

## About the Course

The primary objective of this short course is to provide an in-depth understanding of the structural response of offshore structures based on both component and system. This will be useful to engineering graduates and experienced draughtsmen who hold active line responsibilities in the design of offshore structures and offshore systems. The course is designed in such a way that at the end of the lectures, the person will have a very broad understanding of the behaviour of offshore structures under a variety of loading and operating conditions.

The syllabus will include: hydrodynamics of both fixed and floating offshore structures and structural modelling and response of these types of structures.

The course is intended for practising engineers and research scientists who need to understand the concepts behind the behaviour of offshore structure and system at sea.

## Who Should Attend

Engineers and scientists involved in the design of offshore structures. Personnel from oil companies, classification societies and offshore structure builders will benefit from attending this course. The course is innovative in both content & structure with a careful balance of theory & practice.

## PROGRAMME

### Monday 3 December 2012

- 09.00 - 10.30 Lecture 1: Overview of advances in offshore structure design, (*Industrial Lecture*)
- 10.30 - 11.00 *Break*
- 11.00 - 12.30 Lecture 2: Basic hydrodynamics, Dr. Rajiv Sharma
- 12.30 - 13.30 *Lunch*
- 13.30 - 15.00 Lecture 3: Hydrodynamics of floating structures I, Dr. Rajiv Sharma
- 15.00 - 15.30 *Break*
- 15.30 - 17.00 Lecture 4: Hydrodynamics of floating structures II, Dr. Rajiv Sharma

### Tuesday 4 December 2012

- 09.00 - 10.30 Lecture 5: Structural modelling of fixed platforms, Dr S Chandrasekaran
- 10.30 - 11.00 *Break*
- 11.00 - 12.30 Lecture 6: Structural modelling of floating structures, Prof. C.P.Vendhan
- 12.30 - 13.30 *Lunch*

13.30 - 15.00 Lecture 7: Analysis of mooring and risers, Prof. C.P.Vendhan

15.00 - 15.30 *Break*

15.30 - 17.00 Lecture 8: vortex vibration of risers and moorings, Prof. S.K. Bhattacharyya

### Wednesday 5 December 2012

- 09.00 - 10.30 Lecture 9: Plastic analysis and beam column analysis, Prof. P.K. Das
- 10.30 - 11.00 *Break*
- 11.00 - 12.30 Lecture 10: Analysis and design of stiffened plate, Prof. P.K. Das
- 12.30 - 13.30 *Lunch*
- 13.30 - 15.00 Lecture 11: Analysis and design of stiffened shells, Prof. P.K. Das

15.00 - 15.30 *Break*

15.30 - 17.00 Lecture 12: Overview of FPSO structures and its ultimate strength, Prof. P.K. Das

## REGISTRATION FORM

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_

Tel. \_\_\_\_\_

Email \_\_\_\_\_

I wish to register for the course at a cost of INR 20,000 including course material, lunches.

I enclose a cheque for INR20,000

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 be sent by **20<sup>th</sup> November 2012 to:**

*ASRANet Ltd.*  
50 Richmond Street, Glasgow G1 1XP

### Cost

The cost of the workshop will be INR 20,000 which includes registration, course material and lunches. You should make your own arrangements for accommodation.

### Payment

ASRANet Ltd. accepts payments by cheque, cash and bank transfer. Please contact for further details.

### Venue

Esthell Hotels,  
No.1, Royal Enclave,  
Besant Avenue, Adyar  
Chennai 600020  
Tel: (+91)-044-2446 6240

### Contact

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# Advanced analysis & design of offshore structures

**3-5 December 2012**

**Chennai, India.**

*Organised by*



(A Maritime spin-out company of the  
Universities of Glasgow & Strathclyde)

**in collaboration with**  
**Department of Ocean Engineering,**  
**Indian Institute of Technology**  
**Madras, Chennai, India.**

