15th ewtec 2023
European Wave and Tidal Energy Conference Series

# PRELIMINARY PROGRAMME

## for the 15th European Wave & Tidal Energy Conference

BILBAO

3rd -7th SEPTEMBER 2023

| | Day 1<br>Sunday September 3 | Day 2<br>Monday September 4 | Day 3<br>Tuesday September 5 | Day 4<br>Wednesday September 6 | Day 5<br>Thursday September 7 | Day 6<br>Friday September 8 |
|---|---|---|---|---|---|---|
| 08:00-08:30 | | Registration<br>*(Main Hall)* | Registration<br>*(Main Hall)* | Registration<br>*(Main Hall)* | Registration<br>*(Main Hall)* | |
| 08:30-09:00 | | | | | | |
| 09:00-09:30 | | | Oral presentation WDD / Oral presentation TDD / Oral presentation WHM / Oral presentation THM | Oral presentation WDD / Oral presentation TDD / Oral presentation TRC / Oral presentation EIA | Oral presentation GPC / Oral presentation WRC / Oral presentation ESP | |
| 09:30-10:00 | Bus departure to Getxo Regatta | | | | | |
| 10:00-10:30 | | Opening Ceremony<br>*(Mitxelena Auditorium)* | | | | Social programme<br>Guided tour through the river by BILBOATS |
| 10:30-11:00 | | | Refreshments, networking & posters exhibition (Terrace and Chillida room) | | | |
| 11:00-11:30 | | Keynote lectures + JRL-ORE<br>*(Mitxelena Auditorium)* | Oral presentation WDD / Oral presentation TDD / Oral presentation WHM / Oral presentation THM | Oral presentation WDD / Oral presentation TDD / Oral presentation TRC | Oral presentation WDD / Oral presentation GPC / Oral presentation WRC / Oral presentation ESP | |
| 11:30-12:00 | **Regatta**<br>La mar en calma Sailing School in Getxo<br>(10:00-15:00h) | | | | | |
| 12:00-12:30 | | | | | | |
| 12:30-13:00 | | Lunch<br>*(Terrace and Chillida room)* | | | | |
| 13:00-13:30 | | | | | | |
| 13:30-14:00 | | | | | | |
| 14:00-14:30 | | Oral presentation WHM / Oral presentation ONM / Oral presentation SMM / Oral presentation GPC | Oral presentation WDD / Oral presentation TDD / Oral presentation WHM / Oral presentation THM | Oral presentation WDD / Oral presentation TRC / Oral presentation EIA | Oral presentation WDD / Oral presentation WRC / Oral presentation ESP | |
| 14:30-15:00 | Bus returning to Bilbao | | | | | |
| 15:00-15:30 | | | | | | |
| 15:30-16:00 | | Refreshments, networking & posters exhibition *(Terrace and Chillida room)* | | | Closing Ceremony | |
| 16:00-16:30 | | Side event 1 / Side event 2 / Side event 3 | Side event 4 / Side event 5 / Side event 6 | Side event 7 / Side event 8 / Side event 9 | | |
| 16:30-17:00 | | | | | | |
| 17:00-17:30 | | | | | | |
| 17:30-18:00 | 2 Buses departing to Olatua Building Getxo Cruise Terminal every 30 minutes (around 6 buses) | Oral presentation WHM / Oral presentation SMF / Oral presentation SMM / Oral presentation GPC | Oral presentation WDD / Oral presentation WHM / Oral presentation THM | | Technical visits:<br>Option 1: MUTRIKU<br>Option 2: BIMEP | |
| 18:00-18:30 | | | | | | |
| 18:30-19:00 | | | | | | |
| 19:00-19:30 | **Welcome Reception**<br>*(Olatua Building Getxo Cruise Terminal)*<br>Registration available | | Technical Committee Meeting<br>*(Elhuyar room)* | | | |
| 19:30-20:00 | | | | | | |
| 20:00-20:30 | | Social programme<br>Pintxos Route | (Track Directors Dinner) | Opening of the galleries of the Museum<br>(exclusive for Delegates) | | |
| 20:30-21:00 | | | | | | |
| 21:00-21:30 | | | | | (Executive Board Meeting and Dinner) | |
| 21:30-22:00 | | | | Gala Dinner<br>*(Atrium of the Guggenheim Museum)* | | |
| 22:00-22:30 | All Buses returning to Bilbao | | | | | |
| 22:30-23:00 | | | | | | |
| 23:00-23:30 | | | | | | |

15th ewtec 2023 European Wave and Tidal Energy Conference Series | BILBAO 3rd -7th SEPTEMBER 2023

| Colour code: | Olatua Building | Mitxelena (440 pax) | Main Hall | Barandiarán (16 pax) | Elhuyar (24 pax) | Chillida (220 m2) | Oteiza (60 pax) | Terrace (800+400 m2) | Baroja (160 pax) | Laboa (110 m2) | Arriaga (60 pax) |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Tracks:**

| | | | |
|---|---|---|---|
| THM: Tidal hydrodynamic modelling | WDD: Wave device development and testing | ONM: Operations, maintenance and decommissioning | ESP: Economical, social, legal and political aspects of ocean energy |
| WHM: Wave hydrodynamic modelling | GPC: Grid integration, power take-off and control | TDD: Tidal device development and testing | SMF: Station-keeping, moorings and foundations |
| EIA: Environemental impact and appraisal | WRC: Wave resource characterization | TRC: Tidal resource characterization | SMM: Structural mechanics - materials, fatigue, loadings |

**Important Note: The Organizing Committee of the EWTEC'23 reserves the right to modify this program at any time according to the circumnstances**

## Monday September 4

**08:00-10:00** — **Registration** *(Main Hall)* — **08:00-10:00**

| | | | | | |
|---|---|---|---|---|---|
| **10:00-10:50** | **Opening Ceremony** | **Mitxelena Auditorium** | Jesús M. Blanco | Local Committee Chairman | 10:00-10:10 |
| | | | Cameron Johnstone | EWTEC Executive Board Chair | 10:10-10:20 |
| | | | Jose L. Villate | Local Committee Chairman | 10:20-10:30 |
| | | | Gorka Moreno | Vicerector campus UPV/EHU | 10:30-10:40 |
| | | | Arantxa Tapia | Basque Government | 10:40-10:50 |
| **11:00-12:20** | **Keynote lectures** *(Mitxelena Auditorium)* | **Mitxelena Auditorium** | Iñigo Losada | IH-Cantabria | 11:00-11:40 |
| | | | Andrew Scott | Orbital Marine Power | 11:40-12:20 |
| **12:20-12:30** | **JRL-ORE** | **Mitxelena Auditorium** | Eider Robles | JRL-ORE | 12:20-12:30 |

