



**VNR VIGNANA JYOTHI INSTITUTE OF ENGINEERING & TECHNOLOGY**  
(An UGC Autonomous Institute, Accredited by NBA, NAAC with 'A' Grade)

**DEPARTMENT OF CIVIL ENGINEERING**

**CENTRE OF EXCELLENCE IN DISASTER MITIGATION (CoEDM)**

**About the Centre:**

Center of Excellence in Disaster Mitigation (*CoEDM*) is proposed to be established in Department of Civil Engineering at VNRVJIET with the aim of conducting Educational Program, Research and Training on Disasters, Disaster Vulnerability and their Mitigation. The centre is a multidisciplinary Research and Education centre. Main aim of the Centre is to undertake the activities of research and development on Understanding, Mitigating Natural disasters like Floods, Cyclones, Earthquakes, Tsunamis, Landslides and Manmade disasters like Chemical hazards, Biological hazard, Fire accidents and related challenges. The Centre aims to achieve excellence in key areas of education and research in the related areas of Disaster Mitigation at par with national and international standards. The centre has faculty with domain expertise in Earthquake, Landslide, Cyclones, Floods, Tsunamis and related issues.

**Objectives of the Centre:**

- The main aim of the Centre is to undertake the activities of Research and development on Understanding, Mitigating disasters like Floods, Cyclones, Earthquakes, Tsunamis, Fire accidents, Landslides, Chemical hazards, Biological hazard, Fire accidents and related challenges.
- To provide platform to share the expertise and disseminate the knowledge of various team members, Research and Government agencies.
- Research and consultancy projects are to be carried out through sponsored funding from Govt. of India and other National and International funding agencies.



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**Thrust Areas:**

- Earthquakes
- Tsunamis
- Floods
- Cyclones
- Land slides
- Fire accidents
- Droughts

Type of Disaster	Key Areas
Earthquakes & Tsunamis	<ul style="list-style-type: none"><li>• Seismic Resistant design of<ul style="list-style-type: none"><li>➤ Buildings</li><li>➤ Liquid retaining structures (Elevated water tanks)</li><li>➤ Pipes carrying fluids(buried and on the ground)</li><li>➤ Stack like structures</li></ul></li><li>• Retrofitting techniques</li></ul>
Floods	<ul style="list-style-type: none"><li>▪ Estimation of Design Discharge for both gauged and ungauged catchments</li><li>▪ Flood Forecasting</li><li>▪ Flood Plain mapping</li></ul>
Land slides	Slope stability Analysis
Environmental Hazards	<ul style="list-style-type: none"><li>▪ Reuse of Polyethylene plastic waste in Concrete</li><li>▪ Green buildings -Sustainable structures</li></ul>



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**Proposed Activities:**

**Activities**

- ▶ Identifying the Thrust Areas
- ▶ Formation of Technical Advisory Board
- ▶ Identification of Institutions for MOUs
- ▶ To conduct National/International workshops/Conferences/Training programs.
- ▶ To prepare project proposals to funding agencies
- ▶ Preparation of Half-yearly News Bulletin
- ▶ To Attract research scholars to work with CoE
- ▶ Plans to generate revenue through Commercial arm and become self sustaining entity.
- ▶ To fill Knowledge gap, offer technological solutions to Industry / Nation / Society, develop high quality human resources and there by become Internationally recognized Centre.

**Technical Advisory Board:**

S.No	Name & Designation of Expert	Organization	Subject area of expertise
1	Dr. K. V. L. Subramanyam Dean, Department of Civil Engineering	IIT, Hyderabad	Structural Engineering
2	Dr. Pradeep Kumar Ramancharla Dean, Earthquake Engineering Research Centre	IIIT, Hyderabad	Earthquake Engineering
3	Dr. N.V.Uma Mahesh Professor, Department of Civil Engineering	NIT, Warangal	Water Resources Engineering
4	Dr. V. Bhanumurthy Group Director, Disaster	NRSC,ISRO Hyderabad	Remote Sensing



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	Management Support Division		
5	Dr. K.Srinivasa Raju Professor, Department of Civil Engineering	BITS, Hyderabad	Drought Monitoring
6	Dr.Satish Shenoi Scientist ,INCOIS	INCOIS, Hyderabad	Tsunamies, Cyclones

**VNR Vignana Jyothi Institute of Engineering & Technology, Bachupally, Hyderabad**

**(An Autonomous Institute)**

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**Proposed Institutions for MoU**

IIT, Hyderabad

NIT, Warangal

BITS, Hyderabad

JNTUH, Hyderabad

OSMANIA UNIVERSITY, Hyderabad

INCOISE, Hyderabad

**Internal Core Committee:**

Dr.Ch.Naveen kumar (Coordinator)

