

PRIMaRE Seminar Series

Partnership for Research in Marine Renewable Energy



Remote river energy system: field trial update

Speaker: Prof. Ian Masters, a Professor in the Mechanical Engineering department at Swansea University. He founded the Marine Energy Research Group in 2001 and is author of many academic papers and patents. His research areas include: Tidal turbines with combined tide, wave and turbulent flows; Computational Fluid Dynamics; modelling of arrays, wakes, scour and deposition; he has also published on multiple use of space and Blue Growth.



Abstract: Swansea University has developed a 3m diameter tidal turbine for use in remote locations. Field trials of the unit are planned for spring 2023 and this presentation will discuss the turbine design, and the staged development process used. The experiment will be carried out at the Warrior Way site in Pembrokeshire, Wales within the Marine Energy Test Area (META) The project design is open source and collaboration opportunities are welcome. We acknowledge funding from WEFO ERDF and the Swansea Bay City Deal.

Challenges and opportunities of bio-based turbine blades for marine energy

Speaker: Dr. Stuart Walker completed a PhD in Tidal Turbine hydrodynamics at the University of Sheffield in 2014. Since then he has worked on various projects on tidal stream energy and material impact assessment. As part of the Interreg TIGER project he worked on the potential for developing low impact bio-based materials for marine energy applications.



Abstract: Turbine blades are a key element of marine energy. Glass or carbon fibre composites currently offer the best combination of mechanical properties and cost, but end-of-life disposal methods lead to significant environmental impact. As marine energy technology deployments expand exponentially, bio-based composites may offer a solution, but ensuring these materials meet required levels of performance remains a challenge. In order to achieve similar levels of performance to conventional composites, greater material mass or design and manufacturing changes are often required. This talk will discuss the current status of this material development and highlight the potential opportunities for impact reduction.

Time: 13.00 – 14:00 (GMT)
24 January 2023

Zoom: Meeting ID: 999 7737 6220
Passcode: 178775

Chair: Prof. Jun Zang
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