**12:30-14:00** — **Lunch & posters exhibition** *(Terrace and Chillida room)* — **12:30-14:00**

**14:00-15:30** — **Oral presentations**

| Room /Track | Chairman | Paper ID | Title | Presenter | |
|---|---|---|---|---|---|
| **Baroja/ Wave hydrodynamic modelling** | Deborah Greaves | 142 | Numerical modelling of a box-type and bottom-detached oscillating water column wave energy conversion device: a comparison with experimental data and between BEM and CFD numerical modelling | Vaibhav Raghavan | 14:00-14:15 |
| | | 192 | Numerical and experimental studies of the effects of WEC motion on a combined wind-wave energy platform | WeonCheol Koo | 14:15-14:30 |
| | | 265 | Fast time-domain model for an array of interactive point-absorbers | Charitini Stavropoulou | 14:30-14:45 |
| | | 547 | Farm Layout Optimization of an innovative type of Hybrid Floating Breakwater | Sara Russo | 14:45-15:00 |
| | | 163 | A CFD-FEM analysis for Anaconda WEC with mooring lines | Yang Huang | 15:00-15:15 |
| | | 153 | CMIP6 wave climate simulation in the European North East Atlantic Basin using WaveWatch III | Ponni Maya | 15:15-15:30 |
| **Laboa/ Operations, maintenance and decommissioning** | Gregorio Iglesias | 173 | A method for the growth inhibition of biofouling in Sihwa Tidal Power Plant | SeoYeong Lee | 14:00-14:15 |
| | | 262 | Informing Early Design Decisions Through Functional Analysis of Maintenance Drivers: Applications in Marine Renewables | Nathan Algarra | 14:15-14:30 |
| | | 259 | Lubrication of offshore mechanical components: towards sustainable & reliable power production | Juan Guillermo Zapita Tamaye | 14:30-14:45 |
| | | 535 | SEASNAKE: Impact - Marine operations modelling for evidence-based results detailing the impact of using a new fully dynamic cable design for ocean energy devices. | Ben Kennedy | 14:45-15:00 |
| | | | | | 15:00-15:15 |
| | | | | | 15:15-15:30 |
| **Arriaga/ Structural mechanics - materials, fatigue, loadings** | Claudio Lugni | 181 | Structural testing and numerical modelling of a glass fibre-reinforced composite demonstrator for turbine blades | Yadong Jiang | 14:00-14:15 |
| | | 469 | Antifouling and anticorrosive prevention with ceramic coatings on offshore structures for renewable energy | David Sanchez | 14:15-14:30 |
| | | 389 | Understanding the force motion trade off of rigid and hinged floating platforms for marine renewables | Abel Arredondo-Galeana | 14:30-14:45 |
| | | 147 | Reducing the uncertainty of ULS load estimates in offshore structural design | Joao Cruz | 14:45-15:00 |
| | | 222 | Critical Feature and Seawater Testing of Cross-Flow Rotor Components Fabricated with Additive Manufacturing | James McVey | 15:00-15:15 |
| | | 267 | Material characterization of elastomeric bearing elements in Wave Energy Converters | Rimmie Duraisamy | 15:15-15:30 |
| **Oteiza/ Grid integration, power take-off and control** | John Ringwood | 174 | Experimental validation of rollout-based model predictive control for wave energy converters on a two-body, taut-moored point absorber prototype | Zechuan Lin | 14:00-14:15 |
| | | 288 | Control co-design and uncertainty analysis of the LUPA's PTO using WecOptTool | Carlos Michelen Strofer | 14:15-14:30 |
| | | 396 | Tidal barrage operation optimization using moment-based control | Agustina Skiarski | 14:30-14:45 |
| | | 434 | Laboratory Tests Assessment of a Mechanical Sensor-less MPPT Control Strategy for Tidal Turbines | Mohammad Rafiei | 14:45-15:00 |
| | | 590 | Design considerations for a hybrid wind-wave platform under energy-maximising control | Maria Luisa Celesti | 15:00-15:15 |
| | | 468 | Wave Excitation Force Estimation for a Multi-DoF WEC via a Cubature Kalman Filter: Improved Design and Results | Jiamin Zhu | 15:15-15:30 |

**15:30-16:00** — **Refreshments, networking & posters exhibition** *(Terrace and Chillida room)* — **15:30-16:00**

**16:00-17:30** — **Side events**

| | | |
|---|---|---|
| **Mitxelena/Side event 1** | **"Supergen ORE Hub Wave and Tidal Energy research and opportunities" (by SUPERGEN-ORE HUB - University of Plymouth)** | 16:00-17:30 |
| **Baroja/Side event 2** | **"Distributed Embedded Energy Conversion Technology (DEEC-Tec)" (by Wave Energy Scotland / NREL)** | 16:00-17:30 |
| **Arriaga/Side event 3** | **"Morphing Blades: New-Concept Tidal and Wind Turbine Blades for Unsteady Load Mitigation" (by University of Edinburgh)** | 16:00-17:30 |

**17:30-19:00** — **Oral presentations**

| Room /Track | Chairman | Paper ID | Title | Presenter | |
|---|---|---|---|---|---|
| **Baroja/ Wave hydrodynamic modelling** | Siming Zheng | 152 | An Experimental Study for Wave Energy Converter of Wavestar Type using Real-Time Hybrid Model Testing Technique | Yoon-Jin Ha | 17:30-17:45 |
| | | 643 | Demonstrating real-time hydrodynamic motion response in force control for regular waves in a robotized dry test rig with a point-absorber WEC | Dana Salar | 17:45-18:00 |
| | | 534 | Data-base Hydrodynamic Coefficients Interpolator for Control Co-Design of Wave Energy Converters | Demian Garcia-Violini | 18:00-18:15 |
| | | 261 | Review of TEAMER Awards for WEC-Sim Support | Beatrice Battisti | 18:15-18:30 |
| | | 182 | Performance Enhancement of Fluidic Diode for a Wave Energy System through Genetic Algorithm | Emeel Kerikous | 18:30-18:45 |
| | | 272 | Parametric resonance: a risk to be avoided or an opportunity to be exploited? A case for a 2:1 wave energy converter | Giuseppe Giorgi | 18:45-19:00 |
| **Laboa/ Station-keeping, moorings and foundations** | Iñaki Zabala | 344 | Control synthesis via Impedance-Matching in panchromatic conditions: a generalised framework for moored systems | Bruno Paduano | 17:30-17:45 |
| | | 582 | Hydrodynamic Response of Mocean Wave Energy Converter in Extreme Waves | John Ashlin Samuel | 17:45-18:00 |
| | | 427 | The Dynamic response of floating offshore renewable energy devices: Sensitivity to mooring rope stiffness | Katie Smith | 18:00-18:15 |
| | | 485 | Experimental measurements of two elastic taut-slack mooring configurations for the multi-float M4 WEC | Samuel Draycott | 18:15-18:30 |
| | | | | | 18:30-18:45 |
| | | | | | 18:45-19:00 |
| **Arriaga/ Structural mechanics - materials, fatigue, loadings** | Vincenzo Nava | 410 | Fatigue-life prediction methods of a dynamic power cable for a floating testing platform – a numerical approach | Daniela Benites-Munoz | 17:30-17:45 |
| | | 419 | Beta-version Testing and Demonstration of the Design Load Case Generator: A Web-based Tool to Support IEC 62600-2 Standard Design Load Case Analyses | Vincent Neary | 17:45-18:00 |
| | | 490 | Fatigue Life Assessment for Wave Energy Converter Mooring Lines under Realistic Wave Climates | Eguzkiñe Martinez | 18:00-18:15 |
| | | 501 | A methodology to capture the single blade loads on a cross-flow tidal turbine flume model | Timo Bennecke | 18:15-18:30 |
| | | | | | 18:30-18:45 |
| | | | | | 18:45-19:00 |
| **Oteiza/ Grid integration, power take-off and control** | Jon Lekube | 207 | A comparison of AC and DC collection grids for marine current energy | Christoffer Fjellstedt | 17:30-17:45 |
| | | 315 | Power quality assessment of a wave energy converter using energy storage | Md Imran Ullah | 17:45-18:00 |
| | | 552 | Dimensioning and optimization of multi-source offshore renewable energy parks | Anton Schaap | 18:00-18:15 |
| | | 308 | A novel proposal of PTO direct-drive linear generator, an Azimuthal Multi-translator Switched Reluctance Machine (AMSRM); mechanical, characterization and performance tests. | Marcos Lafoz | 18:15-18:30 |
| | | 375 | Observer-Based Fault Estimation Applied to a Point Absorber Wave Energy Converter | Guglielmo Papini | 18:30-18:45 |
| | | 394 | Control of multiple PTOs in single OWC's air chambers | Juan Portillo | 18:45-19:00 |

