

PRELIMINARY PROGRAMME

for the 15th European Wave & Tidal Energy Conference

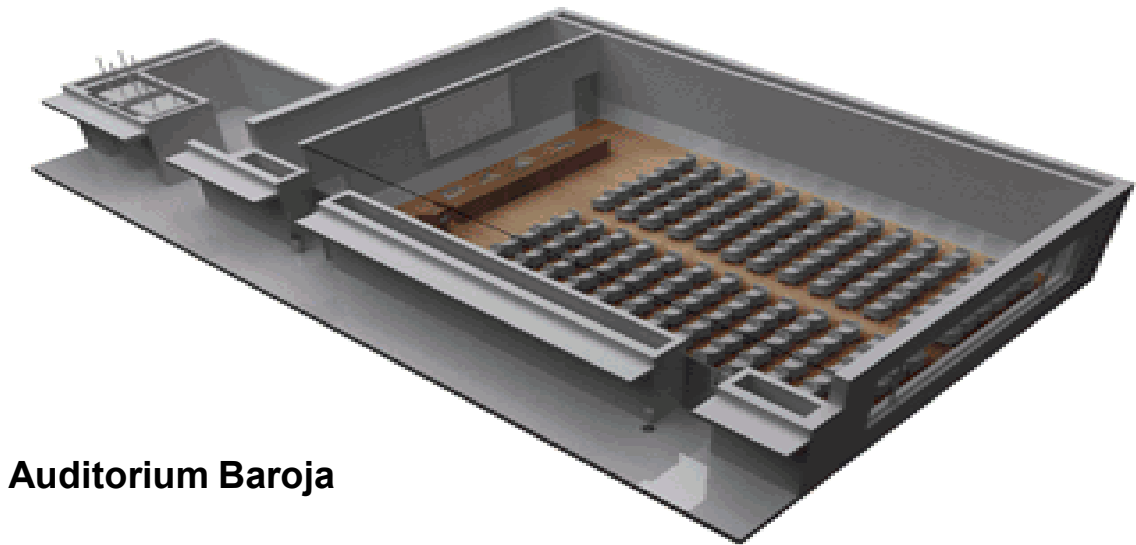
v46 | 2023-09-05

BILBAO 
3rd -7th SEPTEMBER 2023

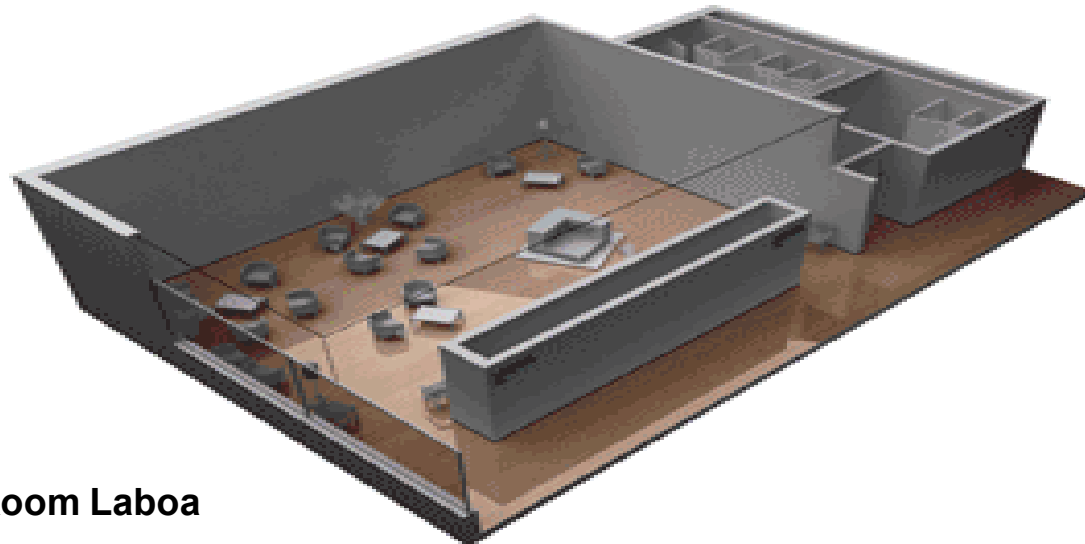
	Day 1 Sunday September 3	Day 2 Monday September 4	Day 3 Tuesday September 5				Day 4 Wednesday September 6				Day 5 Thursday September 7				Day 6 Friday September 8			
08:00-08:30	Bus departure to Getxo Regatta	Registration (Main Hall)	Registration (Main Hall)				Registration (Main Hall)				Registration (Main Hall)					08:00-08:30		
08:30-09:00			Registration (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		09:00-09:30		
09:30-10:00																09:30-10:00		
10:00-10:30	Regatta La mar en calma Sailing School in Getxo (10:00-15:00h)	Opening Ceremony (Mixelena Auditorium)	Refreshments, networking & posters exhibition (Terrace and Chillida room)												Social programme Guided tour through the river by BILBOATS	10:00-10:30		
10:30-11:00																10:30-11:00		
11:00-11:30		Keynote lectures + JRL-ORE (Mixelena 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		11:00-11:30		
11:30-12:00																11:30-12:00		
12:00-12:30														12:00-12:30				
12:30-13:00														12:30-13:00				
13:00-13:30														13:00-13:30				
13:30-14:00														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	14:00-14:30
14:30-15:00		Bus returning to Bilbao																14:30-15:00
15:00-15:30		Refreshments, networking & posters exhibition (Terrace and Chillida room)												Closing Ceremony				15:00-15:30
15:30-16:00																		15:30-16:00
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	Technical visits: Option 1: MUTRIKU Option 2: BIMEP				16:00-16:30
16:30-17:00			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	1 Bus departing to Olatua Building (Getxo Cruise Terminal) every 10 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									17:00-17:30
