

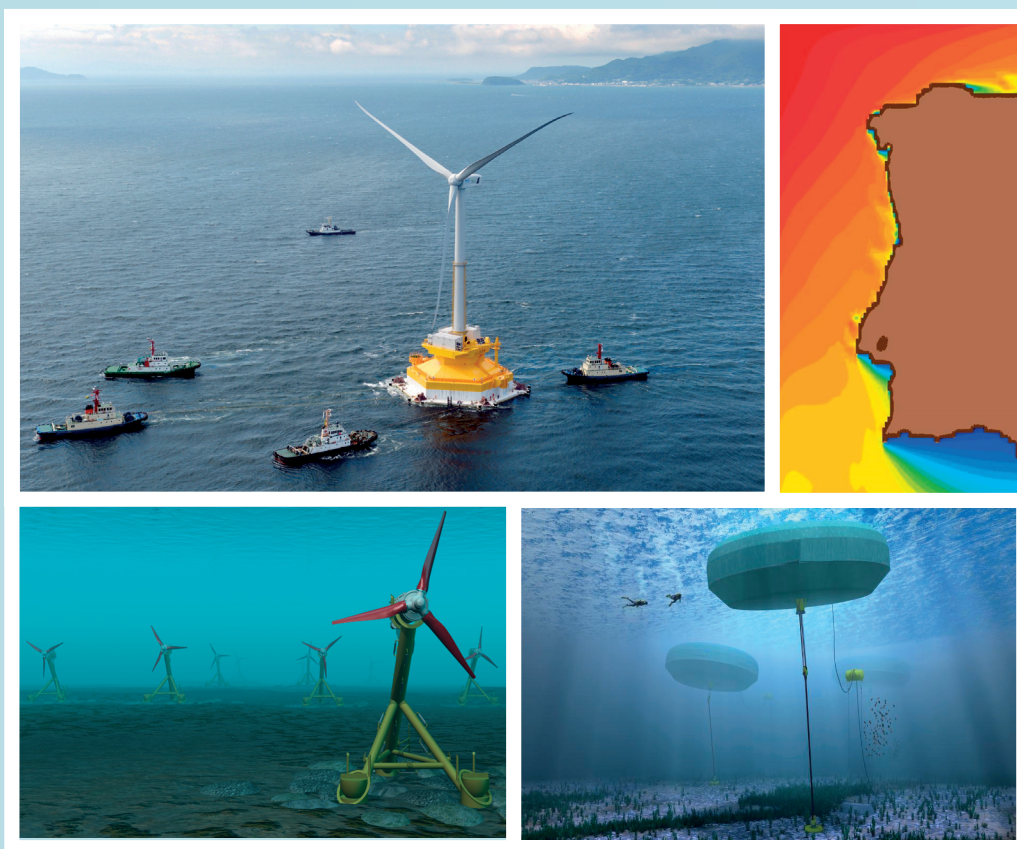


**TÉCNICO**  
LISBOA



## **3<sup>rd</sup> International Conference on Renewable Energies Offshore**

# **RENEW 2018 PROGRAMME**



**8 - 10 October 2018**

**IST Congress Centre  
LISBON, PORTUGAL**

# ORGANISATION

---

## Conference Chairman

Carlos Guedes Soares, IST, Universidade de Lisboa, Portugal

## Technical Programme Committee

- Adolfo Crespo, Universidad de Sevilla, Spain
- Amy Robertson, NREL, USA
- António Falcão, Instituto Superior Técnico, Portugal
- António Carlos Fernandes, UFRJ, Brazil
- António Souto-Iglesias, ETSIN-UPM, Spain
- Athanasios Kolios, Cranfield University, UK
- Bernardino Couñago Lorenzo, Esteyco Energia, Spain
- Claudio Bittencourt Ferreira, DNVGL, UK
- Constantine Michailides, Cyprus Univ. Technology, Cyprus
- David Carrascosa, SAITEC, Spain
- Dezhi Ning, Dalian University of Technology, P.R. China
- Diego Vicinanza, Univ. Campania "Luigi Vanvitelli", Italy
- Dimitri Val, Heriot-Watt University, UK
- Felice Arena, Univ "Mediterranea" Reggio Calabria, Italy
- Francisco Taveira Pinto, Universidade do Porto, Portugal
- Franck Schoefs, Université de Nantes, France
- Frank Adam, University of Rostock, Germany
- Gregorio Iglesias, Univ. College Cork, Ireland
- Jean-François Filipot, France Energies Marines, France
- Jimmy Murphy, Univ. College Cork, Ireland
- John Dalsgaard Sørensen, Aalborg University, Denmark
- John Ringwood, Maynooth Univ., Ireland
- Jonas Ringsberg, Chalmers Univ of Technology, Sweden
- Jonathan Fernandez, Vicinay Innovacion, Spain
- Lars Johanning, University of Exeter, UK
- Lorenzo Cappietti, Università degli Studi di Firenze, Italy
- Luis Nuñez Rivas, ETSIN-UPM, Spain
- Mahmood Shafiee, Cranfield University, UK
- Markus Mueller, University of Edinburgh, UK
- Matt Folley, Queens University Belfast, UK
- Michael Hartnett, National University of Ireland, Ireland
- Mikel Iribas Latour, CENER, Spain
- Peter Davies, IFREMER, France
- Peter Stansby, Manchester University, UK
- Peter Troch, Ghent University, Belgium
- Philipp Thies, University of Exeter, UK
- Qing Xiao, University of Strathclyde, UK
- Raul Guanche, Univ. Cantabria - IHCantabria, Spain
- Rodrigo Carballo, Univ. Santiago de Compostela, Spain
- Simon Neill, Bangor University, UK
- Spyros Mavrakos, NTUA, Greece
- Tomoki Ikoma, Nihon University, Japan
- Tony Lewis, Univ. College Cork, Ireland
- Vallam Sundar, IIT Madras, India
- Vincenzo Nava, Tecnalia, Spain
- Wanan Sheng, Univ. College Cork, Ireland
- Wojciech Popko, Fraunhofer Institute, Germany
- Young Ho Lee, Korea Maritime & Ocean Univ, S. Korea
- Zhen Gao, NTNU, Norway