**20:00-22:00** — **Social programme** — **Pintxos Route** — **20:00-22:00**

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## Tuesday September 5

**08:00-09:00** — **Registration** *(Main Hall)* — **08:00-09:00**

**09:00-10:30** — Oral presentations

| Room /Track | Chairman | Paper ID | Title | Presenter | |
|---|---|---|---|---|---|
| Baroja/ Wave device development and testing | Claes Eskilsson | 138 | Analysis of Mutriku's OWC performance | Isabel Casas | 09:00-09:15 |
| | | 144 | Successful innovation strategies to overcome the technical challenges in the development of wave energy technologies | Pablo Ruiz-Minguela | 09:15-09:30 |
| | | 266 | Spatial focussing of wave energy for improved power capture by an oscillating water column | Robert Mayon | 09:30-09:45 |
| | | 352 | Relevance of Robustness and Uncertainties Analysis in the Optimal Design of Wave Energy Converters | Filippo Giorcelli | 09:45-10:00 |
| | | 176 | Tuning Wave Energy Converters to local wave conditions | Wilson Guachamin-Acero | 10:00-10:15 |
| | | 466 | Enabling the Ocean Internet of Things with Renewable Marine Energy | Mathew Topper | 10:15-10:30 |
| Laboa/ Tidal device development and testing | Stephanie Ordoñez-Sanchez | 166 | Intracycle Active Blade Pitch Control for Cross-Flow Tidal Turbines Using Embedded Electric Drive Systems | Zhao Zhao | 09:00-09:15 |
| | | 209 | Numerical optimisation of the active lift turbines using OpenFoam's overset method | Ilan Robin | 09:15-09:30 |
| | | 231 | Non-dimensional scaling of passive adaptive blades for a marine current turbine | Katherine Van Ness | 09:30-09:45 |
| | | 264 | Optimal Design of a Submerged Tidal Device for Low Current Environment | Chul-hee Jo | 09:45-10:00 |
| | | 343 | Designing Vortex Generators for Tidal Turbine Blades | Marinos Manolesos | 10:00-10:15 |
| | | 617 | Leveraging Explainable Artificial Intelligence for Real-time Detection of Tidal Blade Damage | Muslim Jameel Syed | 10:15-10:30 |
| Arriaga/ Wave hydrodynamic modelling | Gareth Tomas | 317 | Verification and validation of MoodyMarine - A free simulation tool for modelling moored MRE devices | Johannes Palm | 09:00-09:15 |
| | | 321 | A hybrid linear potential flow - machine learning model for enhanced prediction of WEC performance | Claes Eskilsson | 09:15-09:30 |
| | | 476 | Design Wave analysis of the M4 wave energy converter device | Cristine Lynggard Hansen | 09:30-09:45 |
| | | 497 | Hydrodynamic studies of a 15 MW semi-submersible FOWT to assess the suitability of the inclusion of a damper system | Yu Gao | 09:45-10:00 |
| | | 145 | On the state-of-the-art of CFD simulations for wave energy converters within the open-source numerical framework of DualSPHysics | Alejandro Crespo | 10:00-10:15 |
| | | 158 | A Study on Wave Energy Conversion Problem of Turbine-Integrated OWC Chamber | Jeong-Seok Kim | 10:15-10:30 |
| Oteiza/THM | Tim O'Doherty | 503 | Large-eddy simulations of interaction between surface waves and a tidal turbine wake in a turbulent channel | Tim Stallard | 09:00-09:15 |
| | | 195 | Actuator-Line CFD Simulation of Tidal-Stream Turbines in a Compact Array | David Apsley | 09:15-09:30 |
| | | 218 | High-fidelity modelling of a vertical axis tidal turbine model under realistic flow conditions | Mikaël Grondeau | 09:30-09:45 |
| | | 307 | Synthetic eddy generation and modelling of turbine operation in a turbulent tidal flow | Matteo Gregori | 09:45-10:00 |
| | | 334 | Impact of lateral turbine spacing on the performance of a multi-rotor tidal energy device | Rachael Smith | 10:00-10:15 |
| | | 367 | A study on tidal rotors under the combined effects of currents and waves using actuator-line CFD simulations | Federico Zilic de Arcos | 10:15-10:30 |

