.
6. Kumar, G. S., Murari, K., & Kumar, P. C. A. (July, 2024). Parametric Study on Behavior of Moment Resisting RCS Composite Joints. In International Conference on the Behaviour of Steel Structures in Seismic Areas (pp. 47-59), (STESSA 2024), Salerno, Italy.

DR. R.S. JAKKA

1. **Jakka R. S**., Zachariah J. P., Salgado. R., and Prezzi. M., "Application of Bagasse Fiber in Improving the Liquefaction Resistance of Sand", 18th World Conference on Earthquake Engineering, Milan, Italy, 2024
2. Kuili S., and **Jakka R. S**., "Stability Evaluation of Mechanically Stabilized Earth Walls Under Static and Pseudo-Static Loading", 18th World Conference on Earthquake Engineering, Milan, Italy, 2024.
3. Bashir, K. and **Jakka R. S**., "Bioinspired Skirted Footing", 18th World Conference on Earthquake Engineering, Milan, Italy, 2024.
4. Mugesh, A., **Jakka R. S**., and Kamal, K., "Exploring the Significance of the Soil Strain Index in Magnitude Estimation for Earthquake Early Warning Systems",18th World Conference on Earthquake Engineering, Milan, Italy, 2024.
5. Aswathi, T.S., Kuili, S., and **Jakka R. S**., "Seismic Slope Stability of Hybrid Tailings Dam: A Probabilistic Approach", 18th World Conference on Earthquake Engineering, Milan, Italy, 2024.
6. Kuili, S., & **Jakka, R. S**., "Probabilistic assessment of the seismic stability of gravity retaining wall", Japanese Geotechnical Society Special Publication, 8ICEGE, Osaka, Japan, 10(15), 489-494, 2024.
7. Zachariah, J. P., & **Jakka, R. S**., "Effect of hydrodynamic forces on the seismic SSI of embankment dams", Japanese Geotechnical Society Special Publication, 8ICEGE, Osaka, Japan, 10(33), 1252-1257, 2024.

DR. RITESH KUMAR

1. Effect of the Spatial Variability of Offshore Ground on the Serviceability Limit and Bending Moment Response of the Monopile Foundation (R. Sujawat and **R. Kumar**), "Proceedings of DFI India 2024, Panaji, Goa, September 2024"
2. Development of a facility to perform 1-g lateral load tests on scaled monopiles in saturated sands (R. Sujawat and **R. Kumar**), "5th European Conference on Physical Modelling in Geotechnics, Deltares and TU Delft, Netherlands, October, 2024"

DR. YOGENDRA SINGH

1. Ravi Shastri, Samit Ray Chaudhuri, and **Yogendra Singh** (2025) Seismic Collapse Risk of Stone Masonry Buildings in the Indian Himalayas, The 1st International Conference on Net-Zero Built Environment, January 2025, Oslo, Norway, DOI: 10.1007/978-3-031-69626-8_117
2. Chalavadi Sai Srujan Kumar, **Yogendra Singh**, Mahendra Singh (2025) Seismic Behaviour of Tunnels in the Indian Himalayas, 13th Asian Rock Mechanics Symposium "Advances in Rock Mechanics - Infrastructure Development" January 2025, Delhi, India.
3. A. Srivastava and **Y. Singh** (2024) Effect of seismic loading on V-H-M capacity of well foundation, 8th International Conference on Earthquake Geotechnical Engineering, Japanese Geotechnical Society Special Publication, Volume 10 Issue 54 Pages 2025-2029. https://doi.org/10.3208/jgssp.v10.OS-43-03.