

12th PRIMaRE Conference 2025 - University of Bristol
PROGRAMME
Day 1 - 2nd July 2025



University of
BRISTOL



Day 1 - 2nd July 2020						
Session	Chair	ID	Title	Presenter	Affiliation	Time
Arrival and registration						8:15 - 9:00
Welcome and opening				Andrea Diambra	University of Bristol	9:00
Technical session 1	Ian Masters	Keynote lecture	Some thoughts on the extraordinary achievements of and present obstacles to renewable energy in the UK	Andrew Garrad	Garrad Balfour	9:10
		1	RTide: A machine learning enabled implementation of Munk and Cartwright's Response method	Thomas Adcock	University of Oxford	9:40
		2	Effect of winglets on tidal turbine tip vortices	Anna Young	University of Bath	9:50
		3	Evaluation of passive flow control jets to reduce loads on tidal devices	Jingqian Sun	University of Cambridge	10:00
		4	Assessing the risk of collision between seals and an operating tidal turbine in the Pentland Firth, Scotland	Douglas Gillespie	University of St Andrews	10:10
		5	Proving Tidal: Real-World Lessons from Installing Marine Energy Systems in Japan and Scotland	Ryan Biggs	Proteus MR	10:20
		Questions and Answers				
Coffee break						10:45
Technical session 2	Ahmad El Hajjar	6	Resolving the wakes of offshore wind infrastructure in density stratified tidal flows	Charlie James Lloyd	Loughborough University	11:15
		7	Floating offshore wind pumps for pumped storage electricity generation in small islands	Tasneem Abdelmagid	Swansea University	11:25
		8	Hydrodynamical responses of a novel spar-type floating offshore wind turbine: experiments and modelling	Marcin Kapitaniak	University of Aberdeen	11:35
		9	On the development of a short design events approach for floating wind turbines	Tom Tosdevin	University of Plymouth	11:45
		10	Finite element-based dynamic characterization of a Tension-Leg Floating Offshore Wind Turbine	Alessandro Cameli	Università Pol. Marche	11:55
		11	Optimisation of a lazy wave dynamic power cable configuration using a surrogate model assisted genetic algorithm	Anna Holcombe	University of Plymouth	12:05
		12	Hydrodynamic Loads on Semi-submersible Floating Turbine Platform: Role of Orientation and Air-Water Interface	Nilotpal Dhar	University of Hull	12:15
		13	Quasi-impulsive reverse wave force on a vertical cylinder	Tianning Tang	University of Manchester	12:25
		14	Initial results when using unmanned vessels for tidal current survey	Ian Masters	Swansea University	12:35
		Questions and Answers				
Lunch						13:00
Technical session 3	Charlie Lloyd	Keynote lecture	The Use of a Structured Systems Engineering Strategy for Technology Development of Offshore Renewables	Tom Adcock	Blackfish Engineering	14:00
		15	Fully Differentiable Fluid-Structure Interaction Solver for Wave Propulsion of a Flapping Foil	Keren Tuv	Cranfield University	14:30
		16	Q-learning and the control of point absorber wave energy converter arrays	Xuxin Pooley	University of Exeter	14:40
		17	Rigid and flexible floating plates for wave energy extraction	Emiliano Renzi	Northumbria University	14:50
		18	Numerical investigation of wave devouring propulsion for stabilisation of floating wind platforms using hydrofoils	Junxian Wang	Cranfield University	15:00
		Questions and Answers				
Coffee break						15:20
Technical session 4	Anna Young	19	Nature Inclusive Offshore Wind Joint Industry Project	Tessa Gordelier	Arup	15:50
		20	Climate and environmental considerations for green hydrogen from Offshore Renewable Energy (ORE)	David Pegler	University of Plymouth	16:00
		21	Improving the Accessibility of Offshore Wind Infrastructure	Hamish Drain	Heriot Watt University	16:10
		22	Quantification and attribution of uncertainty in wind power modelling	Francesca Pianosi	University of Bristol	16:20
		Questions and Answers				
	Paul Haper	Panel discussion - Panelist: Peter Kydd, Kerry Hayes and Deborah Greaves				
Conference Dinner at Brown Bristol						19:15