## Brief CVs of Lecturers

**Prof. Purnendu Das**, BE, ME, PhD, C.MarEng, FIMarEST, C.Eng, FRINA, FIStructE is Director of 'ASRANet Ltd' (a maritime spin out company of the Universities of Glasgow and Strathclyde) and Ex-Professor of Marine Structures, University of Strathclyde, Glasgow. Recent EU projects are MARSTRUCT (a network of excellence on Marine Structure) and DIVEST (Dismantling of Vessels with Enhanced Safety and Technology). Industrial projects are with the UK Health and Safety Executive, Subsea-7, the UK and US navies. He has previously been the principal investigator of many EPSRC projects. Before joining the University of Glasgow he worked with British Maritime Technology as principal Structural Engineer (1984-91). He is author of more than 250 publications, including contract reports and more than 60 journal papers. He is a member of the editorial boards of 8 journals which includes 'Journal of Marine Structures', 'Journal of Ship & Offshore Structures', 'Journal of Engineering under Uncertainty: Hazards, Assessment and Mitigation', 'Journal of Ocean and Climate System' and amongst others. His areas of research include ultimate strength & reliability analysis of ship & offshore structures. He has been running various successful CPD courses which have attracted many people from different industries. He is now a member of ISSC Committee (International Ship and Offshore Structure Congress). From 2002, he is organising the international ASRANet Conference (Network for Integrating Structural Analysis, Risk and Reliability), which is held every 2 years and the 6<sup>th</sup> International Asranet Conference will be held in London in July 2012.

**Prof. Chiruvai P. Vendhan** obtained his B.E. (Civil) degree in 1968 and M.Sc. (Struct. Engg.) in 1970, both from the University of Madras. He obtained his Ph.D. from IIT Kanpur in 1975. He worked at the University of Massachusetts, Amherst, Mass., USA, as a Post-doctoral Research Associate from 1975-1979. He joined the faculty of the Ocean Engineering Department of IIT Madras in 1980. He is presently a Professor Emeritus there. His areas of research are dynamics of offshore structures, fluid-structure interaction, finite element modeling and computational acoustics. He has taught courses in dynamics of ocean structures, finite element applications and ocean acoustics. He has been associated with a few space and defence projects in India, primarily involving finite element applications.

**Prof S K Bhattacharya** obtained his B. Tech (Hons) degree in Naval Architecture from IIT Kharagpur in 1978 and M.S and PhD degrees in Ocean Engineering from IIT Madras in 1985 and 1989, respectively. He joined the Ocean Engineering Department of IIT Madras in 1981. He is presently the Head of the Department. His research interests are ships and offshore structures, fluid-structure interaction and ocean acoustics. He has taught a large number of undergraduate and postgraduate courses at IIT Madras.

**Dr. Rajiv Sharma** obtained his BE degree in Civil Engineering from the IIT, Roorkee (formerly University of Roorkee, Roorkee) in 1994; MTech degree in Ocean Engineering from the IIT, Kharagpur, in 1999; and PhD in Computer Aided Design and Manufacturing from the IIT, Kharagpur, India in 2008. Presently, he is working as Assistant Professor in the Department of Ocean Engineering, IIT Madras, Chennai, India. His research interests are: Design of deepwater drilling solutions and floating structures; Computer aided geometric

design, computational geometry, visualization, and their applications in design, robotics and manufacturing; Dynamic data driven forecasting systems; and Participatory/democratic economy.

**Dr S Chandrasekaran** obtained his BE (Gold Medalist with distinction) degree in Civil Engineering from Bahrathiyar University, Coimbatore, India in 1991 and M.Tech and PhD degrees in Structural Engineering from IIT Delhi in 1995 and 1999, respectively. He Joined as Associate Professor in Department of Ocean Engineering from IIT Madras in 24th Aug 2009. He was the Visiting Fellow in MiUR (Ministry of Italian University and Research), Department of Structural Engineering, Univ. of Naples Federico II, Italy (05/07 to 05/09). He is the recipient of Post-Doctoral Fellow offered by Ministry of University Research (MIUR), Italy for a period of two years with effect from 15th May 2007. He is Member of ASCE. He is reviewer of 'Journal of Engineering Structures, Elsevier Science', 'Journal of Applied Ocean Research' & 'Journal of Structures and Materials'. He is life member of many Professional bodies. His research interests are: Structural Dynamics and Earthquake Engineering, Earthquake resistant analysis and design of Structures, Seismic evaluation and retrofitting of buildings and offshore structures, Non-linear analyses and design of structures, Offshore Compliant Structures, Structural health monitoring, Design and development of wave energy devices, Health, Safety and environmental management for offshore and petroleum engineering.