

ONLINE Course on Seismic Assessment of Safety Related Structures

14th-15th March 2022



ABOUT THE COURSE

This course provides a theoretical framework for understanding seismic design for various structures. It will be delivered as a series of 8 lectures of 1.5 hour sessions over 2 days where you will learn the basics of seismic design, dynamic analysis as well as code related design to structures.

The Lecture includes Structural Response under dynamic loading. The basic design principles in the relevant design guidance such as ASCE/SE14-16 will be introduced. Also EC8 which is euro code 8:Design of structures for earthquake resistance will be introduced.

On completion of the course you will be able to apply a sound knowledge of various technologies for checking response of structures under seismic loading.

WHO SHOULD ATTEND

The course is intended for Engineers, Operations' Managers, Applied Scientists and Technologists interested in design & structure under seismic loading. Engineers, Managers and Scientists involved in design, assessment and management of a wide range of engineering structures will also benefit from this course.

COST

The registration fee of the workshop will be £650 which includes course notes.

COURSE MATERIAL

The lecture notes will be sent in advance.

PAYMENT

Payments can be made by cheque (made payable to ASRANet Ltd.), cash or bank transfer. Please enquire for details.

CONTACT

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PROGRAMME

Monday (14th March 2022)

9.00 – 10.30	Lecture 1: Seismic actions This lecture begins with an overview of the Engineering Seismology. The lecture then proceeds with detailed discussion on Earthquake induced strong ground motion.	<i>Dr. Feng Fu</i>
10.30 - 10.45	<i>Break</i>	
10.45 - 12.15	Lecture 2: Basic structural dynamics This lecture deals with the calculation of the dynamic response of structures introducing SDOF, NDOF method for the overall response mode superposition method and the way to derive response spectrum.	<i>Dr. Feng Fu</i>
12.15 - 13.30	<i>Lunch</i>	
13.30 - 15.00	Lecture 3: Design of structure under seismic load This lecture deals with the response spectrum analysis time history analysis and push over analysis of the Dynamic response	<i>Dr. Feng Fu</i>
15.00 – 15.30	<i>Break</i>	
15.30 - 17.00	Lecture 4: Eurocode 8. Design of building under seismic load Introducing general design rule for buildings based on EC8 including energy dissipation, behavior factor, design spectrum, will be demonstrated.	<i>Dr. Feng Fu</i>

Tuesday (15th March 2022)

9.00 - 10.30	Lecture 5: Eurocode 8. Specific rules for steel structures Gives an introduction to prescriptive design for steel according to EC 8	<i>Dr. Feng Fu</i>
10.30 - 10.45	<i>Break</i>	
10.45 - 12.15	Lecture 6: Eurocode 8. Specific rules for concrete structures Gives an introduction to prescriptive design for concrete according to EC 8	<i>Dr. Feng Fu</i>
12.15 - 13.30	<i>Lunch</i>	
13.30 - 15.00	Lecture 7: ASCE/SEI 4-16. Specific rules for nuclear plant 1 Modeling of Structures Analysis of Structures	<i>Dr. Feng Fu</i>
15.00 – 15.30	<i>Break</i>	
15.30 - 17.00	Lecture 8: ASCE/SEI 4-16. Specific rules for nuclear plant 2 Oil-Structure Interaction Modeling And Analysis Vertical Liquid-Storage Tanks	<i>Dr. Feng Fu</i>

LECTURER CV'S

**Dr. Feng Fu, Ph.D. MBA, CEng, FStructE, FICE,
FASCE, FHEA**



Dr. Feng Fu is the Council Member of Institution of Structural Engineers (IStructE) in 2020 and Chair for North Thames Regional Group of IStructE in 2020. He is an Associate Editor, Journal of Performance of Constructed Facilities, American Society of Civil Engineers (ASCE) and Associate Editor, Proceedings of the Institution of Civil Engineers - Structures and Buildings. He is a Chartered Structural Engineer, Fellow of Institution of Structural Engineers, Fellow of American Society of Civil Engineering and Fellow of Institution of Civil Engineers.

Prior to joining academia, he worked for several world leading consultancy companies and was involved in the design of extensive prestigious construction projects worldwide, such as the tallest building in Western Europe, the Shard in London. He worked at advance analysis team in WSP Group Ltd. London, followed his work as a Structural Engineer in Waterman Group Ltd London. He also worked as a structural engineer for one of the best and the oldest design institute in China, Beijing Institute of Architectural Design and Research (the designer of Beijing Olympic Games Stadiums and Guardian list of seven wonders of the modern world, Beijing Daxing Airport) before his study of PhD in UK. When he was doing his Master in Structural Engineering, he worked as a research assistant in China Academy of Building research, worked on research projects funded by National Natural Science Foundation of China.

He received his PhD in Structural Engineering from University of Leeds, MSc in software Engineering from University of Oxford and MBA from University of Manchester. He obtained his MSc and BSc in Structural Engineering from Beijing University of Technology respectively. Dr. Fu has extensive research experience in the area of progressive collapse, structural fire analysis of tall buildings and long span structures, Tensegrity structures and composite joints. He specialized in advanced numerical modelling and developed several modelling programs using different programming languages. He also carried out several full scale tests on composite joints. His recent research has been focused on investigating the behaviour of high-rise buildings, bridges and offshore structures under extreme loads such as blast and fire using advanced 3-D numerical modelling techniques.

He has published more than 100 peer reviewed technical papers with a Google Scholar h-index 22. He is also the reviewer for more than 40 international Journals. He is also the editorial board member for three international journals, voting member for two design codes of ASCE. He is the author of four books: Fu, F. (2018). Design and Analysis of Tall and Complex Structures, Elsevier. Fu, F. (2016). Structural Analysis and Design to Prevent Disproportionate Collapse. CRC Press. Fu, F. (2015). Advanced Modelling Techniques in Structural Design, Wiley; Fu, F. (2021) Fire Safety Design for Tall Buildings. CRC Press