17:30-18:00		Oral presentation WHM	Oral presentation SMF	Oral presentation SMM	Oral presentation GPC	Oral presentation WDD		Oral presentation WHM	Oral presentation THM									17:30-18:00
18:00-18:30		Oral presentation WHM	Oral presentation SMF	Oral presentation SMM	Oral presentation GPC	Oral presentation WDD		Oral presentation WHM	Oral presentation THM									18:00-18:30
18:30-19:00		Oral presentation WHM	Oral presentation SMF	Oral presentation SMM	Oral presentation GPC	Oral presentation WDD		Oral presentation WHM	Oral presentation THM									18:30-19:00
19:00-19:30	Welcome Reception (Olatua Building Getxo Cruise Terminal) Registration available					Technical Committee Meeting (Elhuyar room)												19:00-19:30
19:30-20:00						Technical Committee Meeting (Elhuyar room)												19:30-20:00
20:00-20:30		Social programme Pintxos Route								Opening of the galleries of the Museum (exclusive for Delegates)								20:00-20:30
20:30-21:00																		20:30-21:00
21:00-21:30	All Buses returning to Bilbao					(Track Directors Dinner)								(Executive Board Meeting and Dinner)				21:00-21:30
21:30-22:00																		21:30-22:00
22:00-22:30																		22:00-22:30
22:30-23:00																		22:30-23:00
23:00-23:30																23:00-23:30		
Colour code:		Olatua Building	Mixelena (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 WHM: Wave hydrodynamic modelling EIA: Environemental impact and appraisal				WDD: Wave device development and testing GPC: Grid integration, power take-off and control WRC: Wave resource characterization				ONM: Operations, maintenance and decommissioning TDD: Tidal device development and testing TRC: Tidal resource characterization				ESP: Economical, social, legal and political aspects of ocean energy SMF: Station-keeping, moorings and foundations 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 circumstances