**10:30-11:00** — **Refreshments, networking & posters exhibition** *(Terrace and Chillida room)* — **10:30-11:00**

**11:00-12:30** — Oral presentations

| Room /Track | Chairman | Paper ID | Title | Presenter | |
|---|---|---|---|---|---|
| Baroja/ Wave device development and testing | Diego Vicinanza | 167 | Experimental evaluation of phase and velocity control for a cycloidal wave energy converter | Andrei Ermakov | 11:00-11:15 |
| | | 169 | Wave Energy Power Take-off Validation with a Hydraulicly Actuated Rotary Dynamometer and a Bi-directional High-power DC Supply: Methods for validating wave energy converters' mechanical and electrical power conversion systems | Casey Nichols | 11:15-11:30 |
| | | 212 | A Removable elevated-hinge wave generator for testing marine energy devices | Pedro Lomonaco | 11:30-11:45 |
| | | 293 | Wave energy converter power take-off characterization: comparing dynamometer and field data | Curtis Rusch | 11:45-12:00 |
| | | 448 | Limiting the available pneumatic power in a U-OWC | Joao Henriques | 12:00-12:15 |
| | | 499 | HAPIGYM: Two Rapid Prototyping Environments for Wave Energy Control | Alexandra Price | 12:15-12:30 |
| Laboa/ Tidal device development and testing | Alberto Peña | 285 | A methodology for developing a prediction model for the remaining fatigue life and residual strength of tidal turbine blades | enis Ranjan Munaweera Thanthirig | 11:00-11:15 |
| | | 177 | Multi-Actuator Full-Scale Fatigue Test of a Tidal Blade | Sergio Lopez Dubon | 11:15-11:30 |
| | | 203 | Experimental techniques for evaluating the performance of high-blockage cross-flow turbine arrays | Adrian Hunt | 11:30-11:45 |
| | | 277 | Observations from structural testing of full-scale tidal turbine blades | William Finnegan | 11:45-12:00 |
| | | 322 | Experimental flow conditions effects on a bottom-mounted ducted twin vertical axis tidal turbine compared to real sea conditions | Martin Moreau | 12:00-12:15 |
| | | 498 | Experimental comparison of the flow-induced loading between a ducted bottom-mounted twin vertical axis tidal turbine at still and an unducted prototype | Saouli | 12:15-12:30 |
| Arriaga/ Wave hydrodynamic modelling | Markel Peñalba | 496 | Dynamic Simulation of Wave Point Absorbers Connected to a Central Floating Platform | Thiago Saksanian Hallak | 11:00-11:15 |
| | | 628 | Hydrodynamic and Static Stability Analysis of a Hybrid Offshore Wind-Wave Energy Generation: An Expansion of Semisubmersible Floating Wind Turbine Concept | Payam Aboutalebi | 11:15-11:30 |
| | | 626 | Study with Large Eddy Simulations of energy dissipation due to backwash flows in wave overtopping | Claudio Sandoval | 11:30-11:45 |
| | | 383 | Nonlinear WEC modeling using Sparse Identification of Nonlinear Dynamics (SINDy) | Brittany Lidon | 11:45-12:00 |
| | | 392 | Numerical and Experimental Characterization of Rotational Floating Body Drag | Bryson Robertson | 12:00-12:15 |
| | | 460 | A development and validation of the in-house hydrodynamics code and the DNV software for TALOS wave energy converter | Wanan Sheng | 12:15-12:30 |
| Oteiza/THM | Gustavo Esteban | 416 | A turbines-module adapted to the marine site for tidal farms layout optimization | Mikel Pucci | 11:00-11:15 |
| | | 442 | High-fidelity modelling of a six-turbine tidal array in the Shetlands | Pablo Ouro | 11:15-11:30 |
| | | 454 | Instabilities in tidal turbine wakes | Amanda Smyth | 11:30-11:45 |
| | | 505 | On the accuracy of BEMT and CFD on the power and trust prediction of tidal turbines | Yabin Liu | 11:45-12:00 |
| | | 506 | The performance of counter-rotating tidal turbine in different sea states | Song Fu | 12:00-12:15 |
| | | 544 | Comparison of Actuator Line Modelling of Tidal Power Kites with ADCP Measurements | Nomal Prabahar | 12:15-12:30 |

**12:30-14:00** — **Lunch & posters exhibition** *(Terrace and Chillida room)* — **12:30-14:00**

**14:00-15:30** — Oral presentations

| Room /Track | Chairman | Paper ID | Title | Presenter | |
|---|---|---|---|---|---|
| Baroja/ Wave device development and testing | Yago Torre-Enciso | 242 | Experimental Investigation into the Air Compressibility Scaling Effect on OWC Performance and Wave Height | André F.L. Governo | 14:00-14:15 |
| | | 185 | Enhancing the efficiency of an axial impulse turbine with a diffuser | Geetam Saha | 14:15-14:30 |
| | | 260 | Numerical performance assessment of a new wave energy conversion system | Giacomo Alessandri | 14:30-14:45 |
| | | 522 | Basin testing of the 1-2-1 M4 WEC | Damon Howe | 14:45-15:00 |
| | | 451 | Experimental Investigation on Performance of Counter-rotating Impulse Turbine with Middle Vanes for Wave Energy Conversion | Kichiro Suto | 15:00-15:15 |
| | | 268 | Design of an integrated generator and heaving buoy | Nick Baker | 15:15-15:30 |
| Laboa/ Tidal device development and testing | Daniel Coles | 343 | Designing Vortex Generators for Tidal Turbine Blades | Marinos Manolesos | 14:00-14:15 |
| | | 366 | A two-scale blockage correction for an array of tidal turbines | Daniel Dehtyriov | 14:15-14:30 |
| | | 365 | Performance Assessment of a Multi-Rotor Floating Tidal Energy System | Nicholas Kaufmann | 14:30-14:45 |
| | | 391 | The Influence of the Downstream Blade Sweep on Cross-flow Turbine Performance | Abigale Snortland | 14:45-15:00 |
| | | 420 | Additive Manufacturing for Powering the Blue Economy Applications: A Tidal Turbine Blade Case Study | Miguel Gonzalez-Montijo | 15:00-15:15 |
| | | 504 | Design and Demonstration of a Passive Pitch System for Tidal Turbines | Stefano Gambuzza | 15:15-15:30 |
| Arriaga/ Wave hydrodynamic modelling | Sara Russo | 164 | Wave Amplification inside an Open Circular Caisson for Wave Energy Conversion in Waters with Medium Energy Density | Jiahn-Horng Chen | 14:00-14:15 |
| | | 513 | System Identification for Modelling M4 Wave Energy Converter | Xuefei Wang | 14:15-14:30 |
| | | 198 | Semi-analytical and CFD formulations of a spherical floater | Spyridon Mavrakos | 14:30-14:45 |
| | | 278 | Spectral-Domain Modelling of Wave Energy Converters as an Efficient Tool for Adjustment of PTO Model Parameters | Adam Keester | 14:45-15:00 |
| | | 333 | A multiquery analysis of a PeWEC farm | Jian Tan | 15:00-15:15 |
| | | 538 | Effects of control strategies on the performance of floating WEC point absorbers operating attached to a breakwater by time-domain | Markos Bonovas | 15:15-15:30 |
| Oteiza/THM | AbuBakr Bahaj | 579 | Experimental characterisation of the wake of a bottom-mounted two tandem of cylinders placed in a high velocity area | Alina Santa Cruz | 14:00-14:15 |
| | | 676 | Development of a modified BEMT model for the analysis of helical bladed vertical axis tidal turbines | Mohammad Fereidoonnezhad | 14:15-14:30 |
| | | 199 | A comparative study of power production using a generic empirical model in a tidal farm | Kabir Bashir Shariff | 14:30-14:45 |
| | | 252 | Objective Functions for the Blade Shape Optimisation of a Cross-Flow Tidal Turbine under Constraints | Karla Ruiz-Hussmann | 14:45-15:00 |
| | | 283 | Investigating the impact of multi-rotor structure shadowing on tidal stream turbine performance | Bryn Townley | 15:00-15:15 |
| | | | | | 15:15-15:30 |

**15:30-16:00** — **Refreshments, networking & posters exhibition** *(Terrace and Chillida room)* — **15:30-16:00**

**16:00-17:30** — Side events

| | | | |
|---|---|---|---|
| Mitxelena/Side event 4 | SafeWAVE project (by AZTI / WavEC) | | 16:00-17:30 |
| Baroja/Side event 5 | Technology Performance Level Assessment (TPL) (by SANDIA LAB. -TPL TEAM-) | | 16:00-17:30 |
| Arriaga/Side event 6 | NEMMO Project, On the Cutting Edge of Tidal Blade Design and Materials (by Ocean Energy Europe) | | 16:00-17:30 |

