

CENTRE FOR DISASTER MITIGATION AND MANAGEMENT (CDMM) VELLORE INSTITUTE OF TECHNOLOGY (VIT), VELLORE



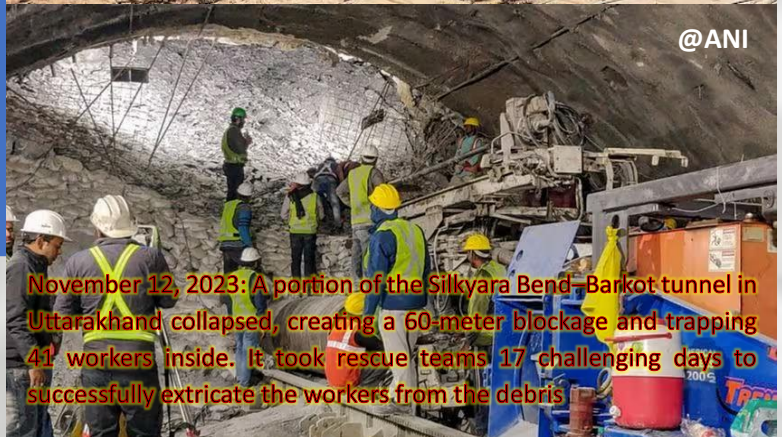
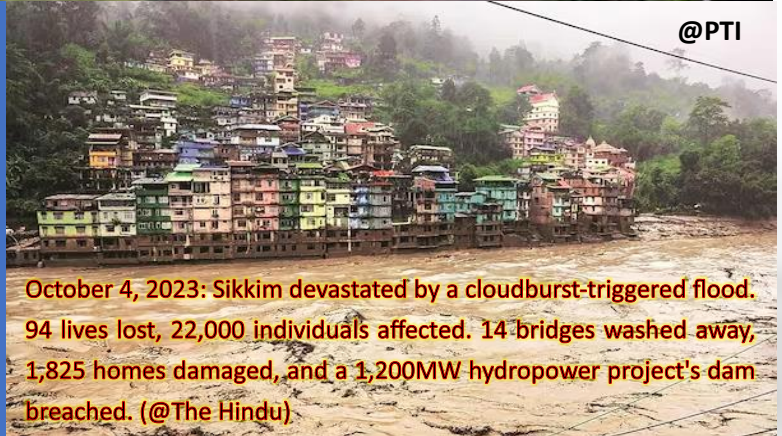
Newsletter No :2

July – December 2023



Director's Message:

Centre for Disaster Mitigation and Management (CDMM) is functioning with a vision to create a disaster risk free India, through the confluence of the cultures of preparedness, quick response, strategic thinking, and prevention. CDMM is carrying out its activities in line with the Prime Minister's ten point agenda for disaster risk reduction. The thrust areas of the centre are landslides, earthquakes, floods, cyclones and climate change. Research, consultancy, capacity building and support to government in dealing with the natural disasters are primary activities of the centre. I am happy to share the latest newsletter of CDMM, highlighting our dedicated efforts towards a resilient and safer nation.



Dr. S. S. Chandrasekaran
Professor & Director
CDMM

Vision:

To create disaster risks free India, through the confluence of the cultures of Preparedness, Quick response, Strategic thinking, and Prevention.

Mission:

Destination- Disaster Risk-Free India

Events Organized

Handling Fire Emergencies

Professor G. P. Ganapathy organized a hands-on exercise titled "Handling Fire Emergencies" on November 7, 2023, outside the CDMM building. A total of 112 participants attended, comprising 98 students and 14 others. During the event, Professor G. P. Ganapathy provided a demonstration to all attendees, offering hands-on training on the proper usage of fire extinguishers and fire hydrants in the event of a fire emergency



Workshop on "Earthquake Resistant Design of Reinforced Concrete Structures"

A workshop titled "Earthquake Resistant Design of Reinforced Concrete Structures" was held at CDMM in collaboration with the Indian Society of Earthquake Technology (ISET), Vellore Chapter. Organized by Dr. P Rama Mohan Rao and Dr. S. Prasanth on October 13, 2023, the event attracted 84 participants, including 30 engineers and builders, as well as 41 research scholars. Renowned speakers such as Dr. Rupen Goswami from IIT Madras and Dr. S. S. Chandrasekaran delivered insightful lectures.



Adjunct Faculty

- **Dr. Komali Kantamaneni** from the University of Central Lancashire, United Kingdom, graced CDMM, VIT with her presence from 30 July 2023 to 31 August 2023.



