Student Short Course

on

Earthquake Resistant Design of Buildings

(... a focused course to undergraduate students of Civil Engineering)

16 – 19 March 2016 at IIIT Hyderabad

ABOUT COURSE

India has experienced several earthquakes in the past few decades, e.g., Bihar-Nepal border (M6.4) in 1988, Uttarkashi (M6.6) in 1991, Killari (M6.3) in 1993, Jabalpur (M6.0) in 1997, Chamoli (M6.8) in 1999, Bhuj (M6.9) in 2001, Sumatra (M8.9) and Kashmir (M7.6) in 2005. More than 1,00,000 fatalities occurred due to collapse of buildings during these events. The Indian Seismic Code IS: 1893 indicates that about 60% of country's land area is under threat of moderate to severe earthquake shaking. Even when the earthquake hazard is highlighted, the lack of knowledge on earthquake-resistant design and construction practices led to considerable damages when exposed to the earthquakes that occurred over the last 23 years. The professionals involved in building construction need to make more efforts towards safety of buildings during possible future earthquake, and eventually eliminate loss of life due to building collapses.

Building construction is booming in India. Before more buildings are built in seismic zones of the country with current methods of design and construction practices, the minimum expected effort is to make the new buildings earthquake-resistant. Several earthquake-safety related issues need attention in the planning, design and construction of these buildings. All these stem from the expected earthquake behavior of buildings. Some of these items are still unresolved even in countries with advanced seismic design provisions, like USA and Japan. Researchers worldwide are continuously working towards development of techniques for improving earthquake safety of buildings. In India, the effort is still in the nascent stages. Even though design codes exist in the country, they are not practiced as intended. Currently, achieving the code compliance is a major challenge for municipal bodies. Code compliance will get an impetus when building professionals internalize the need for earthquake safety. And, building professionals will be able to take ownership only through education.

ABOUT EERC

The large and rapidly growing urban seismic risk in India is a problem that needs to be quickly solved. Pre-disaster planning i.e., mitigation and preparedness can have a good impact on minimizing the post-disaster response i.e, emergency, rescue and rehabilitation. This also reduces tragedy and suffering to a great extent. Main reason for the casualties is collapse of buildings. In order to ensure the construction of safe building infrastructure, we need to address several issues. To contribute to some of the issues, IIIT Hyderabad established Earthquake Engineering Research Centre (EERC). The following are the thrust areas on which EERC is conducting extensive research.

- ✓ Seismo-tectonics of Indian plate
- ✓ Estimation of seismic hazard
- ✓ Collapse simulation and damage assessment of RC and masonry structures
- ✓ Earthquake risk mitigation through awareness and preparedness

For more details, visit http://eerc.iiit.ac.in

ABOUT IIIT-Hyderabad

International Institute of Information Technology (IIIT), Hyderabad, is an autonomous, self-supporting research institute established in 1998 with seed support from the Government of Andhra Pradesh. Major goal of IIIT-H is to impart a uniquely broad and interdisciplinary IT education of the highest academic quality. This is achieved through an integrated curriculum that consists of a highly diverse set of IT courses, interdisciplinary IT research projects, regular interaction with industry, preparation of entrepreneurship skills, and personality development courses. Visit www.iiit.ac.in

PROGRAM SCHEDULE

16 March 2016

Session 1: Introduction to Earthquake Engineering
Session 2: Gravity Analysis of Building
Session 3: Design Philosophy as per IS: 456-2000
Session 4: Design of Slab

17 March 2016

Session 1: Lateral Load Analysis of Building
Session 2: Gravity Load Analysis using SAP
Session 3: Design of Beam
Session 4: EERC Visit, Models Explanation and R&D Showcase

18 March 2016

Session 1: Dynamic Analysis of a Building-I and II
Session 2: Lateral Load analysis, TH and RS Analysis using SAP
Session 3: Design of Column
Session 4: Design of Foundation

19 March 2016

Session 1: Design of Staircase
Session 2: Design of Shear wall
Session 3: Role of Civil Engineering in Society
Session 4: Feedback & Certificates Distribution

Last Date for Registration:
07th March 2016

REGISTRATION FEE

Fee: **2500/-** (Includes Lunch and Course Material)
Payment of registration fee should be made by demand draft or at par cheque in favour of "**IIIT Hyderabad**" and send to coordinators.

Note: Limited Accommodation is available on first come first service basis. Cost **300/-** per day.

COURSE TEAM

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9:30-11:00	11:00-11:30	11:30-13:00	13:00-14:00	14:00-15:30	15:30-16:00	16:00-17:30
Session-1	Tea Break	Session-2	Lunch	Session-3	Tea Break	Session-4

Organized by

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International Institute of Information Technology
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