**17:30-19:00** — Oral presentations

| Room /Track | Chairman | Paper ID | Title | Presenter | |
|---|---|---|---|---|---|
| Baroja/ Wave device development and testing | Luis Gato | 318 | A Novel Hybrid Floating Breakwater- Wave Energy Converter Device: Preliminary Experimental Investigations | Sara Russo | 17:30-17:45 |
| | | 329 | Origami-adapted dam design for wave energy conversion | Jingyi Yang | 17:45-18:00 |
| | | 555 | The Geometrical Design of the L-shaped Oscillating Water Column Using Artificial Neural Network | Chen-Chou Lin | 18:00-18:15 |
| | | 274 | Maximizing the surge amplitude of a floater through an adaptable mooring tightening technique | Andreas Asiikkis | 18:15-18:30 |
| | | 516 | Reliability and Cost Assessment of Critical Components: Electrical generator failure of IDOM wave energy converter | Julia Fernandez Chozas | 18:30-18:45 |
| | | 286 | Heterogeneous WEC array optimization using the Hidden Genes Genetic Algorithm | Habeebullah Abdulkadir | 18:45-19:00 |
| Arriaga/ Wave hydrodynamic modelling | Jesús M. Blanco | 355 | Numerical investigation of a new hybrid floating wind turbine concept | Beatrice Fenu | 17:30-17:45 |
| | | 376 | Quantification of uncertainty in linear wave energy hydrodynamic models from experimental data | Mahdiyeh Farajvand | 17:45-18:00 |
| | | 379 | An overview of an experimental campaign for arrays of wave energy conversion systems | Nicolas Faedo | 18:00-18:15 |
| | | 426 | Solution verification of WECs: comparison of methods to estimate numerical uncertainties in the OES wave energy modelling task | Claes Eskilsson | 18:15-18:30 |
| | | 473 | HydroChrono: An Open-Source Hydrodynamics Package for Project Chrono | David Ogden | 18:30-18:45 |
| | | 474 | Nonlinear hydrodynamics of a heaving sphere in diffraction, radiation, and combined tests | Jana Orszaghova | 18:45-19:00 |
| Oteiza/ Tidal hydrodynamic modelling | Pablo Ruiz-Minguela | 407 | Modelling the effects of boundary proximity on a tidal rotor using the actuator line method | Huw Eduards | 17:30-17:45 |
| | | 464 | Characterisation of turbulent flow and the wake of a tidal stream turbine in proximity to a ridge | Sulaiman Hurubi | 17:45-18:00 |
| | | 566 | Tidal turbulence in medium depth water, primarily a model study | Göran Broström | 18:00-18:15 |
| | | 316 | Verification and validation of blade-resolved viscous-flow tidal turbine simulations | Manuel Rentschler | 18:15-18:30 |
| | | 544 | Comparison of Actuator Line Modelling of Tidal Power Kites with ADCP Measurements | Nomal Prabahar | 18:30-18:45 |
| | | | | | 18:45-19:00 |