## Technical Programme & Conference Secretariat

Sandra Ponce, IST, Universidade de Lisboa, Portugal  
Maria de Fátima Pina, IST, Universidade de Lisboa, Portugal  
Sónia Vicente, IST, Universidade de Lisboa, Portugal  
Bruna Covelas, IST, Universidade de Lisboa, Portugal  
Bárbara Azevedo, IST, Universidade de Lisboa, Portugal

# SCHEDULE AT A GLANCE

<b>Monday, 8 October 2018</b> <b>Registration</b> (Hall 01 – from 8h00 onwards)		
<b>Instituto Superior Técnico – Congress Centre</b>		
<b>Opening Session – Auditorium (9h00-10h30)</b> <b>Plenary Session I</b>		
<i>Coffee-break (10h30-11h00)</i>		
<i>Auditorium (11h00-12h30)</i> <b>Plenary Session II</b>		
<i>Lunch (12h30-14h00)</i>		
<i>Room 02.1 (14h00-15h30)</i> <b>Modelling Waves I</b>	<i>Room 02.2 (14h00-15h30)</i> <b>Tidal Energy Devices (Design)</b>	<i>Room 02.3 (14h00-15h30)</i> <b>Wave Energy Devices (Point Absorber) I</b>
<i>Coffee-break (15h30-16h00)</i>		
<i>Room 02.1 (16h00-18h00)</i> <b>Modelling Waves II</b>	<i>Room 02.2 (16h00-17h30)</i> <b>Modelling Tidal Currents</b>	<i>Room 02.3 (16h00-18h00)</i> <b>Wave Energy Devices (Point Absorber) II</b>

<b>Tuesday, 9 October 2018</b> <b>Registration</b> (Hall 01 – from 8h00 onwards)		
<i>Room 02.1 (9h00-10h30)</i> <b>Wind Energy Devices I</b>	<i>Room 02.2 (9h00-10h30)</i> <b>Tidal Energy Devices (Applications)</b>	<i>Room 02.3 (9h00-10h30)</i> <b>Wave Energy Devices (Applications)</b>
<i>Coffee-break (10h30-11h00)</i>		
<i>Room 02.1 (11h00-12h30)</i> <b>Wind Energy Devices II</b>	<i>Room 02.2 (11h00-12h30)</i> <b>Tidal Energy Devices (Experiments)</b>	<i>Room 02.3 (11h00-12h30)</i> <b>Wave Energy Devices (Control)</b>
<i>Lunch (12h30-14h00)</i>		
<i>Room 02.1 (14h00-15h30)</i> <b>Wind Energy Arrays</b>	<i>Room 02.2 (14h00-15h30)</i> <b>Tidal Energy Arrays</b>	<i>Room 02.3 (14h00-15h30)</i> <b>Wave Energy Devices (Turbines)</b>
<i>Coffee-break (15h30-16h00)</i>		
<i>Room 02.1 16h00-17h30)</i> <b>Wave Energy Arrays</b>	<i>Room 02.2 16h00-17h30)</i> <b>Wave Energy Devices (CFD)</b>	<i>Room 02.3 (16h00-18h00)</i> <b>Wave Energy Devices (Experiments)</b>
<b>20:00 h - Conference Dinner</b>		

<b>Wednesday, 10 October 2018</b> <b>Registration</b> (Hall 01 – from 8h00 onwards)	
<i>Room 02.2 (9h00-10h30)</i> <b>Moorings</b>	<i>Room 02.3 (9h00-10h30)</i> <b>Wave Energy Devices (Coastal OWC)</b>
<i>Coffee-break (10h30-11h00)</i>	
<i>Room 02.2 (11h00-12h30)</i> <b>Flexible Materials</b>	<i>Room 02.3 (11h00-12h30)</i> <b>Wave Energy Devices (OWC) I</b>
<i>Lunch (12h30-14h00)</i>	
<i>Room 02.2 (14h00-15h30)</i> <b>Combined Platforms</b>	<i>Room 02.3 (14h00-15h30)</i> <b>Wave Energy Devices (OWC) II</b>
<i>Coffee-break (15h30-16h00)</i>	
<i>Room 02.2 16h00-18h00)</i> <b>Maintenance &amp; Reliability</b>	<i>Room 02.3 (16h00-17h30)</i> <b>Wave Energy Devices (OWC) III</b>