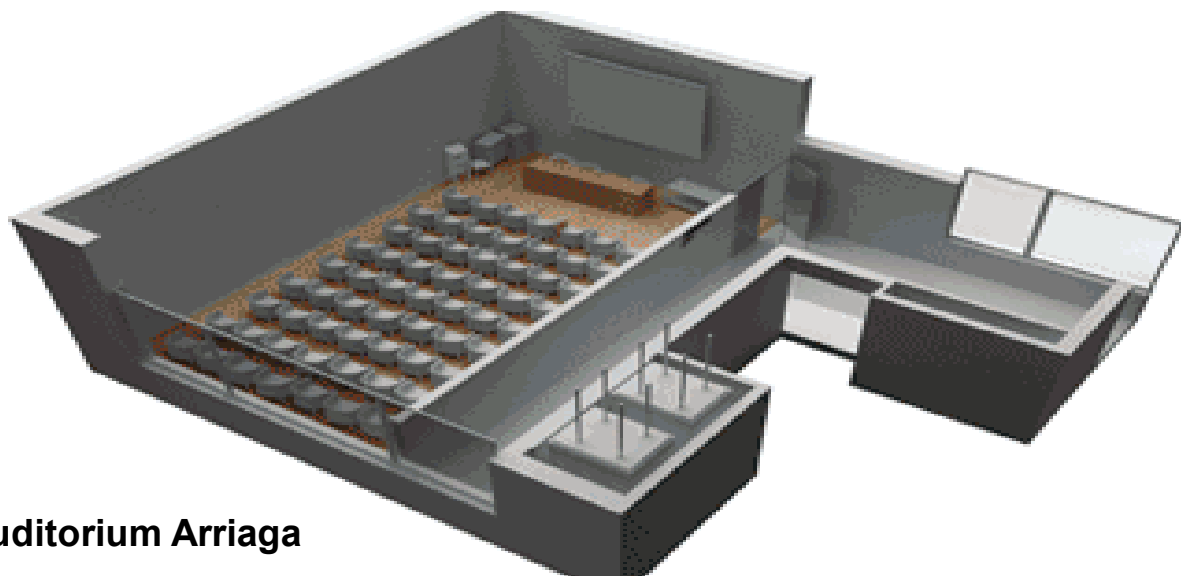
2nd FLOOR



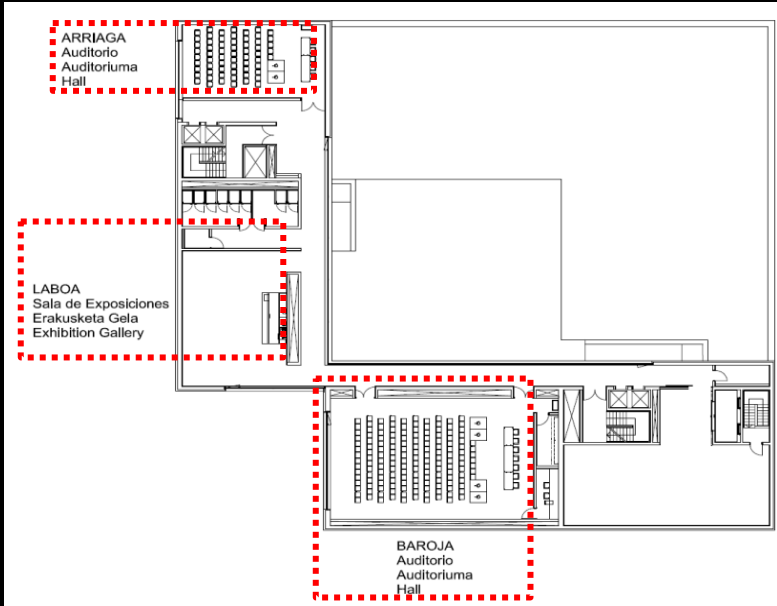
Auditorium Baroja



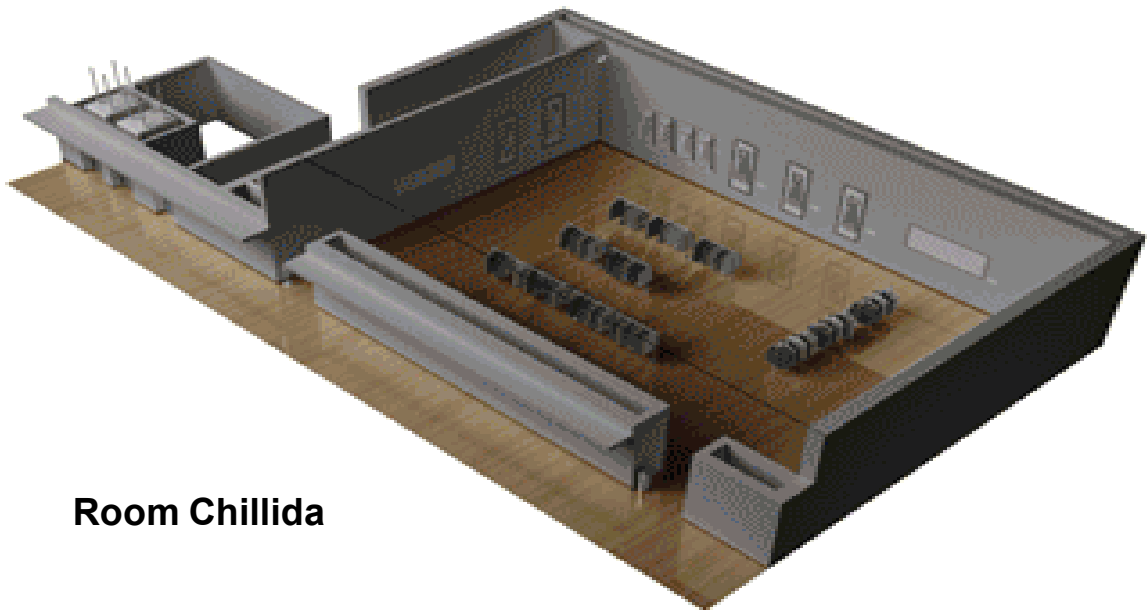
Room Laboa



Auditorium Arriaga



1st FLOOR



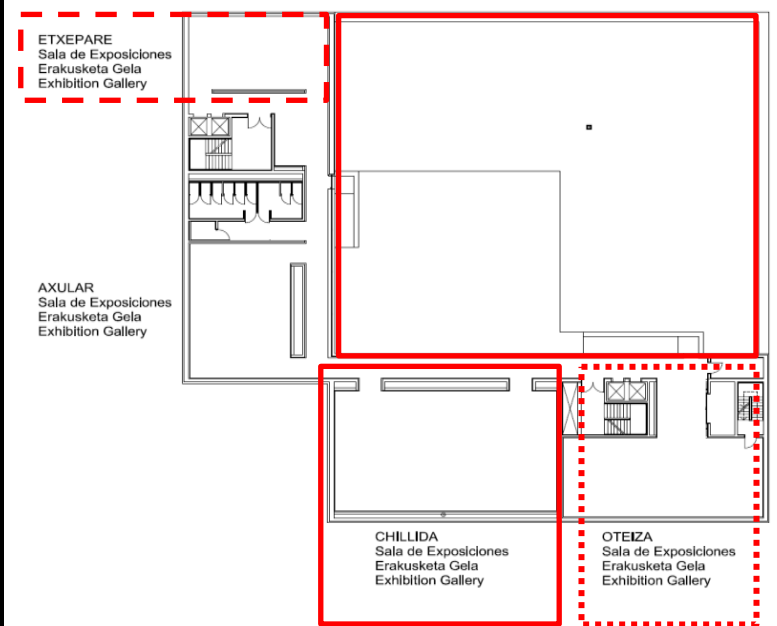