- Engaged in insightful discussions with Research Scholars, exchanging ideas and expertise.
- Enriched the academic experience of B.Tech students by delivering fascinating lectures on "Natural Disaster Mitigation and Management" course.
- Facilitated a hands-on workshop titled "Novel Designs for Disaster-Proof Homes," providing engineering students with practical insights on 29 August 2023.



Consultancy Project



Integrity of Concrete using Non-Destructive Techniques - Ultrasonic Pulse Velocity and Rebound Hammer Tests in Raft Footing

Investigator: Dr P. Rama Mohan Rao

Co-Investigator: Dr S. Prasanth



Evaluation of Concrete Beams using Non-Destructive Techniques for PRP Phase -II C Block

Investigator: Dr P. Rama Mohan Rao

Co-Investigator: Dr S. Prasanth



Guest Lectures Organized

1. On 21 November 2023, **Surendar M** organized a guest lecture on “Enhancing Post-Disaster Mitigation Planning with Technology” by the resource person **Mr. Murugesh Prabhu**, C-DAC, Pune.
2. On 08 November 2023, **Prasanth S** and **Priyadharshini** on “Spatial Data Analytics for Disaster Risk Mitigation and Management” by the resource person **Mr. Raj Bhagat Palanichamy**, Senior Manager - GeoAnalytics at WRI India, Bengaluru.



3. On 07 August 2023, **Ganapathy G.P.** and Suganya OM organized a guest lecture entitled "International Guest Lecture On Disaster Preparedness And Mitigation Planning," by the resource **Dr. Komali Kantamaneni**, University of Central Lancashire, United Kingdom.



4. On 14 July 2023, **Arunava Ray** and **Rama Mohan Rao P** organized a guest lecture on “Disaster Management System in India and Associated Various Challenges” by the resource person **Mr. ANIL KATHAIT**, Senior Technical Officer- Emergency Management, VHS-CDC, New Delhi.





FDP Attended

1. **Arunava Ray** attended the FDP on “**Artificial Intelligence for Environmental and Water Resources Engineering**” held at Vellore Institute of Technology, Vellore from 04 December 2023 to 08 December 2023.
2. **Prasanth S** attended the FDP on “**Artificial Intelligence for Environmental and Water Resources Engineering**” held at Vellore Institute of Technology, Vellore from 04 December 2023 to 08 December 2023.
3. **Ganapathy G.P** attended the FDP on “**Child Protection and Child Rights in Disasters and Emergencies**” organized by the National Institute of Disaster Management (NIDM), New Delhi from 15 August 2023 to 18 August 2023.
4. **Ganapathy G.P** participated in the training programme on “**Let’s Talk Land Episode 5: Addressing land degradation through land use and urban planning**” organized by G20 Global Land Initiative & FIG commission-8 on 14 December 2023.
5. **Ganapathy G.P** participated in the training programme on “**School Safety during Monsoons and Floods**” organized by the National Institute of Disaster Management (NIDM), New Delhi from 03 August 2023 to 03 August 2023.
6. **Surendar M** participated in the training programme on “**SAR Data Processing for Land Deformation Studies Course**” organized by ISRO- Indian Institute of Remote Sensing, Dehradun from 31 July 2023 to 11 August 2023.
7. **Surendar M** participated in the training programme on “**Disaster Risk Reduction from Natural Hazards and Climate Change**” organized at Centre for Climate Change and Disaster Management (CCCDM), Anna University in association with the US Consulate Chennai from 18 July 2023 to 19 July 2023.
8. **Prasanth S** attended the workshop on “**How Green Building Rating System Works**” Organized by the National Institute of Disaster Management (NIDM) on 17 November 2023.
9. **Prasanth S** attended the workshop on “**How Post Earthquake Infrastructure Reconstruction Works**” Organized by the National Institute of Disaster Management (NIDM) on 03 November 2023.
10. **Prasanth S** attended the workshop on “**How Glacial Lake Outburst Flood and Landslide Lake Outburst Flood Surveillance System Works**” Organized by the National Institute of Disaster Management (NIDM) on 20 October 2023.
11. **Priyadharshini B** attended the workshop on “**A two days workshop on hands-on training in advanced R programming**” held at Vellore Institute of Technology, Vellore on 21 August 2023 and 22 August 2023.
12. **Priyadharshini B** attended the workshop on “**The Analytical Steps and Approaches in Environmental Epidemiology**” organized by “International Society for Environmental Epidemiology (ISEE)” from 25 July 2023 to 26 July 2023. (Online)