**19:00-20:00** — Technical programme — Elhuyar — **Technical Committee meeting** — 19:00-20:00

**20:00-22:00** — Social programme — **Track Directors Dinner** — 20:00-22:00

## Wednesday September 6

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 08:00-09:00 | **Registration** *(Main Hall)* | | | | | | 08:00-09:00 |
| 09:00-10:30 | Oral presentations | Room /Track | Chairman | Paper ID | Title | Presenter | |
| | | Baroja/ Wave device development and testing | Martyn Hann | 291 | Simulations of extreme wave load on an oscillating water column wave energy converter | Nhu Nguyen | 09:00-09:15 |
| | | | | 298 | On the survivability of WECs through submergence and passive controllers | Elie Al Shami | 09:15-09:30 |
| | | | | 393 | A probabilistic framework for fatigue damage of lift based wave energy converters | Abel Arredondo-Galeana | 09:30-09:45 |
| | | | | 382 | Preliminary design of an OWC wave energy converter battery charger | D.N. Ferreira | 09:45-10:00 |
| | | | | 540 | Development & performance enhancement of an AUV wave-charging system | Brian Rosenberg | 10:00-10:15 |
| | | | | 550 | A methodology to measure the energy flux captured by a submerged U-OWC by using temperature sensors | Luana Gurnari | 10:15-10:30 |
| | | Laboa/ Tidal device development and testing | Gustavo Esteban | 137 | CFD analysis of hydrodynamic force on a horizontal axis tidal turbine | Kai Xu | 09:00-09:15 |
| | | | | 150 | Dynamic Responses of a 1:5-Scale Ocean Current Energy Converter | Shun-Han Yang | 09:15-09:30 |
| | | | | 328 | The Development of a passive blade-pitch mechanism to reduce the loads on a tidal turbine in high-flow conditions | Thomas Summers | 09:30-09:45 |
| | | | | 348 | Effects of non-isotropic blockage on a tidal turbine modeled with the Actuator-Line method | Enzo Mascrier | 09:45-10:00 |
| | | | | 400 | Intracycle Control Sensitivity of Cross-Flow Turbines | Ari Athair | 10:00-10:15 |
| | | | | 402 | Development of an Unmanned Mobile Current Turbine Platform | Manhar Dhanak | 10:15-10:30 |
| | | Arriaga/ Tidal resource characterization | Cameron Johnstone | 258 | Validation of the energy resource assessment with experimental data for the site selection of a tidal turbine in the Tagus River estuary. | Bénédicte Hoofd | 09:00-09:15 |
| | | | | 302 | On tidal array layout sensitivity to regional and device model representation | Connor Jordan | 09:15-09:30 |
| | | | | 457 | Resource assessment using a combination of seabed mounted and semi-stationary vessel-mounted ADCP measurements | Larissa Perez | 09:30-09:45 |
| | | | | 228 | Measurements of tidal flow variability in Ramsey Sound, Pembrokeshire | Jon Miles | 09:45-10:00 |
| | | | | 171 | Investigation of Low Order Parameters Affecting Tidal Stream Energy Resource Assessments | Misha Patel | 10:00-10:15 |
| | | | | 178 | Mapping the Unresolved Tidal Resource in Estuaries | Matt Lewis | 10:15-10:30 |
| | | Oteiza/EIA | Juan Bald | 187 | Acoustic Characterization around the CalWave Wave Energy Converter | Kaustubha Raghukumar | 09:00-09:15 |
| | | | | 214 | A conditional probabilistic encounter-impact model for fish-turbine interactions | Jezella Peraza | 09:15-09:30 |
| | | | | 220 | Siting tidal energy projects through resource characterization and environmental considerations | Andrea Copping | 09:30-09:45 |
| | | | | 623 | Automated detection of wildlife in proximity to marine renewable energy infrastructure using machine learning of underwater imagery | Mckenzie Love | 09:45-10:00 |
| | | | | 221 | Choose Your Own Marine Energy Adventure Game: Collision Risk | Lenaig Hemery | 10:00-10:15 |
| | | | | 284 | Measurements of the wake from a floating tidal energy platform | Maricarmen Guerra Paris | 10:15-10:30 |
| 10:30-11:00 | **Refreshments, networking & posters exhibition** ***(Terrace and Chillida room)*** | | | | | | 10:30-11:00 |
| 11:00-12:30 | Oral presentations | Room /Track | Chairman | Paper ID | Title | Presenter | |
| | | Baroja/ Wave device development and testing | Jochen Weber | 270 | Biofilm prevention in the generator of a direct drive wave energy converter | Nick Baker | 11:00-11:15 |
| | | | | 330 | Hydro-elastic interaction of polymer materials with regular waves | Krishnendu Puzhukkil | 11:15-11:30 |
| | | | | 380 | Degrees of Freedom Effects on a Laboratory Scale WEC Point Absorber | Courtney Beringer | 11:30-11:45 |
| | | | | 155 | Effects of projected wave climate changes on the sizing and performance of OWCs: a focus on the Mediterranean and Atlantic European coastal waters | Irene Simonetti | 11:45-12:00 |
| | | | | 211 | A multi-PTO Wave Energy Converter for Low Energetic Seas: Ensenada Bay Case. | Paulino Meneses Gonzalez | 12:00-12:15 |
| | | | | 216 | Graphene oxide reinforced room-temperature-vulcanising elastomers for flexible wave energy converters | Xinyu Wang | 12:15-12:30 |
| | | Laboa/ Tidal device development and testing | Iñigo Bidaguren | 418 | Design, Manufacture and Testing of an Open-Source Benchmark Composite Hydrokinetic Turbine Blade | Miguel Gonzale-Montijo | 11:00-11:15 |
| | | | | 456 | Wake characterization of tidal turbines in the Pentland Firth using vessel-mounted ADCP measurements | Marion Huchet | 11:15-11:30 |
| | | | | 553 | Tidal Turbine Benchmarking Project: Stage I - Steady Flow Experiments | S.W. Tucker Harvey | 11:30-11:45 |
| | | | | 574 | Tidal Turbine Benchmarking Project: Stage I - Steady Flow Blind Predictions | R.H.J. Wilden | 11:45-12:00 |
| | | | | 567 | On the design of a small scale tidal converter for long time deployment at sea | Damiano Alizzio | 12:00-12:15 |
| | | | | | | | 12:15-12:30 |
| | | Arriaga/ Tidal resource characterization | Vincenzo Nava | 323 | Influence of the spatial variation of upstream velocity on a vertical-axis tidal turbine performance | Lilia Flores Mateo | 11:00-11:15 |
| | | | | 339 | Tracking a large vortex at a tidal power site | Philippe Mercier | 11:15-11:30 |
| | | | | 577 | Overview of Resource and Turbine Modelling in the Tidal Stream Industry Energiser project: TIGER | Edward MacKay | 11:30-11:45 |
| | | | | 165 | Evaluating the performance of turbulence closure models for tidal stream resource characterization | Zhaoqing Yang | 11:45-12:00 |
| | | | | 296 | Tidal turbine wake characterization by vessel-mounted ADCP data analysis | Patxi Garcia Novo | 12:00-12:15 |
| | | | | 299 | Estimation and characterisation of the wave-induced turbulent kinetic energy and turbulent dissipation from ADCP data | Clément Calvino | 12:15-12:30 |
| 12:30-14:00 | **Lunch & posters exhibition** ***(Terrace and Chillida room)*** | | | | | | 12:30-14:00 |
| 14:00-15:30 | Oral presentations | Room /Track | Chairman | Paper ID | Title | Presenter | |
| | | Baroja/ Wave device development and testing | Iñigo Albaina | 263 | A Dual Hardware-In-the-Loop (DHIL) platform for testing and validation of WEC subsystems | Giacomo Alessandri | 14:00-14:15 |
| | | | | 430 | Hardware-in-the-loop testing framework for active accumulator wave energy converters | Chen Zeng | 14:15-14:30 |
| | | | | 354 | Multi wave absorber platform design, modelling and testing : Investigating the integration of m | Nial McLean | 14:30-14:45 |
| | | | | 481 | Analysis of data from the full-scale prototype testing of the WASP – A novel wave measuring b | Brendan Walsh | 14:45-15:00 |
| | | | | 484 | Open Sea Trial of a Wave-Energy Converter at Tuticorin Port – Challenges | Abdus Samad | 15:00-15:15 |
| | | | | 576 | Test rig for submerged transmissions in wave energy converters as a development tool for dyn | Anthon Jonsson | 15:15-15:30 |
| | | Arriaga/ Tidal resource characterization | Luke Blunden | 390 | Turbine fatigue load prediction from field measurements of waves and turbulence | Hannah Mullings | 14:00-14:15 |
| | | | | 428 | Development of a Tool to Optimise Tidal Stream Energy Sites | Paul Evans | 14:15-14:30 |
| | | | | 432 | Principles of ADCP deployment methodologies | Penny Jeffcoate | 14:30-14:45 |
| | | | | 467 | Assessing wave-turbulence separation from ADCP measurements with artifical flow data | Michael Togneri | 14:45-15:00 |
| | | | | 478 | Multi-criteria analysis to evaluate tidal energy potential in France | Florian Castillo | 15:00-15:15 |
| | | | | 563 | Improved Modelling of Vertical Velocity Profiles at a Tidal Energy Site | Lilli Enders | 15:15-15:30 |
| | | Oteiza/ Environemental impact and appraisal | Andrea Copping | 303 | SafeWAVE The contribution of the SafeWAVE EU project to the future development of ocean energy | Juan Bald | 14:00-14:15 |
| | | | | 326 | ITSASDRONE, an autonomous marine surface drone for fish monitoring around wave energy c | Ainhize Uriarte | 14:15-14:30 |
| | | | | 600 | Empowering communities to participate in marine energy planning and development | Grace Chang | 14:30-14:45 |
| | | | | 374 | Assessing the effect of onshore and offshore Wave Energy Converters on seafloor integrity co | Iñigo Muxika | 14:45-15:00 |
| | | | | 554 | Effects of the spacing between two hydrokinetic turbines on the bedforms by numerical simulat | Fatima Khaled | 15:00-15:15 |
| | | | | 675 | Underwater noise impact assessment of a wave energy converter in the northern Atlantic (Spa | José Antonio García | 15:15-15:30 |
| 15:30-16:00 | **Refreshments, networking & posters exhibition** ***(Terrace and Chillida room)*** | | | | | | 15:30-16:00 |
| 16:00-17:30 | Side events | Mitxelena/Side event 7 | **"SUPPORTING THE FUTURE OF OCEAN ENERGY HERE AND NOW; A GLIMPSE OF BASQUE PUBLIC INITIATIVES TO FOSTER SECTOR SCALE-UP" (by EVE)** | | | | 16:00-17:30 |
| | | Baroja/Side event 8 | **Wave Energy Converter Simulator (WEC-Sim) (by SANDIA LAB. -WEC-SIM TEAM-)** | | | | 16:00-17:30 |
| | | Arriaga/Side event 9 | **"Instrumentation Instrumentation for Environmental Monitoring around Marine Energy Devices" (by Coastal Science Division-PNNL and WavEC)** | | | | 16:00-17:30 |
| 20:00-22:00 | Social programme | **Gala Dinner (Atrium of the Guggenheim Museum)** | | | | | 20:00-22:00 |

15th ewtec 2023 European Wave and Tidal Energy Conference Series | BILBAO 3rd -7th SEPTEMBER 2023