# SESSIONS IN ALPHABETICAL ORDER

---

- **Combined Platforms** – 10<sup>th</sup> October 2018 – *Room 02.2 (14h00-15h30)*
- **Flexible Materials** – 10<sup>th</sup> October 2018 – *Room 02.2 (11h00-12h30)*
- **Plenary Session I** – 8<sup>th</sup> October 2018 – *Auditorium (09h00-10h30)*
- **Plenary Session II** – 8<sup>th</sup> October 2018 – *Auditorium (11h00-12h30)*
- **Maintenance & Reliability** – 10<sup>th</sup> October 2018 – *Room 02.2 (16h00-18h00)*
- **Modelling Tidal Currents** – 8<sup>th</sup> October 2018 – *Room 02.2 (16h00-17h30)*
- **Modelling Waves I** – 8<sup>th</sup> October 2018 – *Room 02.1 (14h00-15h30)*
- **Modelling Waves II** – 8<sup>th</sup> October 2018 – *Room 02.1 (16h00-18h00)*
- **Moorings** – 10<sup>th</sup> October 2018 – *Room 02.2 (09h00-10h30)*
- **Tidal Energy Arrays** – 9<sup>th</sup> October 2018 – *Room 02.2 (14h00-15h30)*
- **Tidal Energy Devices (Applications)** – 9<sup>th</sup> October 2018 – *Room 02.2 (09h00-10h30)*
- **Tidal Energy Devices (Design)** – 8<sup>th</sup> October 2018 – *Room 02.2 (14h00-15h30)*
- **Tidal Energy Devices (Experiments)** – 9<sup>th</sup> October 2018 – *Room 02.2 (11h00-12h30)*
- **Wave Energy Arrays** – 9<sup>th</sup> October 2018 – *Room 02.1 (16h00-17h30)*
- **Wave Energy Devices (Applications)** – 9<sup>th</sup> October 2018 – *Room 02.3 (09h00-10h30)*
- **Wave Energy Devices (CFD)** – 9<sup>th</sup> October 2018 – *Room 02.2 (16h00-17h30)*
- **Wave Energy Devices (Coastal OWC)** – 10<sup>th</sup> October 2018 – *Room 02.3 (09h00-10h30)*
- **Wave Energy Devices (Control)** – 9<sup>th</sup> October 2018 – *Room 02.3 (11h00-12h30)*
- **Wave Energy Devices (Experiments)** – 9<sup>th</sup> October 2018 – *Room 02.3 (16h00-18h00)*
- **Wave Energy Devices (OWC) I** – 10<sup>th</sup> October 2018 – *Room 02.3 (11h00-12h30)*
- **Wave Energy Devices (OWC) II** – 10<sup>th</sup> October 2018 – *Room 02.3 (14h00-15h30)*
- **Wave Energy Devices (OWC) III** – 10<sup>th</sup> October 2018 – *Room 02.3 (16h00-17h30)*
- **Wave Energy Devices (Point Absorber) I** – 8<sup>th</sup> October 2018 – *Room 02.3 (14h00-15h30)*
- **Wave Energy Devices (Point Absorber) II** – 8<sup>th</sup> October 2018 – *Room 02.3 (16h00-18h00)*
- **Wave Energy Devices (Turbines)** – 9<sup>th</sup> October 2018 – *Room 02.3 (14h00-15h30)*
- **Wind Energy Arrays** – 9<sup>th</sup> October 2018 – *Room 02.1 (14h00-15h30)*
- **Wind Energy Devices I** – 9<sup>th</sup> October 2018 – *Room 02.1 (09h00-10h30)*
- **Wind Energy Devices II** – 9<sup>th</sup> October 2018 – *Room 02.1 (11h00-12h30)*