Faculty Outreach

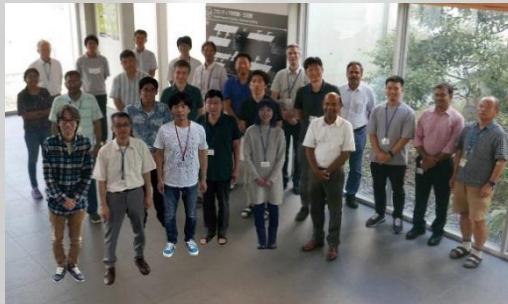
1. **Ganapathy G.P** delivered a lecture on the “Rainfall Threshold Based Early Warning System for Landslides – A Case Study from The Nilgiris District, Western Ghats of India” at **Asian Institute of Technology, Thailand, Bangkok, Thailand** on 07 December 2023.
2. **Ganapathy G.P** co-chaired the session “3rd International Symposium on Disaster Resilience and Sustainable Development 2023” at the **Asian Institute of Technology, Thailand, Bangkok, Thailand** on 07 December 2023.
3. **Rama Mohan Rao P** co-chaired, two sessions in “13th Structural Engineering Convention (SEC-2023)” at **VNIT-Nagpur** during 07 December 2023 and 09 December 2023.
4. **Ganapathy G.P** delivered a lecture on the “Geospatial Applications for Earthquake Risk Reduction” at **UGC-Human Resource Development Centre, Bharathidasan University, Trichy, India** on 25 November 2023.
5. **Ganapathy G.P** delivered a lecture on the “Geospatial Applications in Disaster Mitigation for Urban Planners” at **Dr. M.G.R Educational and Research Institute, Chennai, Chennai, Tamil Nadu, India** on 24 November 2023.
6. **Surendar M** delivered a lecture on the “Advancements in Remote Sensing Techniques for Monitoring the Himalayan Cryosphere” at **UGC-Human Resource Development Centre, Bharathidasan University, Trichy, India** on 23 November 2023.
7. **Priyadharshini B** delivered a lecture on the “Applicability of statistics for air quality” at **Chaitanya Bharathi Institute of Technology, Hyderabad, India** on 17 November 2023.
8. **Rama Mohan Rao P** delivered a lecture on the “Condition Assessment of Concrete Structures by NDT methods” at **Geetanjali Institute of Science and Technology, Nellore, India** on 09 November 2023.
9. **Ganapathy G.P** on the “Use of Open-source Geospatial Data for Integrated Flood Hazard Management in Urban Areas - A Case Study Chennai City, India” organized by **Ecosystems Research and Development Bureau - Department of Environment and Natural Resources (ERDB-DENR) of the Philippines, Manila, Philippines** on 24 October 2023.
10. **Ganapathy G.P** delivered a lecture on the “Technological Response” organized by **Misamis University, Philippines, VIT, Vellore and KIT, Orissa and Kaesestat University, Thailand, Ozamiz, Philippines** on 12 October 2023.
11. **Ganapathy G.P** on the “Disaster Risk Management in India and Case Studies” at **Sona College of Technology, Salem, Tamil Nadu, India** on 11 October 2023.
12. **Kuvar Satya Singh** delivered a lecture on the “Investigation of the performance of WRF modelling system in a forecast of tropical cyclones over the North Indian Ocean using moving nested domain” at **Japan Agency for Marine-Earth Science and Technology, Yokohama, Japan** on 05 October 2023.
13. **Ganapathy G.P** delivered a lecture on the “Disaster Risk Reduction Strategies” at **Sathyabama Institute of Technology, Chennai, Tamil Nadu, India** on 01 October 2023.
14. **Ganapathy G.P** delivered a lecture on the “Break Out Session on Technological Response” organized by **Misamis University, Philippines, VIT, Vellore and KIT, Orissa and Kasetsart University, Thailand, Misamis, Philippines** on 12 September 2023.
15. **Ganapathy G.P** delivered a lecture on the “Disaster Mitigation and Handling of Situations” organized by **Tamil Nadu Generation and Distribution Corporation Ltd (TANGEDCO), Vellore Training Centre, Vellore, India** on 04 September 2023.