Room Chillida



Room Oteiza



Terrasse Menchu Gal



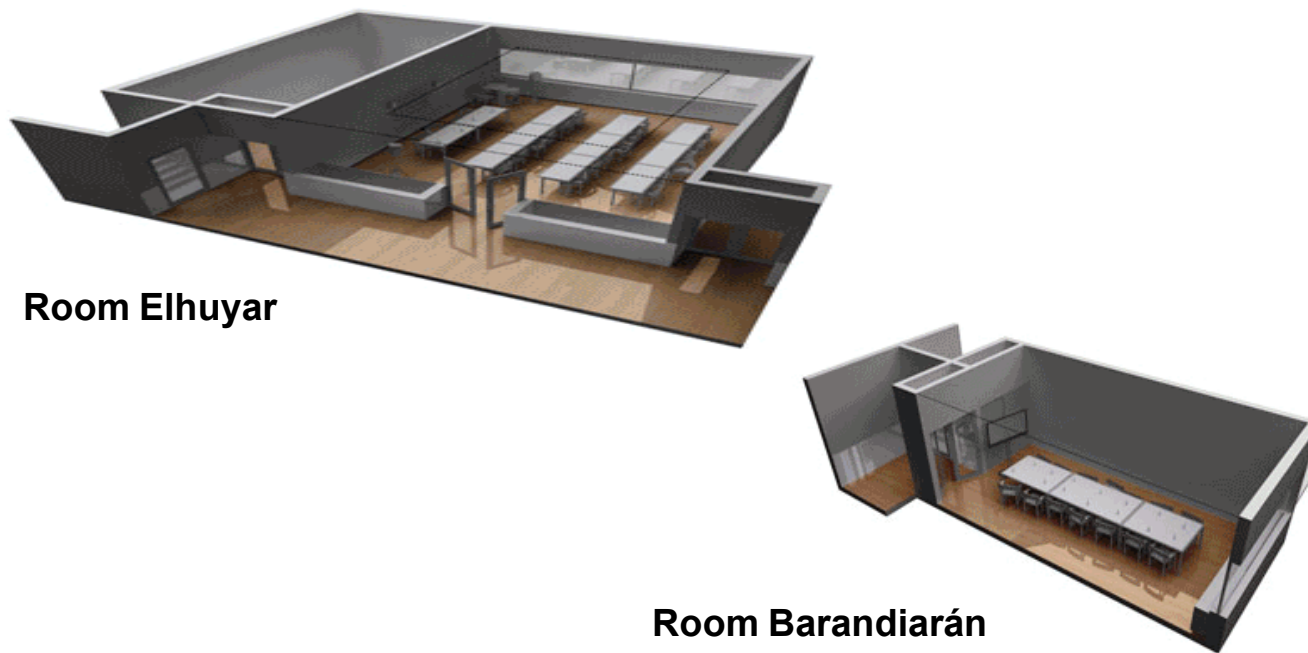
GROUND FLOOR



Main Hall

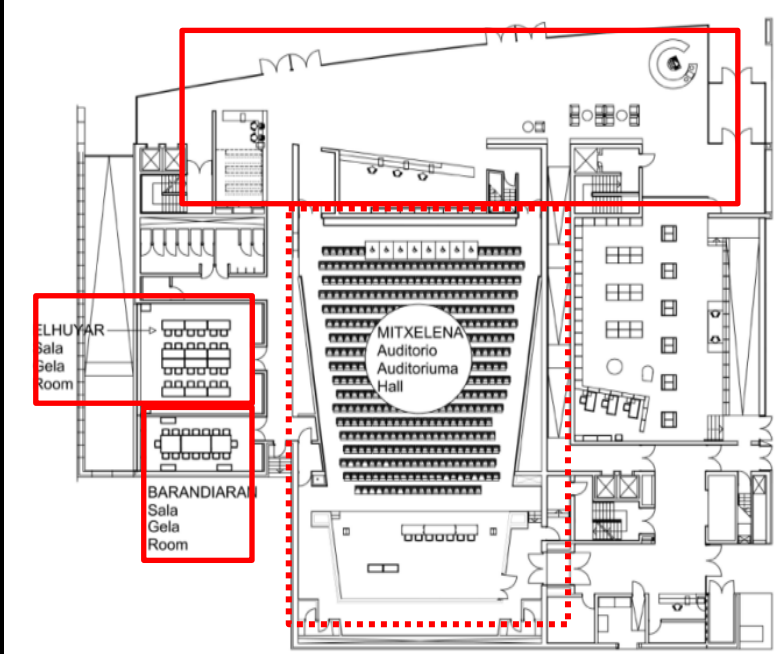


Auditorium Mitxelena



Room Elhuyar

Room Barandiarán