9h00-09h30 - Auditorium	Opening Session	Opening Addresses, C. Guedes Soares
09h30-10h30 - Auditorium	<b>Plenary Session I: Keynote Lecture 1 &amp; 2</b> Chair: C. Guedes Soares	IEA wind energy model verification and validation studies <i>W. Popko</i> Modelling methods for wind farm simulations <i>J.N. Sorensen</i>
<b>Coffee-Break (10h30-11h00)</b>		
11h00-12h30 - Auditorium	<b>Plenary Session II: Keynote Lecture 3, 4 &amp; 5</b> Chair: C. Guedes Soares	Considerations on future emerging technologies in ocean energy sector <i>D. Magagna, L. Margheritini, A. Moro and P. Schild</i> Smoothed particle hydrodynamics (SPH) for renewable energies offshore <i>P. Stansby</i> Numerical analysis of renewable energy devices <i>D. Greaves</i>
<b>Coffee-Break (12h30-14h00)</b>		
14h00-15h30 <i>Room 02.1: Modelling Waves I</i>	Assessment of the wave spectral characteristics in the Portuguese test zone <i>C. Lucas, D. Silva and C. Guedes Soares</i> Wave energy resource assessments: a comparative study for two coastal areas in Japan <i>K. Sasmal, A. Webb, T. Waseda and S. Miyajima</i> Wave energy farm performance and availability as functions of weather windows <i>M. Göteman, J. Mathew, J. Engström, V. Castellucci, M. Giassi and R. Waters</i> Prediction of short-term wind and wave conditions using Adaptive Network-based Fuzzy Inference System (ANFIS) for marine operations <i>M. Wu, C. Stefanakos and Z. Gao</i>	14h00-15h30 <i>Room 02.3: Wave Energy Devices (Point Absorber) I</i> OES Task 10 WEC heaving sphere performance modelling verification <i>K. Nielsen, F. Wendt, Y.-H. Yu, K. Ruehl, I. Touzon, B.W. Nam, J.S. Kim, K.-H. Kim, S. Crowley, W. Sheng, A. Kurniawan, D. Ogden, S. Girardin, A. Babarit, R. Costello, S. Giorgi, A. Roy, H. Bingham, R. Read, M.M. Kramer and S. Thomas</i> Hydrodynamic analysis of different geometries of a wave energy absorber buoy <i>M.N. Berenjkooab, M. Ghiasi and C. Guedes Soares</i> Wave diffraction by a floating fixed truncated vertical cylinder based on Boussinesq equations <i>S. C. Mohapatra, H. Islam and C. Guedes Soares</i> Numerical study on nonlinear hydrodynamic performance of a heaving buoy-type wave energy converter under nonlinear wave condition <i>S.J. Kim, W. Koo and M.J. Shin</i>
14h00-15h30 <i>Room 02.2: Tidal Energy Devices (Design)</i>	Effects of blockage and freestream turbulence intensity on tidal rotor design and performance <i>B. Cao, R.H.J. Willden and C.R. Vogel</i> Blade-resolved CFD analysis and validation of blockage correction methods for tidal turbines <i>G. Tampier and F. Zilic de A.</i> Wake characterisation of an undulating membrane tidal energy converter <i>M. Träsch, A. Déporte, J.-B. Drevet, B. Gaurier and G. Germain</i> Design and optimization of a marine current turbine: Effects of pitch angle and twist distribution <i>T. Karthikeyan and A. Samad</i>	



Coffee-Break (15h30-16h00)

16h00-18h00 <b>Room 02.1: Modelling Waves II</b>	16h00-17h30 <b>Room 02.2: Modelling Tidal Currents</b>	16h00-18h00 <b>Room 02.3: Wave Energy Devices (Point Absorber) II</b>
Methodology for evaluating the economic pay-off of a more powerful wave energy resource <i>O. Roberts, H. Jeffrey and P. Ruiz-Minguela</i>  Wave height error estimation with the Triple Collocation method for the Canary Islands <i>R.B. Fonseca, M. Gonçalves and C. Guedes Soares</i>  Performance evaluation of various wave energy converters along the western side of Indian EEZ <i>R. Patel, G. Nagababu, B.A. Srinivas, S. Singh Kachhwaha, M. Seemanth, S.V.V. Arun Kumar and S. Aich Bhowmick</i>  Validation of wave breaking in intermediate water wave groups for HOS-NWT with laboratory experiments <i>S.A. Hasan, V. Sriam and R. Panneer Selvam</i>  Location dependence of extreme wave analysis using runs de-clustering via extremal index estimation. <i>C. Oikonomou, M. Gradowski and C. Kalogeri (Oral presentation only)</i>	How to correctly measure turbulent upstream flow for marine current turbine performances evaluation? <i>B. Gaurier, G. Germain and G. Pinon</i>  Marine current energy in Eastern Australia: Evolution of currents and mesoscale anticyclonic eddies <i>B. O'Callaghan, A. Chabchoub and T. Waseda</i>  Depth average tidal resource assessment considering an open channel flow <i>L. Flores Mateos and M. Hartnett</i>  Monitoring tidal currents with a towed ADCP at tidal energy conversion site in Alderney Race (Raz Blanchard) <i>M. Thiebaut, A. Sentchev and P. Bailly du Bois</i>	Optimal wave energy converter geometry for different modes of motion <i>A. Garcia-Teruel and D.I.M. Forehand</i>  Semi-submersible platform concept for a concentric array of Wave Energy Converters <i>J.F. Gaspar, T.S. Hallak and C. Guedes Soares</i>  Hydrodynamics of a new two body wave energy converter in the frequency domain <i>M. Kamarlouei and C. Guedes Soares</i>  Moored multi-float WEC M4 and hybrid with wind: experiments and modelling <i>P.K. Stansby, E. Carpintero Moreno and T. Stallard</i>  Study on the time-variability of hydrodynamic coefficients for wave energy converter heave plates <i>S. Saeidtehrani, B. Butcher, A. Brown and K. Niemeyer</i>

