

## **ABOUT THE COURSE**

The course will cover various topics which are required to assess the dynamics of fixed offshore structures. They include overall analysis methods in which various options for performing wave and earthquake analysis are compared. Structural response under random loading discusses the alternative methods for calculating the structural response, statistics when environmental statistics are known. Other subjects include analysis of structure to extreme & fatigue loading and vortex induced vibration.

## **WHO SHOULD ATTEND**

Engineers and scientists involved in the design of offshore structures or entering the offshore structures industry. Personnel from oil companies, classification societies and offshore structure builders, clients commissioning design and analysis work and students on specialist offshore engineering courses will benefit from attending this course. The course provides a careful balance of theory & practice which is illustrated with worked examples.

## **COST**

The registration fee of the workshop will be £595.

## **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 Us**

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## **ONLINE**

# **Dynamics of Fixed Offshore Structures**

## **9-10 May 2022**



(A Maritime Company for Courses, Conferences  
and Research)

## PROGRAMME SCHEDULE

### Monday, 9 May 2022

**09.00 - 10.30** Lecture 1: Regular Wave theories and particle kinematics

**10.30 - 10.45** *Break*

**10.45 - 12.15** Lecture 2: Wave spectra, New wave, short and long term statistics

**12.15 - 12.45** *Lunch*

**12.45 - 14.15** Lecture 3: Wave and current loads - Morison and vortex shedding

**14.15 - 14.30** *Break*

**14.30 - 16.00** Lecture 4: Examples: Part-1

### Tuesday, 10 May 2022

**09.00 - 10.30** Lecture 5: Structural modelling and response to regular and random waves

**10.30 - 10.45** *Break*

**10.45 - 12.15** Lecture 6: Foundation modelling

**12.15 - 12.45** *Lunch*

**12.45 - 14.15** Lecture 7: Earthquake

**14.15 - 14.30** *Break*

**14.30 - 16.00** Lecture 8: Examples: Part-2

## CV of Lecturer

### Professor Nigel Barltrop



Professor Barltrop is an emeritus professor at the university of Strathclyde, UK and the director of Barltrop Engineering LLP which was established in 2015 and provides consultancy and expert witness services in the areas of fatigue and strength of offshore structures, ships, lattice towers and renewable energy devices. His career activities in different stages are as follows:

2015 - 2017: Expert witness on litigation related to jack up production platforms and an offshore met mast. Dynamic fatigue analysis of a flare tower and front-end design of a fish farm. Part time professor at University of Strathclyde.

1995 - 2015: Professor at Glasgow and then Strathclyde Universities. (Head of Department 1995 - 2001). Research work includes Deepwater breaking wave forces and structural reliability of degrading offshore structures. Published Floating structures: a guide for design and analysis, MTD/OPL. Expert witness for loss of MV Prestige.

1977 - 1995: Atkins, Head of Marine & Structural Technology department 1984, Technical Director 1988. Projects include design of Leman G platform, Hutton TLP Column-Pontoon connections, Structural assessment and strengthening of the semi-submersibles Buchan Alpha and Iolair, the Seacat 'Great Britain' catamaran and several tankers, investigation of damage to WEG MS3 wind turbines. Developed software for analysis of stiffened plating, concrete offshore structures, coupled tether-hull TLP dynamics and response of lattice towers and turbines to wind turbulence. Expert witness in relation to losses of Alexander Kielland, Silimna and Kirki. Published Dynamics of fixed offshore structures (MTD/Butterworth Heinemann) and Fluid loading on fixed offshore structures (HMSO). Wrote fluid loading section of DEn/HSE "Guidance notes" and contributed to the development of offshore ISO standards.

1973 - 1977: Freeman Fox and partners, contributed to preliminary design of Hong Kong mass transit railway, detailed design of Hull "Myton" swing bridge, construction supervision of Humber suspension bridge.