## Thursday September 7

**08:00-09:00** — **Registration** *(Main Hall)* — **08:00-09:00**

**09:00-10:30** — Oral presentations

| Room /Track | Chairman | Paper ID | Title | Presenter | |
|---|---|---|---|---|---|
| Laboa/ Grid integration, power take-off and control | Joao Henriques | 472 | A time domain approach for the optimal control of wave energy converter arrays | Mohamed Shabara | 09:00-09:15 |
| | | 493 | Optimisation of Air turbines for OWC Wave Energy Converters: Sensitivity of Realistic Wave Climates | Ander Zarketa-Astigarraga | 09:15-09:30 |
| | | 500 | Integrated hydrodynamic-electrical hardware model for wave energy conversion with M4 ocean demonstrator | Judith Apsley | 09:30-09:45 |
| | | 409 | On data-based control-oriented modelling applications in wave energy systems | Edoardo Pasta | 09:45-10:00 |
| | | 592 | The Performance evaluation of 30kW class OWC wave power plant integrated with breakwater | Kilwom Kim | 10:00-10:15 |
| | | 161 | Investigation on the extreme peak mooring force distribution of a point absorber wave energy converter with and without a survivability control system | Zahra Shahroozi | 10:15-10:30 |
| Arriaga/ Wave resource characterization | Pasquale Contestabile | 140 | Analysis of the North Atlantic offshore energy flux from different reanalysis and hindcasts | Matias Alday | 09:00-09:15 |
| | | 175 | Wave Spectral Analysis for designing Wave Energy Converters | Jesus Portilla-Yandun | 09:15-09:30 |
| | | 275 | Long term wave load trends against offshore monopile structures: A case study in the Bay of Biscay | Nahia Martinez-Iturricastillo | 09:30-09:45 |
| | | 279 | Numerical modelling of wave and tidal current interactions and their impact on wave parameters | Tian Tan | 09:45-10:00 |
| | | 205 | On the errors in annual energy yield estimation due to monodirectional wave spectra assumption | Giulia Cervelli | 10:00-10:15 |
| | | 305 | Validation of ERA5 Wave Energy Flux through Sailor diagram in Spain (2005-2014) | Jon Saenz | 10:15-10:30 |
| Oteiza/ Economical, social, legal and political aspects of ocean energy | Pablo Ruiz-Minguela | 154 | Do recent renewable energy policy changes in Ireland satisfy the requirements of a nascent wave energy technology development sector? | Carrie Anne Barry | 09:00-09:15 |
| | | 157 | Integration of wave energy into Energy Systems: an insight to the system dynamics and ways forward | George Lavidas | 09:15-09:30 |
| | | 306 | Can Risk-Based Approaches benefit future Marine Renewable Energy deployment, planning and consenting processes? | Emma Verling | 09:30-09:45 |
| | | 351 | Towards increased social acceptability of marine renewable energy | Niall P. Dunphy | 09:45-10:00 |
| | | 362 | Environmental Effects of MRE: Advancing the Industry through Broad Outreach and Engagement | Mikaela Freeman | 10:00-10:15 |
| | | 397 | Informing development of a socioeconomic data collection toolkit for marine energy: a literature review | Deborah Rose | 10:15-10:30 |

**10:30-11:00** — **Refreshments, networking & posters exhibition** *(Terrace and Chillida room)* — **10:30-11:00**

**11:00-12:30** — Oral presentations

| Room /Track | Chairman | Paper ID | Title | Presenter | |
|---|---|---|---|---|---|
| Baroja/ Wave device development and testing | Urko Izquierdo | 453 | The Impact of Uncertainty on the Control of a Multi-Axis Wave Energy Converter | Carrie Hall | 11:00-11:15 |
| | | 531 | Spectral control co-design of wave energy converter array layout | Yerai Peña-Sanchez | 11:15-11:30 |
| | | 548 | A new seawater low-head turbine for the OBREC | Pasquale Contestabile | 11:30-11:45 |
| | | 549 | Experimental investigation on the hydrodynamic performance of a pile-supported OWC-type breakwater | Yusuf Almalki | 11:45-12:00 |
| | | 661 | Weight Reduction Methodologies for Wave Energy Devices: A Structural Analysis Approach | Michael O'Shea | 12:00-12:15 |
| | | | | | 12:15-12:30 |
| Laboa/ Grid integration, power take-off and control | Eider Robles | 215 | Wave Farms Integration in a 100% renewable isolated small power system -frequency stability and grid compliance analysis. | Marcos Blanco | 11:00-11:15 |
| | | 309 | Wave-to-Wire Control of an Oscillating Water Column Wave Energy System Equipped with a Wells Turbine | Marco Rosati | 11:15-11:30 |
| | | 510 | Maximizing Wave Energy Converter Power Extraction by Utilizing a Variable Negative Stiffness Magnetic Spring | Jeff T. Grasberger | 11:30-11:45 |
| | | 561 | Development of control strategies for novel systems of a full scale OWC for the WEDUSEA project | James Kelly | 11:45-12:00 |
| | | 346 | Enhancing energy system resilience using tidal stream energy | Danny Coles | 12:00-12:15 |
| | | 551 | Analysis of Ocean Energy Integration in Ibero-American Electric Grids | Marcos Lafoz | 12:15-12:30 |
| Arriaga/ Wave resource characterization | Jesús M. Blanco | 529 | Impact of Resource Uncertainties on the Design of Wave Energy Converters | Markel Peñalba | 11:00-11:15 |
| | | 539 | Discussions on Wave energy period in higher wave energy potential marine waters of Taiwan | Shiaw-Yih Tang | 11:15-11:30 |
| | | 159 | Internal waves: A potentially untapped marine energy resource | Kastubha Raghukumar | 11:30-11:45 |
| | | 197 | Feasibility of wave energy harvesting in the Ligurian Sea | Manuel Alejandro Corrales-Gonzále | 11:45-12:00 |
| | | 378 | Identification of optimal sites for the deployment of wave energy converters: the importance of a technology-centred approach | Riccardo Novo | 12:00-12:15 |
| | | 558 | Operating and Extreme weather conditions for testing Offshore Devices at Marine Renewable Energy Lab (MaRELab) | Pasquale Contestabile | 12:15-12:30 |
| Oteiza/ Economical, social, legal and political aspects of ocean energy | Peter Frigaard | 398 | Techno-economic analysis of marine hybrid clusters in two potential Latin American markets | Emilian Gorr-Pozzi | 11:00-11:15 |
| | | 399 | Techno-economic Optimization of an Offshore Hybrid Power System: Mid-Atlantic Shelf Break Case Study | Sarah Palmer | 11:15-11:30 |
| | | 452 | Ensuring Resilience in Ocean Energy Power Plants: A Survey of Cybersecurity Measures | Thalita Nazare | 11:30-11:45 |
| | | 340 | On the complementarity of wave, tidal, wind and solar resources in Ireland | Hafiz Ashan Said | 11:45-12:00 |
| | | 281 | Empowering Communities to Participate in Marine Energy Planning and Development | Grace Chang | 12:00-12:15 |
| | | 335 | A Comparison of the European Regulatory Framework for the deployment of Wave Energy Converters | Claudio Moscoloni | 12:15-12:30 |

