

## REGISTRATION FORM

Name \_\_\_\_\_

(Please print)

Designation \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone \_\_\_\_\_

Email \_\_\_\_\_

I wish to register for the Course at a cost of £650 + VAT (UK Only) including course material and course lunches.

I enclose a cheque for £650 + VAT

Please invoice me at the above address

Please send me information on local hotels

### Disclaimer

All materials and information supplied during and associated with this course are intended purely for instructional purposes. Whilst every effort is taken to ensure that materials provided are accurate and suitable for training purposes, ASRANet Ltd accepts no responsibility for their accuracy or utility.

**I accept the above.**

Signature \_\_\_\_\_

Date \_\_\_\_\_

The completed form should send to:

*ASRANet Ltd.*

5 St Vincent Place, Glasgow, G1 2DH

### Cost

The registration fee of the workshop will be £650+VAT (pound sterling) which includes course notes and lunches. You should make your own arrangements for accommodation.

### Payment

Payments can be made by cheque (made payable to ASRANet Ltd.), cash or bank transfer but no card payments. Please enquire for details.

### Venue

Manchester Conference Centre  
Sackville Street,  
Manchester  
M1 3BB,  
UK

### Note

Please do not make your travel arrangements until you receive an Invoice from us.

### Contact

ASRANet Ltd.  
St Georges Building  
5 St Vincent Place  
Glasgow, G1 2DH  
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# Nuclear Power Plant: Structural Response

## 21-22 September 2017



**An ISO 9001:2008 certified company**

## Manchester, UK

## PROGRAMME

### Thursday 21<sup>st</sup> September 2017

- 08.30-09.00 Delegate Registration
- 09.00-10.30 Lecture 1: Structural Non-Linear Analysis - I  
*Prof Chris Pearce*
- 10.30-11.00 *Break*
- 11.00-12.30 Lecture 2: Structural Non-Linear Analysis - II  
*Prof Chris Pearce*
- 12.30-13.30 *Lunch*
- 13.30-15.00 Lecture 3: Review of Structural Software used in Nuclear Industry  
*Prof Chris Pearce*
- 15.00– 15.30 *Break*
- 15.30-17.00 Lecture 4: Structural Fire Engineering Concepts, Progress and Applications  
*Dr Martin Gillie*

### Friday 22<sup>nd</sup> September 2017

- 09.00 – 10.30 Lecture 5: Load induced thermal strain in concrete containment structure of nuclear reactors  
*Dr Partha Mandal*
- 10.30 – 11.00 *Break*
- 11.00-12.30 Lecture 6: Seismic design considerations for Nuclear Reactors  
*Dr Domenico Lombardi*
- 12.30-13.30 *Lunch*
- 13.30 - 15.00 Lecture 7: Seismic probabilistic risk analysis for nuclear power plants in the UK.  
*Dr Tianjian Ji*
- 15.00 - 15.30 *Break*
- 15:30 - 17:00 Lecture 8: Seismic performance of a typical nuclear power plant in the UK: A probabilistic risk analysis approach  
*Dr Domenico Lombardi*

## CV's of Lecturers:

### Professor Chris Pearce

Professor Chris Pearce is a Professor of Computational Mechanics and hold the Royal Academy of Engineering / EDF Energy Research Chair at Glasgow. He graduated from the University of Wales Swansea in Civil Engineering in 1992. This was followed by an MSc and PhD from the same University. His first academic appointment was as a lecturer at the University of Glasgow. He was promoted to Professor in 2010.

He is currently Head of the Infrastructure and Environment Research Division and Convenor of Research for the School of Engineering.

He is a Fellow of the Institution of Civil Engineers and a Chartered Engineer.

### Dr Martin Gillie

Dr Martin Gillie is a Reader in Structural Engineering with research interests in numerical modelling of structures, structures in fire and sustainability of structures. My teaching interests are mainly in structural design and engineering problem solving, although I have also taught engineering analysis, engineering maths and specialist courses in structural fire engineering.

Following a degree in Civil Engineering from the University of Edinburgh (1st Class, 1997), I studied the behaviour of the Cardington Structure in fire and obtained my Phd in 2000, also from Edinburgh. I then spent some time working on silo structures as a researcher before moving to Aberdeen to work in offshore design for Andrew Palmer and Associates. In 2003 I returned to academia as lecturer at the University of Nottingham before a move back to Edinburgh in 2005. I was promoted to Senior Lecturer in 2011 and for two and half years was head of Civil Engineering Teaching. In 2014 I took up my current role as Reader at the University of Manchester. I am Member of the Institution of Structural Engineers, a Chartered Engineer and Fellow of the Higher Education Academy.

### Dr Partha Mandal

Partha Mandal is a senior lecturer in the School of Mechanical, Aerospace and Civil Engineering at the University of Manchester. He did his undergraduate degree in Civil Engineering from National Institute of Technology Durgapur (India), followed by a master degree in Structural Engineering at Indian Institute of Technology Kanpur. His Phd research at Cambridge University involved a classical problem on buckling of shell structure. He provided a new explanation for the well-known paradoxical behaviour of buckling of cylindrical shells under axial compression. Besides structural engineering, his current research areas include Bio-engineering, Mechanics of Woven Composites. These involve various analytical as well as experimental techniques. He leads the Bio-engineering research theme in the School. He has completed supervision of 17 PhD students so far, and currently supervising 12 PhD students. His current administrative and professional roles include - Undergraduate Civil Engineering Programme Director, Co-Director of Manchester Institute for Collaborative Research on Ageing (MICRA).

### **Dr Domenico Lombardi**

Domenico Lombardi is currently a lecturer in Geotechnical engineering at The University of Manchester. After graduating with a first class honours (with distinction) in Civil Engineering from the University of Sannio (Italy), Domenico moved to the University of Bristol to finish his postgraduate studies, first with an MSc in Offshore Engineering and then with a PhD in Earthquake Engineering. His doctoral studies focused on the effects of soil liquefaction on the dynamic behaviour of pile-supported structures. Before joining The University of Manchester, he was appointed as a Foreign Researcher in the Department of Civil and Environmental Engineering at Yamaguchi University (Japan), where he investigated the cyclic behaviour of soils and conducted a series of field surveys in the area hit by the 2011 Tōhoku earthquake and subsequent tsunami. Domenico is author of over 20 publications focusing on different civil engineering problems, including long-term performance of offshore wind turbines and design of structures in liquefiable soils. His main research interests are in geotechnics and structural dynamics, related to problems of offshore engineering and behaviour of structures under repetitive loading

### **Dr Tianjian Ji**

Tianjian Ji, FISTructE, is a Reader in Structural Engineering at the University of Manchester. Before joining UMIST in 1996, he had worked in industry for over ten years, mainly at Building Research Establishment in Watford and China Academy of Building Research in Beijing. He graduated in Civil Engineering and received MSc degree in Structural Mechanics both from Harbin Institute of Technology in China and PhD degree in Civil Engineering at the University of Birmingham, UK.

His research includes structural dynamics, in particular, human-structure interaction and structural vibration induced by rhythmic crowd loads, probabilistic seismic risk assessment of nuclear power plants and Tai Chi for improving balance in older people. His teaching website, Seeing and Touching Structural Concepts, has been used by many students and engineers worldwide ([www.structuralconcepts.org](http://www.structuralconcepts.org)). In addition to research and teaching, he has actively taken consultancy work to help solve practical vibration problems for consulting firms and solicitors, such as the vibration measurement of the London Eye.