ABOUT THE COURSE

The primary objective of this short course is to provide conversion or refresher training for science and engineering graduates and experienced draughtsmen who hold active line responsibilities in the design of ships and ship systems and in shipbuilding practice. 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 ships under a variety of loading and operating conditions.

The syllabus will include: basic definitions of ships, structural components of the hull girder, general arrangement, ship as functional blocks, resistance and propulsion methods

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

WHO SHOULD ATTEND

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

COST

The registration fee of the workshop will be £750 + VAT (UK only) 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. Please enquire for details.

VENUE

ASRANet Ltd
St Georges Building
3rd Floor
5 St Vincent Place
Glasgow, G1 2DH

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

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Basic Naval Architecture

16-17 March 2020
Glasgow, UK

PROGRAMME

Monday 16th March 2020

09.00 - 10.30 Lecture 1: Basic Definitions, Displacement, Deadweight, Deck Load etc. Loading Conditions, Stability and Trim, Stability Book, Role of Marine Agencies
Dr Maryam Haroutunian

10.30 - 10.45 *Break*

10.45 - 12.15 Lecture 2: Ship Capsizing, Static Stability, Worked Example on Ships
Dr Maryam Haroutunian

12.15 -13.30 *Lunch*

13.30 – 15.00 Lecture 3: Tutorials on Stability
Dr Maryam Haroutunian

15.00 - 15.30 *Break*

15.30 - 17.00 Lecture 4: Resistance & Propulsion
Dr Maryam Haroutunian

Tuesday 17th March 2020

09.00 - 10.30 Lecture 5: Hull Girder Response – I
Still Water & Wave Bending Moment
Professor Purnendu Das

10.30 - 10.45 *Break*

10.45 - 12.15 Lecture 6: Hull Girder Response - II
Bending & Shear Stress
Professor Purnendu Das

12.15 -13.30 *Lunch*

13.30 - 15.00 Lecture 7: Hydrodynamics - I
Dr. Wenxian Yang

15.00 - 15.30 *Break*

15.30 - 17.00 Lecture 8: Hydrodynamics – II
Dr. Wenxian Yang

LECTURER CV'S

Dr Wenxian Yang, Senior Lecturer in Offshore Renewable Energy

Dr Wenxian Yang obtained his PhD degree from Xi'an Jiaotong University in 1999. He is currently a Senior Lecturer in offshore renewable energy at Newcastle University. Dr Yang is a chartered engineer, the Fellow of the UK Higher Education Academy, the member of the Royal Institution of Naval Architects, the Institution of Engineering and Technology, and the American Society of Mechanical Engineers. With expertise in marine and offshore renewable energy, he has consistently strived to lower the Cost of Energy of offshore renewable power by developing various approaches using the knowledge in multiple disciplines, e.g. increasing availability and reducing operation and maintenance cost of offshore wind turbines by developing advanced condition monitoring techniques; assuring the safety of the fixed foundation of offshore wind turbines by designing and developing countermeasure devices against scour caused by tidal current; improving the power generation efficiency of wind and tidal turbine by developing biomimetic airfoil/hydrofoil technologies; increasing the economic return of offshore floating wind turbines by developing motion-stable floating platform technologies. Recently, in order to meet the urgent requirement by the rapidly growing offshore wind market, Dr Yang's research interest is also extended to addressing the challenging issues existing in the design and application of offshore wind farm support vessels. For example, in view of the unsatisfactory seakeeping performance of offshore wind farm crew transfer vessel, he has developed a new cost-effective technique dedicatedly for stabilizing wind farm crew transfer vessels; to enable quickly access to those offshore wind turbines located at far offshore distance whilst costing less fuel and achieving better seakeeping performance, he developed a number of innovative ship design techniques and successfully supervised 6 postgraduate research theses to address the issue. In 2017, his research on the ageing issues of wind turbine components and assemblies was identified by Renewable Energy Global Innovation as a key contribution to the excellence in renewable and clean energy research. Besides these, Dr Yang endeavours to develop research in the cutting-edge area of renewable energy also through collaborating with the scientists and experts working in different fields. For example, he worked together with the material and chemical engineering scientists of the universities of Newcastle, Durham and Northumbria and successfully established the 'Northeast Centre for Energy Materials' funded by EPSRC in 2017. So far, Dr Yang has published over 100 papers in top journals. According to the latest survey of Google Scholar, his papers have been cited 1652 times since 2014. Dr Yang's successful research has also attracted great interest from industrial partners. For example, Dr Yang was funded by Innovate UK to lead a 3-year Knowledge Transfer project (2014-2017) in order to help Offshore Renewable Energy CATAPULT Centre (ORE-CATAPULT) to improve the safe operation of their offshore wind turbines. In the meantime, Dr Yang is also active in other academic activities.

Purnendu Das. BE, ME, PhD, C.Eng, C.MarEng, FRINA, FIStructE, FIMarEST

Purnendu Das has been the Director of 'ASRANet Ltd' (an ISO 9001-2008 certified company) since February 2006. He retired as a Professor of Marine Structures in the Department of Naval Architecture & Marine Engineering at the University of Strathclyde, UK in September 2011. Past EU projects were MARSTRUCT (a network of excellence on Marine Structure) and SHIPDISMANTL (a cost effective and environmentally friendly dismantling of ship structures). Past industrial projects included work from the UK Health and Safety Executive (HSE), MoD UK, Subsea-7 UK, Shell, Woodgroup and US Navies etc. He was the principal investigator of many EPSRC projects. Before joining the University of Glasgow in 1991 he worked with British Maritime Technology as Principal Structural Engineer (1984-91). He is the author of more than 250 publications, including contract reports and more than 60 journal papers and is a member of the editorial boards of the 'Journal of Marine Structures', 'Journal of Ocean and Ship Technology' and 'Journal of Ocean and Climate System' and the Journal of Ship Mechanics amongst others. His areas of research include limit state design and analysis & reliability analysis of ship & offshore structures. Purnendu Das has wide ranging industrial

and academic contacts and has advised and supervised 20 PhD students, to his credit. Details of visits and collaborations include his various sabbatical study periods spent at University of California, Berkeley, USA (July – September 1996), at Lloyd's Register of Shipping (August 1997), Kockums Ltd (July 1998) and spent some time at Instituto Superior

Técnico (IST), Lisbon (July 2000). He is running about 20 CPD courses which are attracting many people from different industries. These courses are on 'Fatigue & Fracture Analysis', 'Ships at Sea', 'Advanced

Analysis and Design of Offshore Structures', 'Offshore Floating System Design', 'Structural Response under Fire and Blast Loading' and 'Design of Pipelines and Risers' amongst others. He was a member of ISSC (International Ship and Offshore Structure Congress) for the periods of 1991-97 and 2003-2006. He was a member of the OMAE (Offshore Mechanics and Arctic Engineering) Organising Committee on 'Safety and Reliability'. He is running about 15 biennial international conferences on various themes like Risk, Reliability, Advanced Analysis & Design of Engineering Structures, including marine structures. He was a member of the "Research Committee" of Structural Engineers (IStructE)

during 2012-2015. He was a visiting Professor at IST Surabaya, Indonesia from July 2015 for one year. He is now a visiting professor at the Wuhan University of Technology, China from July 2016.

Dr. Maryham Haroutunian, Lecturer in Marine Technology

Research Interests

- Predicting the seakeeping of marine vessels in real-time and near future
- Novel approaches to design optimisation with emphasis on underwater vehicles
- Bio-inspiration to improve the performance of marine vehicles
- Hydrodynamics, propulsion and control of underwater robots
- Use of smart materials in underwater vehicles
- Marine Coatings