Supergen

Offshore Renewable Energy

Masterclass Prospectus

Elevate Your Career with an Expert-Led Masterclass

Highly specialised, short courses led by world-leading researchers at the UK's most innovative offshore renewable energy universities.

UKRI Engineering and Physical Sciences Research Council

World-class Expertise

Funded by the Engineering and Physical Sciences Research Council (EPSRC), the Supergen Offshore Renewable Energy (ORE) Hub offers research leadership to accelerate the development of wind, wave, and tidal energy. We are a collaboration of 10 leading UK universities that are pioneering innovative ORE research. Drawing on this expertise, our Masterclass programme is a unique opportunity to learn directly from the UK's foremost specialists in offshore renewable energy.

Hands-on Learning

Immerse yourself in a dynamic learning environment with a blend of lectures, live demonstrations, and engaging hands-on activities.

Benefit from the knowledge and experience of industry-leading professionals.

Advanced Experimental Fluid Mechanics for ORE Masterclass
22 April 2024

Unique and Specialist

Enhance your career by engaging with specialist ORE researchers and access cutting edge facilities not found in standard commercial training. Study post-graduate content in a highly specialised 1 day course.

Gain a unique advantage by learning innovative solutions from researchers working at the forefront of experimental fluid dynamics.

This is a unique and limited opportunity to work with specialists and explore the world-class facilities in the COAST Laboratory at the University of Plymouth.


The COAST Laboratory, University of Plymouth

Advanced Experimental Fluid Mechanics for ORE Masterclass
22 April 2024

Advanced Experimental Fluid Mechanics for ORE

Location: University of Plymouth
Date and time: Monday 22 April 2024 | 08:30 - 17:00

Course design

- Dr Martyn Hann, Associate Professor in Offshore Renewable Energy Engineering, University of Plymouth
- Professor Deborah Greaves OBE, Professor in Ocean Engineering, University of Plymouth

Pricing

- Industry delegate: £500
- Early Career Researchers: Free

The COAST Laboratory, University of Plymouth

About the Masterclass

This 1-day Masterclass is designed to give a detailed introduction to the research and development support that physical modelling can provide for ORE. We focus on teaching the techniques needed to carry out experiments on scaled ORE systems. Participants will leave with a deeper understanding of the advantages of physical modelling, the limitations, and what needs to be considered when planning a physical modelling campaign.

The programme will combine lectures -covering topics including an introduction to physical modelling and scaling, experiment design and numerical model validation, instrumentation and testing protocols - with hands-on activities exploring laboratory scale hydrodynamic testing of floating offshore wind, tidal and wave energy systems.

The course provides unique access to the world-class COAST Laboratory with the capability to generate short and long-crested waves combined with currents at any relative direction, sediment, and candidates will be introduced to the newly-installed UK Floating Offshore Wind Turbine Test (UKFOWWT) facility.

Find out more and register

Details

Pricing

- **Industry participant: £500** - Course materials and lunch included. Participants are responsible for the cost and organisation of their travel and accommodation.
- **Early Career Researchers (ECRs): Free** - In line with EPSRC funding policy, the course cost is covered for academic researchers who meet the definition of an Early Career Researcher (Post Doctoral Researchers, early career academic staff within three years of their first academic appointment, or PhD students within 12 months of completion who are exploring a future career in ORE), and are part of our network. There will be no charge for Early Career Researchers to attend a Masterclass, but they will be responsible for covering expenses such as travel and accommodation.

Included in your day

- Unparalleled access to the most up-to-date knowledge in a session created by academics at the forefront of ORE research and teaching
- Access to world-class facilities and hands-on demonstrations
- Electronic access to course material and presentations after the masterclass
- Networking opportunities
- Q&A session with Course Director(s)
- Morning, lunch and afternoon refreshments
- Electronic certificate of attendance

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Company Membership

For Industry participants, membership can be arranged which gives the opportunity to invest in an annual cost providing employees with access to multiple places on the ongoing Masterclass Programme. Please email supergenorehub@plymouth.ac.uk for further information.

Industry Participants - Early Career Industrialists

The Supergen ORE Hub plans to develop a network of Early Career Industrialists (ECIs) to connect and support individuals who have recently entered the professional field (within the last 6 years) and are actively engaged in the development, management, or application of technologies related to offshore renewable energy. Whilst our ECI activities are open to all, typically an ECI will hold a Masters, PhD or equivalent advanced degree, and be equipped with a strong academic background, or level of experience, and specialised knowledge in fields such as marine engineering, renewable energy systems, or related disciplines. During the Masterclass registration, you'll be invited to stay in touch with us about future ECI opportunities or you can email supergenorehub@plymouth.ac.uk for more information.

Find out more and register

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Masterclass Programme

Currently in development, these Masterclasses are due to start from mid-2024. To receive the updated Masterclass Prospectus when it is available, register here.

Sensing

Sensing for ORE structures
University of Hull | May 2024
Specialist access to the wind turbine simulator and scaled wind turbine blade.

Resource & Environment

Offshore Geotechnics
University of Southampton & University of Oxford | Mar 2025
Specialist access to the Geotechnical Centrifuge

Optimising ORE Array Design and Locations for Safety, Fisheries Co-Location and Environmental Aspects
National Decommissioning Centre & University of Aberdeen | June 2025
Specialist access to the National Decommissioning Centre's Marine Simulator and Smart Energy Basin.

Environmental Contours & Extreme Value Analysis
University of Exeter | April 2025
Specialist access to statistical modelling tools in the Penryn Campus software lab.

Policy and Economics

Economic and Policy Analysis for Offshore Renewables
University of Edinburgh | January 2025
Includes tour of the Flowave facility.

Modelling

Advanced Experimental Fluid Mechanics for ORE
University of Plymouth | 22 April 2024
Specialist access to the Coast Lab - Ocean Basin, Coastal Basin, Flumes, an introduction to the new UK Floating Offshore Wind Turbine Test facility, Babbage wind tunnel and Hexapod.

Real-Time Hardware-in-the-Loop Experiments for Grid Integration of ORE Systems
University of Warwick | September 2024
Specialist access to renewable Integration & Smart Grid Lab - real-time simulator, grid/wind turbine/energy storage/electronic load emulator, real-time HIL test.

Virtual Prototyping of ORE Technologies
National Decommissioning Centre (NDC) & University of Aberdeen
November 2024
Specialist access to the National Decommissioning Centre's Marine Simulator

Fluid Mechanics Modelling for ORE Systems
University of Oxford & University of Manchester | October 2024

Survivability, Reliability and Design

Offshore Structural Integrity
University of Strathclyde | June 2024
Specialist access to the Inspection and Structural Health Monitoring Laboratory.