Workshop on

EARTHQUAKE RESISTANT PRACTICES FOR UNDERGRADUATE STUDENTS OF ARCHITECTURE

August 07-14, 2021, 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 13th National Workshop for UG students of Architecture was held in IIT Kanpur during August 07-14, 2021, in which 86 students who had completed six semesters of studies in their respective architecture programmes, from Bhutan and 19 institutes representing 15 cities from all over India participated in the 8-day workshop.

Workshop 2021

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 following faculty members were the resource persons of the workshop:

(a) Prof. Keya Mitra, IIEST, Shibpur, Howrah
(b) Prof. Vasudha Gokhale, Dr. B.N. College of Architecture for Women, Pune
(c) Prof Atanu Dutta, Jorhat Institute of Engineering and Technology, Assam
(d) Prof Meera Shirolkar, Dr. B.N. College of Architecture for Women, Pune
(e) Prof. Ruchira Das, Women's Polytechnic, Chandernagore
(f) Dr. Indrani Gogoi, Directorate of Technical Education, Assam

(g) Prof. Nayanmoni Chetia, Jorhat Engineering College, Assam
(h) Dr. Mayank Varshney, Vivekananda Institute of Technology, Jaipur
(i) Dr. Soumen Mitra, IIEST, Shibpur, Howrah
(j) Prof. Nehal Desai, Sarvajanik University, Surat
(k) Prof. Bhavna Vimawala, Sarvajanik University, Surat
(l) Mr. Baharul Hossain, Jorhat Engineering College, Assam
(m) Dr. Tanaya Sarmah, GeoHazards Society, New Delhi
(n) Dr. Hari Kumar, GeoHazards Society, New Delhi

Prof. Charleson explained the intricacies of RESIST Software, which is developed by him, to the participants of the workshop. Special lectures by Dr. Shailesh Agarwal, BMTPC New Delhi and Ar. Nandini Somaya Sampat, Principal Architect, Somaya & Kalappa Consultants, Mumbai were also attended by the participants. Additionally, Dr. Svetlana Brzev and Ar. Vikram Hundekar, Mitimitra Consultants Pvt. Ltd., Pune illustrated the use of Confined Masonry in IIT Gandhinagar Hostel Design.

Design Problem

The design brief was an architectural design assignment where they were required to design Hostel Building for UG Students in a site in Almora, Uttarkhand, located in Seismic Zone V, with 1000+ intake capacity. The workshop participants were divided into forty three 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

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

(a) Prof. V R Shah, Ahmedabad
(b) Ar. Amit Bose, New Delhi
(c) Er. Karnail Singh, Chandigarh
(d) Prof. Chinmoy Kolay, Kanpur
(e) Prof. Ratnesh Kumar, Nagpur
(f) Er. Narayan Kochak, Pune
(g) Ar. Ravi Kakar, New Delhi
(h) Prof. Rajiv Kacker, Lucknow
(i) Ar. Radhika Vaidya, Pune
(j) Ar. Vikram Hundekar, Pune

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

Team 1

Mehnaz Imtiaz, Amity University, Kolkata
Rumana Nishat Qamar, SPA Bhopal

Team 2

R Shabarinath, Visvesvaraya National Institute of Technology, Nagpur
Kishan Sirohi, Vastukala Academy, New Delhi

Team 3

Priyanshi Shukla, Sushant School of Art & Architecture, Gurgaon

Team 4

Nimisha Agrawal, LS Raheja School of Architecture, Mumbai
Soniya Santosh T, BGS School of Architecture & Planning, Bangalore

Team 5

Naman Sharma, Shri Mata Vaishno Devi University, Katra
Gauri Dixit, Visvesvaraya National Institute of Technology, Nagpur

Team 6

Shreya, Shri Mata Vaishno Devi University, Katra
Shirin Goel, Indian Institute of Technology, Kharagpur
Trikuti Mishra, Shri Mata Vaishno Devi University, Katra

Team 7

Nilay Dev, Amity University, Raipur
Gitika Suklabaidya, ITM University, Raipur
Bhavin Mandot, LS Raheja School of Architecture, Mumbai

Team 8

Shashank Bhuwal, Amity University, Raipur
Ankit Mahobiya, National Institute of Technology, Raipur
Vaishnavi Prabhakar Chandane, BKPS College of Architecture, Pune

Team 9

Pritam Roy, National Institute of Technology, Raipur
Anushka Aglawe, Visvesvaraya National Institute of Technology, Nagpur

Team 10

Shubham Gawade, Manohar Phalke College of Architecture, Mumbai
Rajeshwari N, BGS School of Architecture & Planning, Bangalore

Team 11

Dorji Choden, College of Science & Technology, Bhutan
Abhishek Gunjal, Dr. DY Patil College of Architecture, Navi Mumbai

The participants expressed a satisfaction level of 87.7%. The workshop was sponsored by CSIESPL, New Delhi and several supporters of NICEE.