Technical Session 5	Tingfa Liu	Keynote lecture	Floating Offshore Wind update and technology	Alex Argyros	BP	9:00
		23	Uncertainty measurements of laboratory tests used in geotechnical design	Dimitris Xirouchakis	University of Bristol	9:30
		24	WET STORAGE OF FLOATING WIND TURBINES	Alan Philip Crowle	University of Exeter	9:40
		25	Multi-rotor wind turbines: a scalable path to lower cost and greener energy?	Abdirahman Sheik Hassan	University of Bristol	9:50
		26	Towards Smarter Wind Turbine Blade Production with Advanced Sensing and Real-Time Modelling	Jack Davies	University of Bristol	10:00
		Questions and Answers				10:10
		Posters - flash presentations				10:20
Coffee break					10:45	
Technical Session 6	Scott Brown	27	A Novel Machine Learning Model to Fast Predict Nonlinear Wave Forces on Monopile-Type Offshore Wind Turbines	Haoyu Ding	University of Bath	11:15
		28	Scale Modelling and Validation of Inverse Catenary Formation of Embedded Tethers	Rachael Smith	Reflex Marine	11:25
		29	Offshore Electric Vessel Charging: An Engineering Opportunity	Ben Sackey	Blackfish Engineering	11:35
		30	Enhancing Nearshore Wind Estimation with Wave Buoy Data: A UK Southwest Coastal Study	Jiaxin Chen	University of Plymouth	11:45
		31	Advanced Machine Learning PCPT Interpretation in Offshore Geotechnical Investigations	Hin Wong	Geoquip Marine	11:55
		Questions and Answers				12:05
		Keynote lecture	Unpacking the UK Offshore Wind Industrial Growth Plan – Connecting fundamental research to industrial growth	Peter Giddings	National Composite Centre	12:15
Prizes, handover and closure			Andrea Diambra	University of Bristol	12:45	
Lunch					13:00	
Supergen ORE Hub Workshop at PRIMaRE 2025 - Creating a Strategic Research Agenda for ORE					14:00	
					17:00	


BLACKFISH


Keynote Speakers



Andrew Garrad

Some thoughts on the extraordinary achievements of and present obstacles to renewable energy in the UK

Abstract: The extraordinary achievements of marine renewables and the present challenges will be discussed from a technical, commercial and political point of view

Bio: Dr Garrad has been involved in wind energy for 45 years. He built his first wind turbine in 1971. In 1984 he co-founded the Garrad Hassan Group which grew to become the world's largest renewable energy consultancy. From 2013 to 2015 he was President of the European Wind Energy Association. In 2024 he was awarded the global Queen Elizabeth Prize for Engineering together with Henrik Stiesdal of Denmark and was appointed Chair of the Independent Commission on the Severn Estuary. He is a Fellow of the Royal Academy of Engineering and an Honorary Fellow of New College, Oxford. He is a Visiting Professor of Engineering Mathematics at Bristol University



Tom Adcock

The Use of a Structured Systems Engineering Strategy for Technology Development of Offshore Renewables.

Abstract: Demonstration of how systems engineering can accelerate the development of wave and tidal stream energy projects by reducing costs, managing risk, and streamlining certification. The talk will share experiences from development projects undertaken by Blackfish Engineering to show the importance of capturing detailed design and project requirements, the benefits of targeting delivery of a Minimum Viable Product, how to apply a well planned validation and verification strategy, and the challenges of driving novel technologies towards commercial design and certification.

Bio: Tom Adcock is a chartered mechanical engineer at Blackfish Engineering with 12 years' experience in marine renewable technologies with additional background in aerospace and rail. He has led engineering teams to deliver complex designs for tidal and wave prototype devices; working on concept development, structural load analyses, validation and verification plans, assembly and commissioning plans as well as on-site O&M support, to deliver critical hardware, tooling and test rigs. Tom also has a solid foundation in managing projects, budgets, engineering teams and supply chain to meet a pre-defined set of technical and business requirements



Alex Argyros

Floating Offshore Wind update and technology

Abstract: Overview of floating offshore wind (FOW), including market update, key technology challenges, and considerations for technology selection.

Bio: As bp floating wind lead Alex is responsible for FOW technology and engineering. Before joining bp in 2021 he spent nearly 10 years at DNV as lead naval architect and Noble Denton technical authority for moorings. He has a research background with a PhD from Cambridge University on ultra-deepwater moorings.



Peter Giddings

Unpacking the UK Offshore Wind Industrial Growth Plan – Connecting fundamental research to industrial growth

Abstract: The UK Offshore Wind Industrial Growth Plan (IGP) sets out the priority areas for investment to accelerate the development of the UK offshore wind supply chain, providing a clear competitive advantage and potential to create economic and societal value for the UK. A clear focus of the IGP is to catalyse capital investment in IGP priority areas before 2030 to anchor those supply chains in the UK as a springboard for long-term, sustainable growth. To complement that primary focus, there is a vital role for fundamental research to support delivery of the IGP, and in time, to guide the future ambitions of a successful UK wind industry. The ambitions, objectives and key technology challenges set out in the IGP will be described as well as the latest developments of how these priorities are being translated into actions by Government, Support organisations and RTOs to help ensure great fundamental research is given a clear route to contribute to building great industries.

Bio: Peter is passionate about creating a sustainable and valuable renewable energy sector in the UK to help deliver clean energy and meaningful improvements to our shared future. He pursues that ambition by leading technology strategy for NCC and the High Value Manufacturing Catapult activities in wind combined with a central role in implementing the industrial strategy envisioned by the UK OW IGP for the OWGP as they assume the position as IGP Delivery Body.

Panelists



Peter Kydd

Strategic Advisor to WSP



Deborah Greaves

University of Plymouth
SUPERGEN ORE Director



Kerry Hayes

Portfolio Director - Offshore Wind