Associate Professor, Department of Civil Engineering



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VNRVJIET, Hyderabad

Dr.A.Mallika

Associate Professor, Department of Civil Engineering

VNRVJIET, Hyderabad

Dr.A.Ramesh

Professor, Department of Civil Engineering

VNRVJIET, Hyderabad

Dr.P.N.Singh

Professor, Department of Civil Engineering

VNRVJIET, Hyderabad

Dr.Ch.Nageswara Rao

Professor, Department of Civil Engineering

VNRVJIET, Hyderabad




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**CENTRE OF EXCELLENCE IN DISASTER MITIGATION (CoEDM)**

**1-Day workshop on “Disaster Preparedness, Management and Risk Reduction”(DPMR) (09-12-2013)**

S. No	Theme of the work shop	Date and Duration	Target Group	Experts invited -topic
1	<p>National Workshop on “Disaster Preparedness, Management and Risk reduction” (DPMR)</p> 	<p>09.12.2013  (1 Day)</p>	<p>Participants from Industry , Academia and students</p>	<p>1.V Bhanumurthy, Group Director Disaster Management wing,NRSC,ISRO, Hyderabad Role of Technology in Disaster Management</p> <p>2.Ch. Patanjali Kumar Scientist, Indian Tsunami Early Warning Centre INCOIS, Hyderabad Indian Tsunami Early Warning System</p> <p>3. A.A.F.Vijay Kumar District Fire Officer A.P.Fire Services &amp; Civil Defense Training Institute, Hyderabad Fire Safety</p> <p>4.Dr.R.Pradeepkumar Professor,Earthquake Engineering,IIIT,Hyderabad Indian Seismic code</p>



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**National Conference on**

**“Disaster Preparedness, Mitigation and Reconstruction of Sustainable Society” (DPMRSS)**

**11-12, Feb' 2016**



**THEME OF THE CONFERENCE:**

Disasters are unstoppable natural and anthropogenic impacts which can be mitigated by suitable Engineering and Management options. Every disaster, natural or man-made, results in death and injuries, damages and destructions. The economic and social costs on account of losses caused by natural disasters continue to mount year after year as disasters occur with unfailing regularity encompassing every segment of national life. Mitigation and Management of disasters requires a multidisciplinary approach and building requisite skills and capabilities adequate enough to effectively deal with the whole cycle of disaster management – prevention, mitigation, preparedness, response, relief and rehabilitation. Keeping this in view, Centre of Excellence for Disaster Mitigation in the Department of Civil Engineering of VNR VJIET took a step forward to initiate the process of the need.

The main objective of the Conference is to provide a forum for the discussion of research results, new developments and novel concepts in the fields of Disaster preparedness, Mitigation and reconstruction and thus paving way for the researchers to explore the latest trends. The



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Conference focuses on bringing together the researchers, professionals and scientists from R&D and educational institutions to share their views and recommendations. The Conference encased the following themes

- Earthquake resistant designs
- Flood mapping and flood modelling
- Drought analysis
- Climate change impacts
- Reservoir sedimentation
- Cyclones and Tsunamis
- Coastal hazards and crisis management
- Multi-hazard assessment
- Case studies

### **CONTENTS OF THE CONFERENCE**

The conference received tremendous response from the authors across the country 23 full length technical papers are received including keynote papers. The conference technical sessions started with a gracefull keynote address on “**Slope Stability of SH-71, Mahabaleshwar, India**” by Prof.T.N.Singh,Head & Professor,Earthsciences Department,IIT,Bombay. He has highlighted The work showcases the landslide risk analysis of road cut hill slopes near Mahabaleshwar, along the state highway-72 (SH-72) via Poladpur, Satara district, Maharashtra, India for investigation of the rock mass constituting the hill slopes which is infested with recurrent slope failure problems, with a view to study its stability and to suggest efficient and effective remedial measures.

The keynote address of technical session -1 highlighted the "**Use of geo-spatial technology for monitoring and mapping urban floods**" by Scientist Ms.Manjusree of NRSC ,Hyderabad

The session showcased the research on Use of geo-spatial technology for monitoring and mapping urban floods; Geo-Environmental Factors for Assessing Sedimentation- A Case Study of Thatipudi Reservoir, Vizianagaram, Andhra Pradesh; Mangroves – The Coastal Green Buffer Zone, Shoreline Modeling Using Remote Sensing and GIS: A Case Study of Visakhapatnam





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Coast, Andhra Pradesh State ;Assessment of Waterbalance Using Swat for Drought Prone Arid Regions, Assessment of Ground Water Quality of L.B. Nagar, Hyderabad and Impact of Industries Closure; Seismic Strengthening of Plan Irregular RC Buildings with Re-Entrant Corners Using Shearwalls.

The keynote address of technical session -2 highlighted " **Impact of Climate Change on Water Resources: Planning Aspects**" by Prof. K. Srinivasa Raju of BITS ,Hyderabad

The session consisted the research papers on Disaster Preparedness, Mitigation and Reconstruction of Sustainable Society; Modeling Ground Water Vulnerability using DRASTIC Analysis and GIS; Forecast of Reservoir Sediment Trap Efficiency Using Artificial Neural Networks; Real Time Early Response Systems for Natural Disaster Management – A Critical Review;

The keynote address of technical session -3 highlighted Need for **Pre-Earthquake Risk Assessment of Buildings in Moderate-to-Severe Earthquake Prone Areas in India** by Prof.R.Pradeep Kumar ,Professor, IIIT, Hyderabad

The session consisted the research papers on Building Information Modeling a Reliable Tool for Construction; Response Spectra Analysis of Symmetric and Asymmetric Buildings with Variation in Natural Period and Soil Strata; Structural Health Monitoring Using Metal wire based Piezo Impedance Transduce; Bhuj & Nepal Earthquakes: Technical Fall-outs and Lessons to be Learnt; Nepal Earthquake 2015: Damage to Buildings; Study on Effect of Storey Height on the Seismic Performance of Tall Braced Buildings; Disaster Resilient Construction – National Disaster Management Guidelines: A Review

It is understood from the feedback of all the participants that all the technical sessions were very informative and the keynote addresses were appreciated by the participants, authors and the faculty. I thank the Management, Principal, TEQIP – II for their constant encouragement and valuable suggestions given in organizing this Conference successfully.