RENEW 2018 Programme

Tuesday, 9 October 2018

09h00-10h30 <b>Room 02.1: Wind Energy Devices I</b>	09h00-10h30 <b>Room 02.2: Tidal Energy Devices (Applications)</b>	09h00-10h30 <b>Room 02.3: Wave Energy Devices (Applications)</b>
Estimating the offshore wind energy along the Portuguese coast using WRF and Satellite Data <i>N. Salvação, A. Bentamy and C. Guedes Soares</i>  A review of the biofouling parameters influencing the drag force coefficient of offshore structures <i>A. Bakhtiari, F. Schoefs and H. Ameryoun</i>	Concept development for deployment of a modular, floating, tidal-stream device <i>E. Ransley, S. Brown, N. Xie, D. Greaves, R. Nicholls-Lee, L. Johanning, P. Weston and E. Guerrini</i>  Comparison of twin-basin lagoon systems against conventional tidal power plant designs <i>A. Angeloudis, N. Hawkins, S. C. Kramer and M. D. Piggott</i>	Initial Development of a Generic Method for Analysis of Flexible Membrane Wave Energy Converters <i>A. McDonald, Q. Xiao, D. Forehand, H. Smith and R. Costello</i>  Passivity preserving moment-based finite-order hydrodynamic model identification for wave energy applications <i>N. Faedo, Y. Peña-Sanchez and John V. Ringwood</i>

Assessment of long-term extreme response of a floating support structure using the environmental contour method <i>K. Raed, A.P. Teixeira and C. Guedes Soares</i>	Implementation of tidal energy convertor in low current area <i>C.H. Jo, S.J. Hwang, J.C.K. Tong Arup and J.C.L. Cha</i>	Conceptual design of compliant mechanical wave energy convertor <i>S. Chandrasekaran, V.V.S. Sricharan and S. Joseph</i>
Moorings system monitoring of offshore renewable energy floating platforms <i>I. Touzon, A. Garcia-Corcuera, V. Nava, B. de Miguel and R. Rodriguez</i>	Simulation of a horizontal axis tidal turbine for direct driven reverse-osmosis desalination <i>F. Greco and A. Jarquin-Laguna</i>	Verification of a boundary element model for wave forces on structures with porous elements <i>E.B.L. Mackay, A. Feichtner, R.E. Smith, P.R. Thies and L. Johanning</i>
<b>Coffee-Break (10h30-11h00)</b>		
<b>11h00-12h30</b> <b>Room 02.1: Wind Energy Devices II</b>	<b>11h00-12h30</b> <b>Room 02.2: Tidal Energy Devices (Experiments)</b>	<b>11h00-12h30</b> <b>Room 02.3: Wave Energy Devices (Control)</b>
On the dynamics of the kite carousel <i>K.N. Luttik, P.S. Anderson, L. Johanning and I.M. Viola</i>	Experimental investigation of a novel tidal supercharger driven by tidal energy for reverse osmosis seawater desalination <i>Changming Ling, Xiaobo Lou, Jun Li and Yuwen Zhang</i>	A review of fault tolerant design in wave energy converters <i>M. Kamarlouei, B.F. Cruz, M.J.G.C. Mendes, J.F. Gaspar and C. Guedes Soares</i>
Development and validation of the higher-order finite-difference wind farm simulator, Winc3D <i>G. Deskos, S. Laizet and M.D. Piggott</i>	Towing tank testing of a controlled-circulation Darrieus Turbine <i>L. Chatellier, J.M.R Gorle, F. Pons and M. Ba</i>	A reduced wave-to-wire model for controller design and power assessment of wave energy converters <i>M. Penalba and J. Ringwood</i>
Hydrodynamic identification of NAUTILUS FOWT platform from small scale tests <i>V. Nava, J. Galván, M. Sánchez-Lara, C. Garrido-Mendoza, G. Pérez-Morán, M. Le Boulluec, B. Augier and R. Rodriguez-Arias</i>	Wave tank experiments of a floating, tidal-stream energy device <i>N. Xie, E. Ransley, S. Brown, D. Greaves, R. Nicholls-Lee, L. Johanning, P. Weston and E. Guerrini</i>	Control of a wave energy converter using a multi-agent system and Machine Learning methods <i>N. Pereira, D. Valério and P. Beirão</i>
CART – A compact and robust wind turbine design for south Asia <i>F. Adam, M. Schröter, V.V. Manh, P. Dierken</i>	Computational analysis and experimental verification of a boundary integral equation model for tidal turbines <i>Z. Sarichloo, F. Salvatore, F. Di Felice, M. Costanzo, R. Starzmann and C. Frost</i>	Assessment of the effects of a hydraulic PTO on the power output and far-field effects of a WEC array <i>N. Quartier, P. Balitsky, G. Verao, T. Verbrugghe, V. Stratigaki and P. Troch (Oral presentation only)</i>
<b>Lunch (12h30-14h00)</b>		
<b>14h00-15h30</b> <b>Room 02.1: Wind Energy Arrays</b>	<b>14h00-15h30</b> <b>Room 02.2: Tidal Energy Arrays</b>	<b>14h00-15h30</b> <b>Room 02.3: Wave Energy Devices (Turbines)</b>
Site selection process for floating offshore wind farms in Madeira Islands <i>H. Diaz, R.B. Fonseca and C. Guedes Soares</i>	Unsteady loading on a tidal turbine array due to simulated turbulent onset flow <i>H. Mullings and T. Stallard</i>	Test results of a twin-rotor radial-inflow self-rectifying air turbine for OWC wave energy converters <i>B.S. Lopes, L.M.C. Gato, A.F.O. Falcão and J.C.C. Henriques</i>
Economic aspects of an offshore wind farm located in Cantabria (North of Spain) <i>L. Feijoo-Diaz, C. Alvarez-Feal, L. Carral-Couce and L. Castro-Santos</i>	Axial-flow hydrokinetic turbine array: optimization and performance prediction <i>L. Sharma and D. Chatterjee</i>	Development of a counter-rotating impulse turbine for bi-directional airflow <i>M. Takao, R. Sasaki, M. Md. Ashraful Alam, S. Okuhara and Y. Kinoue</i>