**12:30-14:00** — **Lunch & posters exhibition** *(Terrace and Chillida room)* — **12:30-14:00**

**14:00-15:30** — Oral presentations

| Room /Track | Chairman | Paper ID | Title | Presenter | |
|---|---|---|---|---|---|
| Baroja/ Wave device development and testing | Tony Lewis | 350 | Performance enhancement of pitching WECs via oscillating water columns technology | Marco Fontana | 14:00-14:15 |
| | | 357 | Numerical investigation of the energy performance of a wave energy converter comprising a re | Félix Elefant | 14:15-14:30 |
| | | 395 | Hybrid wind-wave systems: The case of the VolturnUS-S semi-submersible platform | Maximilian Hengstmann | 14:30-14:45 |
| | | 439 | Analysis of the viability of a radial Double Decker Turbine for application in Oscillating Water Co | Ado Vega-Valladares | 14:45-15:00 |
| | | 445 | An Early Design Phase Method for Characterizing and Comparing Wave Energy Converter Arc | Aeron Roach | 15:00-15:15 |
| | | | | | 15:15-15:30 |
| Arriaga/ Wave energy | Jose L. Villate | 564 | Upsampling wave temporal resolution: Investigating wave parameters and the in | Hannah Mankle | 14:00-14:15 |
| | | 619 | On spatial interpolation of ocean energy source variables: A comparative analys | Leonardo Gambarelli | 14:15-14:30 |
| | | 584 | Numerical Study on Overtopping Performance of Multi-stage Overtopping Wave | Guoliang Zhang | 14:30-14:45 |
| | | 475 | The application of temporal gating in the measurement of response amplitude op | Ben Cazzolato | 14:45-15:00 |
| | | 310 | Analysis of the impact of floater interactions on the power extraction of a dense V | Alva Bechlenberg | 15:00-15:15 |
| | | | | | 15:15-15:30 |
| Oteiza/ Economical, social, legal and political aspects of ocean energy | James Benhin | 507 | Ocean Energy: Markets – Currency – Impact. Dimension of & Choices in the Technology Development Space | Jochem Weber | 14:00-14:15 |
| | | 223 | Using human-centered design to develop a national research landscape for marine energy in the United States | Samantha Quinn | 14:15-14:30 |
| | | 385 | Choosing Wave Energy Devices for Community Led Marine Energy Development | Molly Grear | 14:30-14:45 |
| | | 388 | A Socioeconomic, Environmental, and Regulatory Assessment for Current Energy Converter Technologies | Dominic Forbush | 14:45-15:00 |
| | | 413 | Floating wind and wave energy technologies: applications, synergies and role in decarbonization in Portugal | Craig White | 15:00-15:15 |
| | | 436 | Wave energy communication and social opposition: can we improve perception of ocean energy development projects? | Maria C. Uyarra | 15:15-15:30 |

**15:40-16:15** — Closing ceremony — Mitxelena Auditorium

| | | | |
|---|---|---|---|
| Jesús M. Blanco | Local Committee | 15:40-15:45 | |
| Jose L. Villate | Local Committee | 15:45-15:50 | |
| Iñigo Ansola | Chair EVE | 15:50-15:55 | |
| Bruce Cameron | Chair PAMEC 2024 | 15:55-16:00 | |
| C H Jo | Chair AWTEC 2024 | 16:00-16:05 | |
| Cameron Johnstone | EWTEC Executive Board | 16:05-16:10 | |
| Luis Gato | IST Lisbon (Chair of EWTEC'25) | 16:10-16:15 | |

**16:30-20:30** — Social programme — **Technical visits:** **Option 1: MUTRIKU** **Option 2: BIMEP** — **16:30-20:30**

**21:00-22:30** — Technical programme — **(Executive Board Meeting and Dinner)** — **21:00-22:30**


| Paper ID | Title of the poster | Authors' List |
|---|---|---|
| 342 | Vortex induced vibrations of marine risers: validating turbulence models | Chang, Wang; Antonis Vakis; Arthur Veldman; Eize, Stamhuis |
| 313 | Grid value of co-located offshore renewable energy | Erik, Jonasson; Irina, Temiz |
| 545 | Preliminary performance assessment from towing tank testing of a horizontal-axis turbine | David, Lande-Sudall; Sondre, Tolleifsen; Kjetil, Gravelsæter; Harald, Moen; Jan Bartl |
| 377 | Life Cycle Assessment of a wave energy device – LiftWEC | Paula, Bastos; Fiona, Devoy-McAuliffe; Abdel, Arredondo-Galeana; Julia Chozas; Paul, Lamont-Kane; Pedro, Almeida Vinagre |
| 184 | Experimental passive and reactive control of a Laboratory Scale WEC Point Absorber | Bret, Bosma; Courtney, Beringer; Bryson, Robertson; |
| 586 | Combining offshore wind and wave energy to supply a big size desalination plant | Beatriz, Del Rio Gamero; Julieta, Schallenberg Rodríguez; Pedro, Suarez Arocha |
| 422 | Design, installation, capacities and expenses of an indoor multipurpose modular 2D wafe flume and circulating water channel | Iñigo, Bidaguren; Natalia, Montalban; Urko, Izquierdo; Iñigo, Albaina; Alberto, Peña; Egoitz, Urtaran; Jesus Maria, Blanco; |
| 483 | New design options for the improvement of the Mutriku power plant | Urko, Izquierdo; Iñigo, Bidaguren; Gustavo Adolfo, Esteban; Miguel Angel, Gomez Solaeche; Juan Luis Larrabe; Jesus María, Blanco |
| 578 | Experimental Optimization Environment for Developing an Intracycle Pitch Control in Cross Flow Turbines | Stefan, Hoerner; Roberto, Leidhold; Shokoofeh, Abbaszadeh; Karla, Ruiz-Hussmann; Timo, Bennecke; Zhao, Zhao; Christian-Tora, Weber; Pierre-Luc, Delafin; |
| 441 | Increase in power generation by calculating maximum amount of drainage water using a real-time water level prediction A.I. | HeeJin, Kwack; SungHun, Lee; ByunJoon, Jun; SangJun, Min; JeonA, Baek; SeoYeong, Lee |
| 570 | Assessment of tidal energy resources in the Strait of Magellan in southern Chile | Leandro, Suarez Atias; Cristian, Escauriaza; Megan Williams; Maricarmen, Guerra; |
| 387 | Quality Function Deployment methodology as a tool for sustainable design of ocean technologies | Selef Farcia Orozco |
| 325 | Marine Renewable Energies and Maritime Spatial Planning: different national proposals for their legal and spatial context | Iratxe Mentxaka; Ibon Galparsoro; Emma Verling; Inés Machado; Enored LebBourhis; Thomas Soulard; Juan Bald |
| 542 | A Filtering device for improving the quality of cooling water in turbine generator of Sihwa Tidal Power Plant | Taekyun Kin; Hee Jin Kwak; Jee Hun Bang; Mosol Kim; Bem sug Kim |
| 276 | A new type of wave tank: prototype and proof of concept | Joannes Berque; Iñigo Zarate; Jesus Maria Blanco; Iñigo Bidaguren; Imanol Touzon; Luisa Fernandez |
| 488 | Comparison of physics-based and machine learning methods for phase-resolved prediction of waves measured in the field | Jialun Chen; Thobani Hlophe; Wenhua Zhao; Ian A. Milne; David Gunawan; Adi Kurniawan; Hyg Wolgamot; Paul H. Taylor; Jana Orszaghova |
| 170 | Wave Excitation Tests on a Fixed Sphere: Comparison of Physical Wave Basin Setups | Jacob Andersen; Morten Bech Kramer |
| 368 | Development of the Exowave Oscillating Wave Surge Converter | Sarah Krogh Iversen; Jacob Andersen; Lars Wigant; Peter Frigaard |