Conferences Attended

1. **Chandrasekaran S. S.** attended the conference on “**Indian Geotechnical Conference**” organized at IIT-Roorkee by the Indian Geotechnical Society Roorkee chapter in association with the Department of Civil Engineering, IIT-Roorkee and CSIR- Central Building Research Institute from 14 December 2023 to 16 December 2023.
2. **Ganapathy G.P** attended the conference “**3rd International Symposium on Disaster Resilience and Sustainable Development**” at the **Asian Institute of Technology, Thailand, Bangkok, Thailand** from 07 December 2023 to 08 December 2023.
3. **Rama Mohan Rao P** attended the conference on “**Structural Engineering Convention-2023**” at VNIT Nagpur from 07 December 2023 to 09 December 2023.
4. **Ganapathy G.P** attended the conference on “**Congress on Sustainable and Climate Resilient Watershed Management through Eco-System Based Approaches in Asia Pacific Regions**” by APAC Watershed Congress-2023 from 23 October 2023 to 27 October 2023.
5. **Ganapathy G.P** attended the conference on “**International Conference on Biodiversity and Climate Change (ICONBACC 2023)**” from 12 October to 13 October 2023.

Faculty Awards and Honours

1. **Kuvar Satya Singh** got “**SERB International Research Experience fellowship**” on 14 September 2023 from “**DST SERB**” for a period of 14 September 2023 to 13 March 2024.



2. **Ganapathy G.P** was honoured by “**Independence Day Award**” by “**District Disaster Management Agency (DDMA), Department of Revenue and Disaster Management, Government of Tamil Nadu**” on 15 August 2023.



3. **Rama Mohan Rao P** Recognition as the “**Secretary ISET Vellore chapter**” by “**Indian Society of Earthquake Technology**” on 27 December 2023.
4. **Rama Mohan Rao P** Recognition as a “**BOS member**” for **Vemu Institute of Technology P, Kothakota, Tirupati** on 18 October 2023.



Academic & Industrial Visits

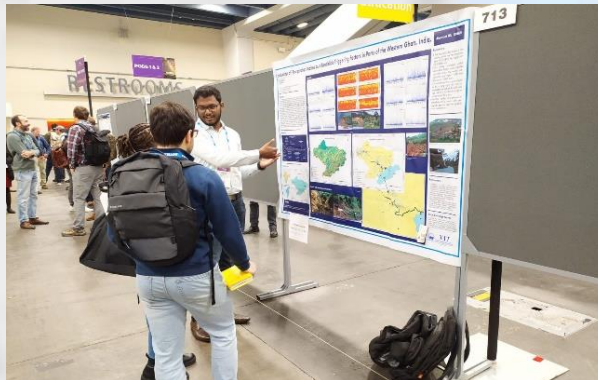
1. **Ganapathy G.P.** visited Kasetsart University, Thailand, Bangkok, Thailand on 07 December 2023.
2. **Ganapathy G.P.** visited the Asian Institute of Technology (AIT), Bangkok, Thailand on 07 December 2023.
3. **Ganapathy G.P.** visited the United Nations Development Program (UNDP), Bangkok, Thailand, Bangkok, Thailand on 08 December 2023.
4. **Prasanth S** visited Caplin Point Laboratories Ltd., Pondicherry, India on 22 November 2023.
5. **Ganapathy G.P.** visited ESEDIOS, Chennai, India on 27 October 2023.
6. **Rama Mohan Rao P** visited BuTLAS Consulting Engineers PVT Ltd, Hyderabad, India on 03 October 2023.