Analysis of vessel shielding effects during installation of spar floating wind turbine <i>M.A.A. Hassan and C. Guedes Soares</i>	Competition effects between nearby tidal turbine arrays - optimal design for Alderney Race <i>Z.L. Goss, M.D. Piggott, S.C. Kramer, A. Avdis, A. Angeloudis and C.J. Cotter</i>	<i>Wells turbines dynamic simulation using CFD and lumped parameter model</i> <i>T. Ghisu, F. Cambuli, P. Puddu and I. Virdis</i>
Design of an offshore multipurpose support vessel <i>N. Almany, M. Tekgoz and Y. Garbatov</i>	Numerically modelling spatial distribution of O&M costs for tidal platforms <i>J. McDowell, P. Jeffcoate, T. Bruce and L. Johanning</i>	
<b>Coffee-Break (15h30-16h00)</b>		
<b>16h00-17h30</b> <b>Room 02.1: Wave Energy Arrays</b>	<b>16h00-17h30</b> <b>Room 02.2: Wave Energy Devices (CFD)</b>	<b>16h00-18h00</b> <b>Room 02.3: Wave Energy Devices (Experiments)</b>
Wave energy converter arrays: motion response of inter-connected array <i>B. Howey, G. Iglesias, K.M. Collins, M. Hann, D. Greaves, R. Gomes and J.C.C. Henriques</i>	Simulations of floating wave energy devices using adaptive mesh refinement <i>C. Eskilsson, J. Palm and L. Bergdahl</i>	Experimental assessment of a 6-float M4 wave energy converter <i>E. Carpintero Moreno and P.K. Stansby</i>
Design of an optimization scheme for the WaveSub array <i>E. Faraggiana, I. Masters and J. Chapman</i>	Validation of a CFD-based numerical wave tank model of the Wavestar WEC <i>C. Windt, J.V. Ringwood, J. Davidson, E.J. Ransley, M. Jakobsen and M. Kramer</i>	Prototyping and wave tank testing of a floating platform with point absorbers <i>M. Kamarlouei, J.F. Gaspar, M. Calvário, T. S. Hallak, C. Guedes Soares, M.J.G.C. Mendes and F. Thiebaut</i>
Trapping phenomena by an array of vertical bottomless cylindrical bodies <i>S.A. Mavrakos, I.K. Chatjigeorgiou, and D.N. Konispoliatis</i>	Simulation of motions and forces for a generic wave energy converter using RANS CFD energy CFD <i>I. Pregnan Johannesen and G. Tampier Brockhaus</i>	WAVESAX device - PTO optimization by wave basin & numerical modelling studies <i>M. Peviani, A. Danelli and G. Agate (Oral presentation only)</i>
Analysis of interaction effects between WECs in four types of wave farms <i>S.-H. Yang, J.W. Ringsberg and E. Johnson</i>	Parametric excitation of moored wave energy converters using viscous and non-viscous CFD simulations <i>J. Palm, C. Eskilsson and L. Bergdahl</i>	Open sea facility design and testing for wave energy converters <i>F. Roncallo, T. Reboli, A. Traverso and C. Carraro (Oral presentation only)</i>
		Experimental study of behaviour and efficiency on a backward bent duct buoy <i>H. Diaz, S.A. Sannasiraj and C. Guedes Soares</i>
<b>Conference Dinner (20h00)</b>		



