

INTERNATIONAL WORKSHOP ON EARTHQUAKE ENGINEERING

29th - 31st July, 2016

in collaboration with



Department of Earthquake Engineering
NED University of Engineering & Technology, Karachi



Organized by
The Institution of Engineers Pakistan Karachi Centre

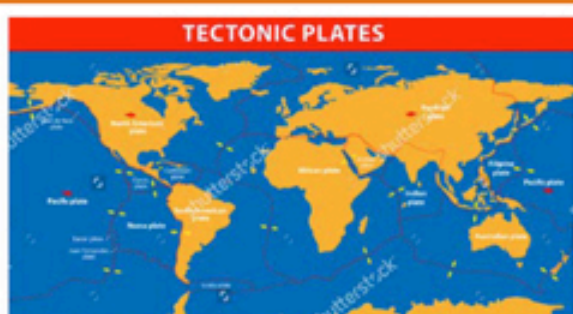


Federation of Engineering Institutions of
South & Central Asia (FEISCA)



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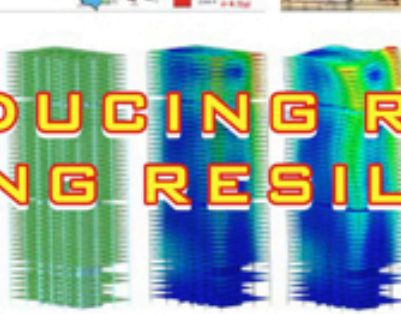
AN INCREDIBLE
OPPORTUNITY TO LEARN
FROM THE
**WORLD
LEADERS**
DON'T MISS THE
OPPORTUNITY OF THE
LIFE TIME



TECTONIC PLATES



SEISMIC ZONING
MAP OF
PAKISTAN



REDUCING RISK RAISING RESILIENCE

INTRODUCTION

The ultimate objective of earthquake engineering is the reduction of loss of life and property due to earthquakes. To achieve this objective, it is necessary that knowledge concerning all aspects of the earthquake problem be extended.

Earthquake resilience, however you define it, is as much about re-occupancy and recovery as it is about safety. Our current practices might be inadequate, even counterproductive, in terms of community resilience. So a shift to resilience-based design will involve new performance objectives, new design criteria, and even new structural systems. But as resilience emerges as the new basis for seismic mitigation policy, it will also bring more fundamental changes to the way we think about building codes, to the way we measure building performance throughout a jurisdiction, and to the roles we play as engineers.

Pakistan is considered an area of high seismic activity and has been subjected to earthquakes regularly and in recent years with the identified and unresolved issue of poor design and quality of structures/buildings, strategic planning and indigenous seismic design considerations are needed so that the situation can be reversed and loss of human life and sufferings can be minimized.

This short course is aimed at to introduce the basic fundamentals of earthquake engineering and to share the latest advances in earthquake science with design code advancements, best practices in construction, and research

COURSE OUTLINE

- ❖ Introduction to Earthquakes
- ❖ Dynamic Response of Buildings: Analysis and Design for Seismic Loads
- ❖ Response Spectra
- ❖ Earthquake Damage Evaluation and Assessment
- ❖ Case Study: Bingol Earthquake 2003
- ❖ Structural Rehabilitation - Classical
- ❖ Examples of Post-seismic Structural Rehabilitation
- ❖ Rehabilitation of non-engineered (masonry) structures
- ❖ Current Approaches to Structural Rehabilitation (CFRP, etc.)
- ❖ Base Isolation Techniques
- ❖ Introduction to ASCE (Seismic Regulations and Recommendations)
- ❖ Seismic Assessment and Rehabilitation of Historic Structures
- ❖ An overview of some recent Earthquakes
- ❖ 3 video films with the following titles will also be part of the presentations:
 - Structural Upgrading of Erzincan Buildings (28 minutes)
 - Marmara Earthquake Film (20 minutes)
 - STAR - Structural Assessment & Rehabilitation (20 minutes)

VENUE

IEP Convention Center,
The Institution of Engineers Pakistan, Karachi Centre

5th Floor, IEP Building, Shahrah-e-Faisal,
Opp. Hotel Regent Plaza, Karachi-75530, Pakistan.

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PROGRAM

Day-one:

Friday 29th July, 2016

1500-1900 Hrs (3 hours with Prayer / Hi Tea)

Day-two:

Saturday 30th July, 2016

0930-1830 Hrs (7 hrs with Prayer / Lunch / Hi Tea)

Day-three:

Sunday 31st July, 2016

0930-1830 Hrs (7 hrs with Prayer / Lunch / Hi Tea)

INTERNATIONAL WORKSHOP ON EARTHQUAKE ENGINEERING



Syed Tanvir Wasti is Professor Emeritus in the Civil Engineering Department at Middle East Technical University (METU), Ankara, Turkey. Born in Lahore, Pakistan in 1941, he took his B.S. degree as an Honour Student from METU in June 1961. After higher studies at Cambridge University, England, he was awarded the Ph.D. degree in January 1965. In 1979, he obtained the title of PE (Professional Engineer) in the State of California.

