Applied Mechanics Department
L. D. College of Engineering, Ahmedabad
Gujarat, India

Under the aegis of

Global Initiative of Academic Networks (GIAN)

Organizes
5-Days (One Week) ***GIAN***
Sponsored **Online** Short-term Training Program (STTP) on

"Design of Confined Masonry Buildings for Earthquake Disaster Risk Mitigation in India"

6th-10th June, 2022

Venue

Applied Mechanics Department

L. D. College of Engineering Ahmedabad

Website: www.ldce.ac.in

ABOUT THE INSTITUTE

L D College of Engineering, Ahmedabad is a premier Engineering college in the state of Gujarat established with the objectives of imparting higher education in various fields of engineering. The institute is affiliated to Gujarat Technological University and administrated by Department of Technical education, Gujarat State. Sheth Shri Kasturbhai Lalbhai has established institute in 1948 with generous donation. It is situated adjacent to Gujarat University and at nucleus of various national level institutes like PRL, ATIRA, ISRO, IIM etc. The campus consists of buildings for various departments, offices, hostels and library with 45,220 sq. meter plinth area. The institute made a modest start with 75 students for undergraduate programs in 1948, post graduate programs in 1954. At present, institute is running 14 undergraduate, 15-post graduate and 4 part-time programs with present strength of more than 6500 students.

ABOUT APPLIED MECHANICS DEPARTMENT

The Applied Mechanics Department is a vital offshoot of Civil Engineering Program at L.D. College of Engineering. The department caters UG Program and 2 Post graduate courses in Structural Engineering and Geotechnical Engineering with state of art facility. Department has all major type of testing equipments, computing labs backboned by strong industry-academia cell and alumina.

Professional services offered by Department are:

- Cement, Concrete, Steel and Metal Testing
- Professional Consultancy Services in field of Structural Engineering, Proof Checking
- Soil and Rock Testing, Geotechnical Investigation
- Non-destructive Testing
- Training to Professional Engineers

GLOBAL INITIATIVE OF ACADEMIC NWTWORKS (GIAN)

Government of India approved a new program titled Global Initiative of Academic Networks (GIAN) in Higher Education aimed at tapping the talent pool of scientists and entrepreneurs, internationally to encourage their engagement with the institutes of Higher Education in India so as to augment the country's existing academic resources, accelerate the pace of quality reform, and elevate India's scientific and technological capacity to global excellence.

In order to garner the best international experience into our systems of education, enable interaction of students and faculty with the best academic and industry experts from all over the world and also share their experiences and expertise to motivate people to work on Indian problems, there is a need for a Scheme of International Summer and Winter Term. During the 'Retreat' of IITs with Minister of Human Resource Development Smt. Smriti Zubin Irani on 29th June, 2014 at Goa, it was decided that "A system of Guest Lectures by internationally and nationally renowned experts would be evolved along with a comprehensive Faculty Development Programme not only for new IITs, IIMs, IISERs but also other institutions in the country.

OVERVIEW OF COURSE

Looking at immense scale of devastation and loss of human life in recurring disasters in various parts of the world, one of the key areas needing attention is how to make our buildings disaster-resistant. The use of modern reinforced concrete (RC) building technology consisting of frames with masonry infill walls poses a challenge when adequate design expertise and construction quality assurance are not available. These design and construction flaws have resulted in significant human and economic losses in earthquakes in many countries, including the Bhuj, Gujarat (2001) earthquake and the

Gorkha, Nepal earthquake (2015). There is a need to explore alternative construction practices, such as Confined Masonry (CM), which can be implemented even under unfavourable field conditions. CM buildings have performed very well in damaging earthquakes in many countries, including Mexico, Chile, Peru, Indonesia, and Iran. However, over the last fifteen years, several initiatives have been launched to promote application of CM construction technology in India based on its proven record of good seismic performance. The first large-scale, engineered application was recently completed with 40 CM multi-storeyed residential buildings at the new IIT Gandhinagar campus in Palaj Village, Gadhinagar; the project received HUDCO award for using this technology. The first Indian code for design of CM buildings is scheduled to be released by the BIS in 2022.

The key components of a CM building are masonry walls enclosed by horizontal and vertical RC confining elements, which look similar to beams and columns in a RC frame building. However, a confined masonry structure acts like a loadbearing wall system which resists both gravity and lateral loads and is substantially different from RC frame system. CM construction technology offers a cost-effective and safe alternative to both RC frames with masonry infills and unreinforced masonry construction in seismically prone areas. This course is intended for students, academician, engineers and other professionals interested in learning the key concepts of planning, seismic design and construction approaches for future application of CM technology in India.

OBJECTIVES OF THE PROGRAM

The primary objectives of the course are as follows:

1. Exposing participants to the fundamentals of CM Design & its construction practices.
2. Providing exposure to practical design problems and their solutions, through case studies and live projects on Confined Masonry
3. Building confidence and capability amongst the participants to analyze & design the Confined Masonry Buildings
4. Enhancing the capability of the participants in seismic evaluation of Confined Masonry structures.

ABOUT THE COURSE INSTRUCTORS

Dr. Svetlana Brzev

Dr. Svetlana Brzev is an **Adjunct Professor at the Department of Civil Engineering, University of British Columbia, Canada**. She has more than 30 years of consulting, teaching and research experience related to structural and seismic design and retrofitting of reinforced concrete and masonry structures in Canada and several other countries, including India. She has been involved in promoting confined masonry technology in India since 2005 and has been a part of the working group which developed the code to be released by the BIS.

Dr. Chaitanya Sanghvi

Dr. Chaitanya Sanghvi has more than 3 decades of teaching and research experience. He is actively involved in research in the field of Structural and Earthquake Engineering. He is member of **Special Technical committee for tall structures** in Gujarat & invitee member of **Gujarat Council for Professional Civil Engineers**. He is contributing in the field of Earthquake Engineering as resource person.

PATRON

Dr. Rajul K. Gajjar
Principal
L.D. College of Engineering, Ahmedabad

CONVENER & COORDINATOR

Major Dr. Chaitanya S. Sanghvi
Professor & Head - Applied Mechanics Department
L.D. College of Engineering, Ahmedabad

CO-CORDINATOR

Prof. Chintan D. Patel
Assistant Professor, Applied Mechanics Department
L.D. College of Engineering, Ahmedabad
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WHO CAN PARCTICIPATE

1. Engineers and other technical professionals interested in learning the key concepts of confined masonry construction, planning and seismic design approaches for confined masonry buildings.
2. Engineering Students at all levels (BE/ME/PhD) and Faculty members from reputed academic institutions and technical institutions.

HOW TO REGISTER

The interested applicants are required to register by filling the registration form on or before **1st June 2022**. Applicants will receive a copy of the filled registration form.

LINK FOR REGISTRATION:

https://forms.gle/iCDAYF2HtDCW959a8