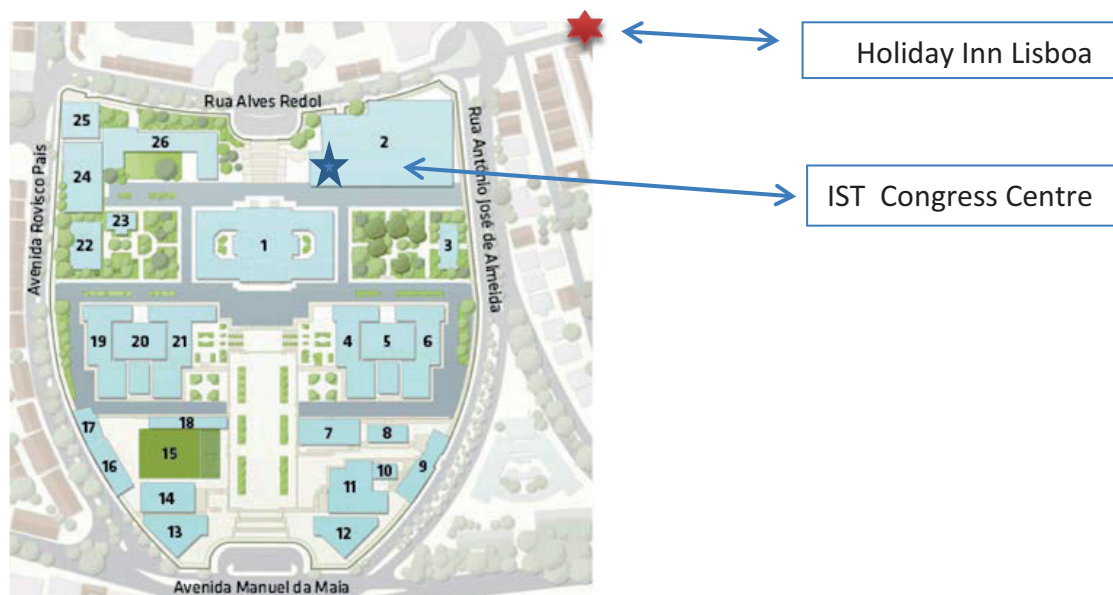
<b>09h00-10h30</b> <b>Room 02.2: Moorings</b>	<p>An overview of synthetic mooring cables in marine applications <i>S. Wang, S. Xu, G. Xiang and C Guedes Soares</i></p> <p>Predicting failure of dynamic cables for floating offshore wind <i>D.G. Young, C. Ng, S. Oterkus, Q. Li and L. Johanning</i></p> <p>Alternative mooring systems for 2nd generation tidal energy converters <i>L.R. Nuñez, A. López and M. Perez de La Portilla</i></p> <p>Comparison between full-scale measurements and numerical simulations of mooring forces in a floating point-absorbing WEC system <i>X. Lang, S.H. Yang, J.W. Ringsberg, E. Johnson, C. Guedes Soares and M. Rahm</i></p>	<b>09h00-10h30</b> <b>Room 02.3: Wave Energy Devices (Coastal OWC)</b>	<p>The Pico OWC wave power plant: its life from conception to closure 1993-2018 <i>A.F.O. Falcão, A.J.N.A. Sarmento, L.M.C. Gato and A. Brito-Melo</i></p> <p>Hydrodynamic analysis of a land-based oscillating water column device using fully nonlinear numerical wave flume <i>A. Abbasnia and C. Guedes Soares</i></p> <p>Non-conventional overtopping breakwater for energy conversion <i>E. Di Lauro, P. Contestabile and D. Vicinanza</i></p> <p>A practical estimation method of PTO and a sea test of a PW-OWC type WEC using a wave dissipating double caisson <i>K. Kihara, K. Masuda, T. Ikoma and Y. Hosokawa</i></p>
<b>Coffee-Break (10h30-11h00)</b>			
<b>11h00-12h30</b> <b>Room 02.2: Flexible Materials</b>	<p>Hydroelastic modelling of composite tidal turbine blades <i>F. Zilic de Arcos, R. Willden and C. Vogel</i></p> <p>A procedure for choosing optimal materials of wind turbine flexible blades <i>V. Cognet, B. Thiria and S. Courrech du Pont</i></p> <p>Parametric design of a hydroelastic energy harvester <i>S. Costa, L. Chatellier, F. Pons and M. Ba</i></p> <p>Comparative study on two different mooring systems for a buoy <i>Gong Xiang, Sheng Xu, Shan Wang and C. Guedes Soares</i></p>	<b>11h00-12h30</b> <b>Room 02.3: Wave Energy Devices (OWC) I</b>	<p>Parametric motion detection for an oscillating water column spar buoy <i>G. Giorgi and J. Ringwood</i></p> <p>Behavior of U-oscillating water column arrays <i>G. Malara and F. Arena</i></p> <p>Application of the stepped sea bottom condition to improve hydrodynamic performance of OWC devices: an experimental investigation <i>K. Rezanejad and C. Guedes Soares</i></p> <p>The application of numerical simulation to overtopping type wave generator equipment <i>T. Takahashi, H. Tanaka and M. Minami</i></p>
<b>Lunch (12h30-14h00)</b>			

<p><b>14h00-15h30</b> <b>Room 02.2: Combined Platforms</b></p> <p>Laboratory tests on an original wave energy converter combining oscillating water column and overtopping devices <i>L. Cappiotti, I. Simonetti, V. Penchev and P. Penchev</i></p> <p>Second order wave drift damping of a TLP floating structure concept for combined wind and wave energy <i>T. Mazarakos and S.A. Mavrakos</i></p> <p>Feasibility study of hybrid offshore wind turbine with solar platform in Persian Gulf <i>M. Bahadori, H. Ghassemi and M. Sadegh Bahadori</i></p> <p>Study of a multipurpose platform <i>M.J. Legaz, P. Mayorga and J. Fernandez</i></p>	<p><b>14h00-15h30</b> <b>Room 02.3: Wave Energy Devices (OWC) II</b></p> <p>Optimization of OWC power efficiency and structural integrity <i>M.L. Jalón and F. Brennan</i></p> <p>Wave-to-wire model of the Tupperwave device and performance comparison with conventional OWC <i>P. Benreguig, J. Murphy, M. Vicente and S. Crowley</i></p> <p>Numerical and experimental investigation of the hydrodynamic performance of a fixed dual-chamber OWC device <i>R. Wang and D. Ning</i></p> <p>Investigation into multi-oscillating water column wave energy converters and a novel concept <i>S. Doyle and G.A. Aggidis</i></p>
<p><b>Coffee-Break (15h30-16h00)</b></p>	
<p><b>16h00-18h00</b> <b>Room 02.2: Maintenance and Reliability</b></p> <p>Energyhub@Sea - One technical solution for offshore wind maintenance <i>F. Adam, P. Dierken, M.M. Aye and M. Flikkema</i></p> <p>An opportunistic condition-based maintenance policy for offshore wind farm <i>J.C. Kang, C. Guedes Soares, L.P. Sun, Y. Lu and J. Sobral</i></p> <p>Weighting the influencing factors on offshore wind farms availability <i>J. Sobral, J.C. Kang and C. Guedes Soares</i></p> <p>Scope and feasibility of autonomous robotic subsea intervention systems for offshore inspection, maintenance and repair <i>L. Fahrni, P.R. Thies, L. Johanning and J. Cowles</i></p> <p>Reliability prediction of bearings of an offshore wind turbine gearbox <i>U. Bhardwaj, A.P. Teixeira and C. Guedes Soares</i></p>	<p><b>16h00-17h30</b> <b>Room 02.3: Wave Energy Devices (OWC) III</b></p> <p>Numerical validation of hydrodynamic characteristics of open-sea U-type Oscillating Water Column wave energy converter <i>S. John Ashlin, S.A. Sannasiraj, V. Sundar, G. Malara, F. Arena and A. Romolo</i></p> <p>Influence of damping on the oscillating water Column WEC integrated with breakwater <i>S.N. Rajan, D. Karmakar and C. Guedes Soares</i></p> <p>Performance of an OWC type WEC Replaced from a wave dissipating double-caisson <i>T. Ikoma, H. Eto, K. Masuda and S. Shibuya</i></p>