Much of his career has been spent at METU, with teaching and research in plates and shells, finite elements, box girder bridges and earthquake engineering. He has co-edited three volumes published in the NATO Science Series, including Analysis and Design of Bridges (1982), Seismic Assessment and Rehabilitation of Existing Buildings (2003) and Advances in Earthquake Engineering for Urban Risk Reduction (2006). He is the author or co-author of numerous research papers published in English and Turkish. Syed Tanvir Wasti in 2004 served as the first Rooney Scholar at Robert Morris University, Pennsylvania. He has delivered invited lectures and seminars, in Czech Republic, Jordan and Cyprus.



Prof. Dr. Polat Gulkan was professor in the Department of Civil Engineering, Middle East Technical University until his retirement in 2011. He last served as director of the Earthquake Engineering Research Center. He has now joined the academic ranks of Cankaya University as professor of Civil Engineering in the newly established Department of Civil Engineering. He is an earthquake structural engineer, and has been active in many areas of global hazard mitigation from 1971. He has served on the Board of Directors of the International Association for Earthquake Engineering (IAEE) during 1996 - 2004. He was appointed for a four-year term as executive vice president of the same organization in 2004. He was then elected to the presidency of IAEE in 2008, and following a two-year period 2010-2014. He is currently the IAEE Past-President.

Prof. Gulkan was on the Board of Directors of Earthquake Engineering Research Institute (EERI) for the period of 2005 to 2008. A registered professional civil engineer in California, he has been involved through many projects and consultancies with the UN, World Bank, EU Commission, NATO, OECD, IAEA, EU as well as commercial firms. Professor Gulkan has been awarded the NATO Science Prize in 2004 and the Science Award of the Scientific and Technological Research Authority (TUBITAK) in 2007, the highest medal of professional recognition of his country. He is the Editor of five books.

SPEAKERS

ORGANISING COMMITTEE

Engr. Prof. Dr. S.F.A. Rafeeqi
Chairman, IEP - Karachi Centre

Engr. Sohail Bashir
Vice-Chairman, IEP - Karachi Centre

Engr. Prof. Dr. Sarosh H. Lodi
Dean, Faculty of Civil & Architecture,
NEDUET, Karachi.

Engr. Arif Kassam
President, Association of Consulting
Engineers Pakistan

Engr. Prof. Dr. S.M. Makhdoomi
Dean, Sir Syed University of
Engineering & Technology, Karachi.

Engr. Khalid Mirza
CEO, Engineering Consultants
International (Pvt.) Ltd.

Engr. Prof. Dr. Muhammad Masood Rafi
Chairman, Department of Earthquake
Engineering, NEDUET, Karachi

Engr. Bushra Nadeem Mufti
Executive Director, EA Consulting (Pvt.) Ltd.

Engr. Prof. Dr. Rashid Ahmed Khan
Professor, Department of Earthquake
Engineering, NEDUET, Karachi

Engr. Sohail Aslam
General Manager (Structures), NESPAK

Engr. Mukesh Kumar
Professor, Department of Earthquake
Engineering, NEDUET, Karachi

Engr. Asim Inam Osmani
Director, Osmani & Co.

Engr. Sadaf Fatima
Structural Consultant

Engr. Zahid Zia
Structural Consultant

Engr. Ayaz Mirza
Secretary, IEP - Karachi Centre

NED UNIVERSITY & IEP KARACHI CENTRE



The NED University of Engineering & Technology is the oldest institution in Pakistan for teaching and producing graduate Engineers; it has over the years acquired international recognition. At present this University offers undergraduate programmes in eight Sciences and nineteen Engineering Disciplines as well as postgraduate programmes at Master's level only in ten Science and nineteen Engineering Disciplines.



The Institution of Engineers Pakistan (IEP) was established in 1948. It is the premier national body of engineers working for the advancement of engineering profession. It has headquarters at Lahore and centres in all major cities of Pakistan as well as in Riyadh, Saudi Arabia & Bahrain. IEP has signed technical collaboration agreements with more than forty professional Engineering Organizations across the globe. IEP is also the member of six international/regional engineering bodies and has the honour of representing Pakistan at these forums.

REGISTRATION

Registration Fee

Non IEP Members

Rs. 15,000/-

IEP Members

Rs. 10,000/-

Graduate Students

Rs. 8,000/-

**IEP Student Members/
Under Graduate Student**

Rs. 5,000/-

Kindly fill in the Registration form and send it to **IEP**, before **21st July 2016**

Name:
Title:
Organization:
Address:
Phone: FAX:
Email:
Signature: Date:

Payment Enclosed: ☐ CHEQUE ☐ BANK DRAFT ☐ CASH

Cross Cheque or Draft must be made in the name of

"The Institution of Engineers Pakistan, Karachi Centre"

General Information

Education:

Bachelor ☐

Master ☐

Other ☐

Primary field:

Civil / Structural ☐

Construction ☐

Other ☐

Primary work:

Research, Training ☐

Consulting ☐

Others ☐