List of Journal Publications

1. **Ray A.**, Verma G., Rai R., Singh T.N., Stability assessment of Himalayan residual soil slopes formed from the weathering of carbonate lithologies using Landslide Hazard Charts, Himalayan Geology, Vol:44, Issue: 2, Pg. No:71-88.
2. Prem Kumar M., Arivazhagan N., Chiranjeevi C., **Raja Sekhar Y.**, Babu N., Manikandan M., Effect of Molten Binary Salt on Inconel 600 and Hastelloy C-276 Superalloys for Thermal Energy Storage Systems: A Corrosion Study, Journal of Materials Engineering and Performance, DOI: 10.1007/s11665-023-08641-7.
3. Ganesh K.M., **Ray A.**, Dagdi D., Rai R., Jaiswal A., Sensitivity Analysis of Excavation Support Systems Using Numerical Modelling, Journal of The Institution of Engineers (India): Series D, DOI: 10.1007/s40033-023-00589-1.
4. **Ray A.**, Rai R., Singh T.N., Numerical Study of the Effect of Water on the Flow Behaviour of Landslide-Generated Debris, Indian Geotechnical Journal, DOI: 10.1007/s40098-023-00781-w.
5. Gupta P.K., Agrawal S., Ghosh G., **S Prasanth.**, Kumar V., Paramasivam P., Seismic behaviour of the curved bridge with friction pendulum system, Journal of Asian Architecture and Building Engineering, DOI: 10.1080/13467581.2023.2292089.
6. Mathangi B., Zaalishvili V.B., **Ganapathy G.P.**, Study of substrata of a slope susceptible to landslide in hilly environment using a geophysical method in the Nilgiris, India, Environmental science and pollution research international, Vol:30, Issue: 59, Pg. No:(123966-123982), DOI: 10.1007/s11356-023-30809-w.
7. Verma H., **Ray A.**, Rai R., Manna B., Singh T.N., Numerical Analysis of a Tunnel Passing through Jointed Rockmass, Journal of the Geological Society of India, Vol:99, Issue: 12, Pg. No:(1683-1694), DOI: 10.1007/s12594-023-2524-5.
8. **Sekhar Y.R.**, Rao V.T., Krishna A.T.S., Gurusree S., Lal H., Performance Simulation of PVT System Using TRNSYS for Varying Mass Flow Rates, IOP Conference Series: Earth and Environmental Science, Vol:1261, Issue: 1, DOI: 10.1088/1755-1315/1261/1/012037.
9. Sundaram S., Devaraj S., Yarrakula K., Mapping and assessing spatial extent of floods from multitemporal synthetic aperture radar images: a case study over Adyar watershed, India, Environmental Science and Pollution Research, DOI: 10.1007/s11356-023-26467-7.

Student Activities

1. **Sabari Nathan C**, Research scholar presented a paper at “**American Geophysical Union (AGU)**” in San Francisco, California, USA from 11 December 2023 to 15 December 2023.



2. **Sabari Nathan C**, Research scholar attended the DST-SERB Sponsored National Workshop on “**Application of Geospatial, Geophysical and Machine Learning Techniques in Landslide Studies**” at Savitribai Phule Pune University, Pune from 24 July 2023 to 30 July 2023.



3. **Anto Ryan Raj P**, Research scholar participated in the “**Capacity Building Program in Glaciology**” at the University of Kashmir from 11 September 2023 to 30 September 2023.



Floods: Do's and Dont's

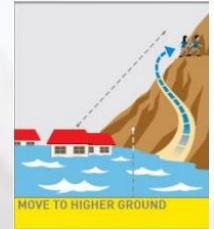
Before & During

- All your family members should know the safe route to the nearest shelter/raised shelters.
- Tune in to your local radio/TV for warnings and advice.
- Have an emergency kit ready with basic medicines and sanitary pads, baby food items, important documents, etc.
- Keep dry food and drinking water and prepare clothes.
- Drink preferably boiled water. Keep your food covered and don't take heavy meals.
- Use sandbags to seal entry points around doors and vents. Also, seal windows if the water is likely to rise that high.
- Be careful of snake bites which are common in post floods.



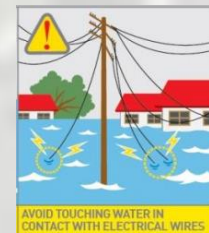
After Flood

- Pack warm clothing, essential medication, valuables, personal papers, etc. in waterproof bags, to be taken with your emergency kit.
- Move to high rise floor, raise furniture, clothing and valuables onto beds, tables etc from getting wet.
- Turn off the main power supply. Do not use electrical appliances, which have been in floodwater.
- Do not get into water of unknown depth and current.
- Do not allow children to play in or near flood waters.



For Road Safety

- Drive in 1st gear and keep reviving the engine to prevent water from entering the exhaust pipe.
- Turn on your headlights so that you can easily be spotted.
- Car electrical systems may shut down, if the car stalls and the engine doesn't restart, leave the vehicle or you may get trapped.
- For cars which have a single button to disengage all locks, open a window or sunroof to escape.
- Keep a hammer close to the driver's seat or use the headrests which have metallic tongs at the bottom to break open any window during an emergency.



Source: NIDM

Editorial Board:

Dr. Rama Mohan Rao P (Professor)

Dr. Surendar M (Associate Professor)

Mr. Bhaskar Bashaveni (Research Scholar)

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VIT
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)



For more details: <https://vit.ac.in/centers/cdmm>