

# Department of Applied Mechanics

Dr. Ratnesh Kumar

Assistant Professor

## Educational Details:

<b>2004 – 2010</b>	Doctor of Philosophy (Ph.D.) in Earthquake Engineering at IIT Roorkee (India)
<b>2002 –2004</b>	Master of Technology (M.Tech.) in Earthquake Engineering at IIT Roorkee (India)
<b>1996 –2000</b>	Bachelor of Civil Engineering, Bangalore University (India)

## Professional Details:

<b>2012 – Present</b>	Assistant Professor at Visvesvaraya National Institute of Technology (VNIT) Nagpur (India)
<b>2011 –2012</b>	Assistant Professor at Gautam Buddha University (India)
<b>2010 –2011</b>	Head Structural Engineering at Privitech Consulting Engineers Delhi (India)
<b>2008-2010</b>	Fellow 'B' Indo-Norwegian Project at IIT Roorkee

**Current Position** : Assistant Professor at Visvesvaraya National Institute of Technology Nagpur (India) ([www.vnit.ac.in](http://www.vnit.ac.in))

## Responsibilities :

Teaching undergraduate and post graduate students of Civil, Architecture, Structural and Earthquake Engineering.

## Courses undertaken:

- Earthquake Resistant Design of RC structures (M. Tech.), Design of Special Structures (M. Tech.), Engineering Mechanics (B. Tech I year), Earthquake Resistant Structures (B. Arch IV year).

## Current Activities:

- Guiding three Ph. D and three M. Tech students. In-charge of Earthquake Shake Table Laboratory.
- Currently developing High-end Computing Facility Laboratory.

- Project investigator (PI) of industry funded research project “Evaluation of Toughcrete steel fibre reinforced concrete”.
- A project entitled “Inconsistencies in Response Spectrum Analysis” is submitted to Department of Science and Technology, India and is under review.
- Working as Co-PI of research project entitled “Earthquake Hazard and Risk Reduction on Indian Subcontinent” funded by Norwegian embassy.
- Two projects, viz. Development of modeling technique of RC beam-column joint for non linear analysis and Historical development of vernacular structure in Vidharva region and its seismic resistance, are under preparation.

### **Previous Position (I) :**

- **Assistant Professor at Gautam Buddha University (India). ([www.gbu.ac.in](http://www.gbu.ac.in))**

### **Responsibilities :**

- Taught the dual degree students of various streams viz. Civil, Mechanical and Environmental Engineering. Courses undertaken: Natural hazards, Concepts of Built-environment, Building construction and Engineering Mechanics.
- Worked as Co-PI in NDMA sponsored project “ Seismic Vulnerability Assessment of Building Types in India”.

### **Previous Position (II) :**

- **Head Structural Engineering, Privitech Consulting Engineers Delhi (India)**

### **Responsibilities :**

Structural design, review and project site inspection of Buildings and structure.  
Designed more than 15 reinforced concrete and masonry buildings.

### **Previous Position (III) :**

- **Doctor of Philosophy (Ph.D.) in Earthquake Engineering at IIT Roorkee (India) ([www.iitr.ac.in](http://www.iitr.ac.in))**

### **Responsibilities :**

- Research on “*Modeling and seismic performance evaluation of Indian RC frame Buildings*”.

### **Other Research/ Teaching/Consultancy Experiences**

- Provided training to many professionals, field engineers and faculty of engineering colleges on the state of art software of seismic analysis and design such as SAP, ETABS and STAAD-Pro.

- Major contribution in conducting and reporting the project entitled “Seismic Vulnerability of Multistory Buildings in NOIDA”, undertaken by Department of Earthquake Engg., IIT Roorkee.
- Visited NCREETAI Taiwan for Indo-Taiwanese Institutional Cooperation, for extension of the joint project by Ministry of Human Resource Development, India.
- Attended and represented India in International Training program on seismic design, at Taiwan.
- Actively contributed as a team member for seismic evaluation and retrofitting of school buildings in Uttarakhand, constituted by Government of Uttarakhand.
- Delivered several lecture on seismic evaluation and retrofitting techniques to field engineers of Uttarakhand, on invitation by Disaster Mitigation and Management Center (DMMC).
- Conducted non-destructive testing of six blocks of AIIMS building and actively contributed in evaluation and retrofit analysis of three very important government buildings in New Delhi.

## **Previous Consultancy Projects Handled**

- Structural modeling, design and approval (vetting from NIT Krukshetra) of 14 nos. of Model Schools for Haryana Prarthamik Siksha Pariyogna Parisad, Haryana Government.
- Structural modeling, design and approval (from CPWD Planning Department) of 3nos. “240 Men Barrack of CRPF at Khunti, Ranchi” CPWD Ranchi Central Division.
- Structural modeling, design and approval (from CPWD Planning Department) of “10 Bedded Hospital for RAF at Jamshedpur” CPWD Ranchi Central Division.
- Structural modeling, design and site visit “Central Library-Indian School of mines Dhanbad” CPWD ISMU Division Dhanbad.
- Structural modeling and design of 269 Type- II, III, IV and V Residential Quarters for CRPF at Khunti Ranchi, CPWD Ranchi Central Division.
- Structural modeling and design (Partial) Lecture Theater Complex, of IIT Delhi,
- Structural modeling, design and approval (vetting from IIT Roorkee) of Professors Apartment of IIT Delhi, CPWD IIT Delhi Division
- Vetting of IT Park Noida (Partial)
- Seismic Modeling of four Buildings in Pakistan for Taylor Devices India Pvt. Ltd.
- Seismic survey of Noida Township, Noida Development Authority
- Seismic Survey and Condition Assessment (Modeling) of School buildings of Uttarakhand, DMMC Uttarakhand Government
- Seismic Modeling and retrofitting proposal of GTB Hospital, Delhi (Project undertaken by IIT Roorkee)
- Non-destructive testing of AIIMS building, Delhi (Project undertaken by IIT Roorkee)
- Seismic Modeling and retrofitting proposal of AIIMS building, Delhi (Project undertaken by IIT Roorkee)