

# 5<sup>th</sup> Oxford Tidal Energy Workshop (OTE 2016)

## Final Programme

21<sup>st</sup> March 2016

- 11:00 - 11:10      Opening
- 11:10 - 12:25      Session 1: Basin Modelling
- 11:10**      *Power Potential of Tidal Fences in the Bristol Channel*  
                  Guy Houlsby (University of Oxford)
- 11:35**      *Observations of Waves at Tidal-stream Energy Sites*  
                  Matt Lewis (Bangor University)
- 12:00**      *Numerical Modelling of Two-scale Flow Dynamics*  
                  Paul Bonar (University of Edinburgh)
- 12:25 - 12:35      Poster Presentations (1)
- 12:40 - 14:00      Lunch
- 14:00 - 15:15      Session 2: Wake characteristics and turbulence (1)
- 14:00**      *Fast optimization of tidal stream turbine positions for power generation in small arrays with low blockage based on superposition of self-similar far-wake velocity deficit profiles*  
                  Peter Stansby (University of Manchester)
- 14:25**      *Wake Characteristics of a Scaled Tidal Rotor with Monopile Support Structure for Co-located Wind and Tidal Farms*  
                  David Lande-Sudall (University of Manchester)
- 14:50**      *Tidal Turbine Wake Analysis using Vessel- and Seabed-mounted ADCPs*  
                  James McNaughton (GE Renewables)
- 15:15 - 15:30      Poster Presentations (2)
- 15:30 - 16:00      Coffee
- 16:00 - 17:15      Session 3: Turbine Design and Performance (1)
- 16:00**      *Unsteady Tidal Turbine Blade Loading; an Analytical Approach*  
                  Gabriel Scarlett (University of Edinburgh)
- 16:25**      *Unsteady Hydrodynamics of Flexible Submerged Foils*  
                  Ignazio Maria Viola (University of Edinburgh)
- 16:50**      *Harvesting Energy from a Flexible Flapping Membrane in a Uniform Flow*  
                  Qing Xiao (University of Strathclyde)
- 18:45 -              Drinks reception & Dinner  
                          St Edmund Hall, OX1 4AR

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9:25 - 10:40	Session 4: Turbine Design and Performance (2)
	<b>9:25</b> <i>Adjustable Camber for Extended Fatigue Life</i> Anna Young (University of Cambridge)
	<b>9:50</b> <i>Tidal Turbine Blade Design from a Fatigue Point of View</i> Vesna Jaksic (University College, Cork)
	<b>10:15</b> <i>Performance and Interaction of Short Fences of Tidal Turbines</i> Richard Willden (University of Oxford)
10:40 - 11:10	Coffee
11:10 - 12:25	Session 5: Wake characteristics and turbulence (2)
	<b>11:10</b> <i>Tidal Turbine Wake Simulation using a High-order Weakly-compressible Cartesian Finite Volume Solver</i> Baptiste Elie (EC Nantes)
	<b>11:35</b> <i>A Comparison of Synthetic Turbulence Generation Methods</i> Michael Togneri (Swansea University)
	<b>12:00</b> <i>Impact of the Free Surface Proximity on the Performance of a Single Tidal Stream Turbine: A Vortex Filament Approach</i> Georgios Deskos (Imperial College)
12:25 - 12:40	Poster Presentations (3)
12:40 - 13:50	Lunch
13:50 - 15:05	Session 6: Turbine Design and Performance (3)
	<b>13:50</b> <i>Experimental Study of the Boundary Conditions on an Undulating Membrane Tidal Energy Converter</i> Martin Träsch (ADEME)
	<b>14:15</b> <i>Unsteady Load Relief of an Axial Flow Tidal Turbine in Sheared Flow by Individual Pitch Control</i> Jianxin Hu (University of Oxford)
	<b>14:40</b> <i>Large-Eddy Simulation of Tidal Turbines Using the Immersed Boundary Method</i> Pablo Ouro (Cardiff University)
15:10 - 15:20	Closing

Poster Presentations (1):

*Examining the Limitation of Depth Averaged Models for Assessing the Interaction of Tidal Energy Extraction and Tidal Flow*

Alice Goward Brown (Bangor University)

*Coupling of BEM-CFD and Coastal Area Models for Assessment of Tidal Stream Turbine Impacts at Regional Scales*

Matt Edmunds (Swansea University)

Poster Presentations (2):

*Impacts of Various Floating Platforms on FOWT System*

Yuanchuan Liu (University of Strathclyde)

*RANS-VOF Modelling of Floating Tidal Streams Systems*

Edward Ransley (Plymouth University)

*Evaluating Passive Structural Control of Tidal Turbines*

Song Fu (University of Strathclyde)

Poster Presentations (3):

*A BEMT Model for a High Solidity, Hubless and Ducted Tidal Stream Turbine*

Steve Allsop (IDCORE)

*Tidal Turbine Wake Asymmetry due to Wake-Seabed Interactions*

Lada Murdoch (CFD People Ltd.)