Workshop on

EARTHQUAKE RESISTANT PRACTICES FOR UNDERGRADUATE STUDENTS OF ARCHITECTURE

July 01-07, 2019, IIT Kanpur

National Information Centre of Earthquake Engineering (NICEE) at IIT Kanpur is committed to furthering earthquake safety in the built environment through empowering stakeholders in the building delivery process by information sharing and dissemination of the state of the art in earthquake engineering. NICEE has also actively engaged in awareness, sensitization and training programmes for faculty in architecture and civil engineering disciplines in colleges all over India through the NPEEE program that was in operation from 2003 till 2007. The National Advisory Committee of NICEE unanimously felt need of targeting the architecture professionals of tomorrow by offering training modules to the students of architecture in colleges all over India. The objective of this workshop was primarily aimed to equip the participants with the necessary expertise to arrive at architectural designs that are inherently adequate in resisting earthquake loads at a conceptual level.

To meet this objective, a pilot Workshop for Undergraduate students of Architecture in Earthquake Resistant Design Practices was first offered in 2008. The workshop was a grand success and it was decided to make it an annual event. The 12th National Workshop for UG students of Architecture was held in IIT Kanpur during July 01-07, 2019, in which 60 students who had completed six semesters of studies in their respective architecture programmes, from 14 institutes representing 12 cities from all over India participated in the 7-day workshop.

Workshop 2019

The general objective of the workshop was to sensitize the students to earthquake safety issues and in capacity building in the basics of earthquake resistant design at a conceptual level. It was expected that lectures and hands-on studio sessions in tackling a design assignment will help students in internalizing earthquake resistant practices as an integral part of their design decision making. The resource faculty for this workshop was from architecture and structural engineering disciplines in an attempt to recreate as closely as possible real life architectural practice. The selected participants were each sent a NICEE publication titled "Earthquake-Resistant Confined Masonry Construction" authored by Svetlana Brzev and Keya Mitra. The participants were advised to go through the book before coming for the workshop.

The following faculty members, Prof. Keya Mitra, IIEST Shibpur, Howrah; Prof. Vasudha Gokhale and Meera Shirolkar, Dr. B.N. College of Architecture for Women, Pune; Prof Atanu Dutta, Jorhat Engineering College, Jorhat and Prof. Ruchira Das, Amity University, Kolkata were the resource persons of the workshop 2019. In addition, Prof. Durgesh C. Rai of IIT Kanpur apprised the participants about the *progress and hurdles of seismic risk mitigation in India*.

Additionally, Ar. Vikram Hundekar, Practicing Architect from Pune illustrated the use of Confined Masonry in IIT Gandhinagar Hostel Design. He spent a full day with the workshop participants in addition to giving a lecture on the subject.

Design Problem

The design brief was an architectural design assignment where they were required to asked to design a School Building in Confined Masonry in a site in Bhuj, Gujarat, located in Seismic Zone V, on a one-hectare plot. The workshop participants were divided into thirty 2 member groups where each member was from a different institute. They were asked to develop a design proposal which should be rational in functional, structural and aesthetic terms. While the participants were encouraged to adopt innovative design approaches, the objective of this design exercise was to evaluate their understanding of earthquake resistant architecture and application of the same in a design project.

Evaluation of Design

Six designs that incorporated earthquake resistant features without compromising the host of other requirements such as functionality, climate, etc. were shortlisted during the initial round by a Jury Board. The Jury Board consisted of following members:

Ar. Rohit Jain, Practicing Architect, New Delhi
Ar. Amit Bose, Practicing Architect, New Delhi
Er. Karnail Singh, FIE, Certified Professional Engineer(I), Chandigarh
Prof. Durgesh C. Rai, IIT Kanpur

The jury looked particularly for a clear understanding of structural system that would be effective in withstanding earthquake loads. The award winning designs were of:

First Position

Ms. Annanya Jha, National Institute of Technology, Raipur
Ms. Sayad Kashaf Fatima, Dr. D.Y. Patil College of Architecture, Navi Mumbai

1st

2nd

Ms. Anusha Nitin Sumbhate, Visvesvaraya National Institute of Technology, Nagpur

Ms. Nair Shrilaxmi Rajeev, Dr. D.Y. Patil College of Architecture, Navi Mumbai

3rd

Mr. C Siva Sai Abhishek, Visvesvaraya National Institute of Technology, Nagpur

Ms. Sayali Vinayak Sali, Dr. D.Y. Patil College of Architecture, Navi Mumbai

The participants expressed a satisfaction level of 73.22%. The workshop was sponsored by CSIESPL, New Delhi and several supporters of NICEE.