# CONFERENCE VENUE

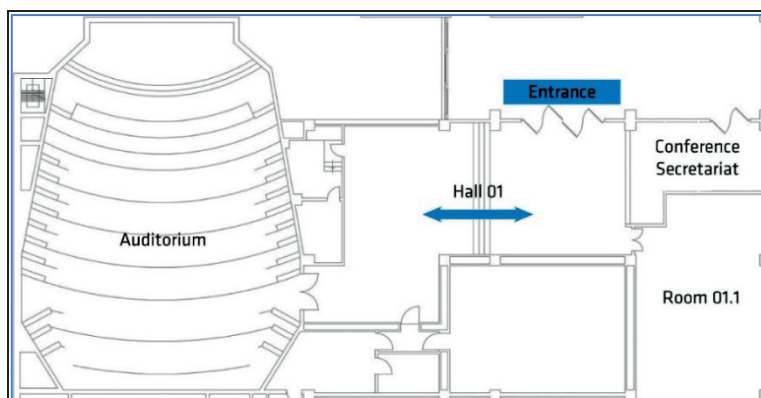
The 3<sup>rd</sup> International Congress on Renewable Energies Offshore (RENEW2018) will be held at the Instituto Superior Técnico's Congress Centre at the Alameda Campus.

The MAP below shows the location of the IST's Congress Centre in the Campus, and the location of the Hotel Holiday Inn Lisboa where lunches will be served.

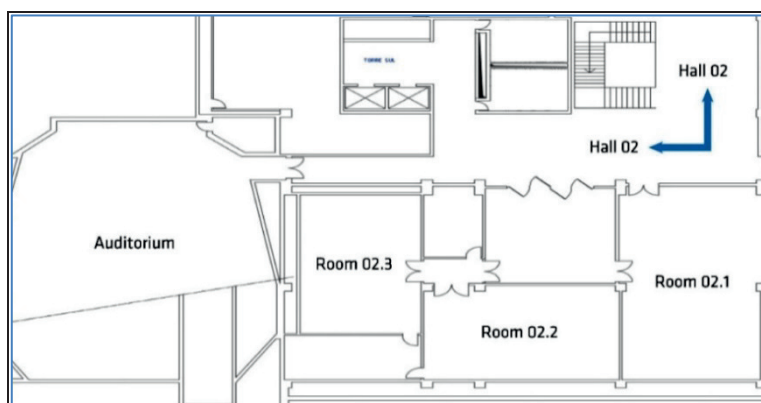


RENEW2018 will take place at **IST's Congress Centre** ★ located on the Lower Ground 1 and Lower Ground 2 Levels of the Civil Engineering Building, and will be concentrated in the Auditorium (Monday morning) and 3 meeting rooms for the parallel sessions.

## Lower Ground 1



## Lower Ground 2





## IMPORTANT CONTACTS

Congress Location	CENTEC	Congress Dinner
<b>IST Congress Centre</b> Instituto Superior Técnico Universidade de Lisboa Avenida Rovisco Pais, Lisboa 1049-001 Tel: +351 218 418 069	<b>Centre for Marine Technology and Ocean Engineering (CENTEC)</b> Instituto Superior Técnico Universidade de Lisboa Avenida Rovisco Pais Lisboa 1049-001  Tel: +351 218 417 468	<b>Café In</b> Av. Brasília Pavilhão Nascente nº311 1300 - 598 Lisboa T: 210 962 041 / 213 624 149 <a href="http://www.cafein.pt">www.cafein.pt</a>
<b>WIFI Access:</b>  Wi-Fi: tecnico-guest  Username: renew2018  Password: gj49kw		<b>Emergency Number: 112</b>

## Notes

---

---

---

---

---

---