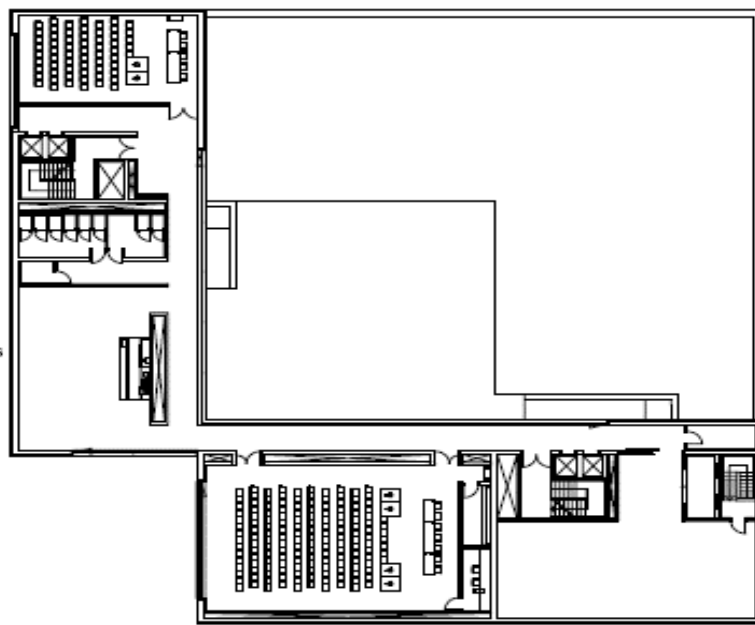


2nd FLOOR

LABOA
Sala de Exposiciones
Erakusketa Gela
Exhibition Gallery

ARRIAGA
Auditorio
Auditoriums
Hall

BAROJA
Auditorio
Auditoriums
Hall



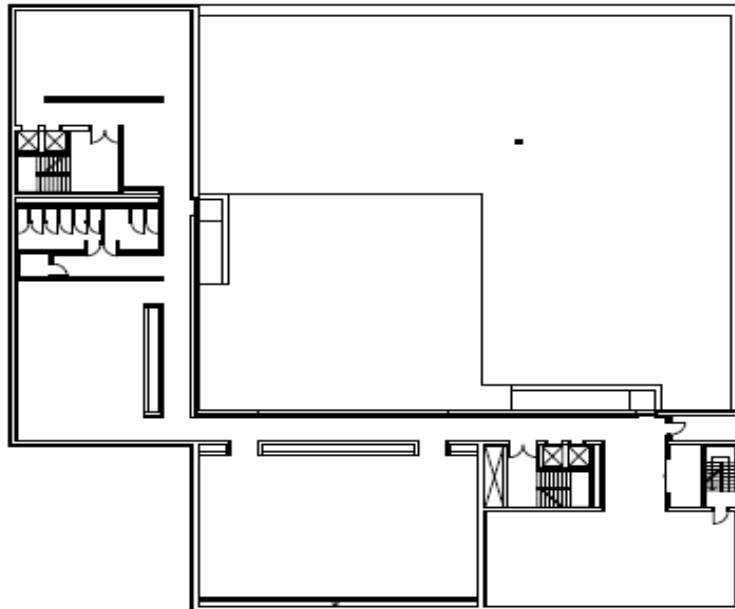
1st FLOOR

ETXEPARE
Sala de Exposiciones
Erakusketa Gela
Exhibition Gallery

AXULAR
Sala de Exposiciones
Erakusketa Gela
Exhibition Gallery

CHILLIDA
Sala de Exposiciones
Erakusketa Gela
Exhibition Gallery

OTEIZA
Sala de Exposiciones
Erakusketa Gela
Exhibition Gallery

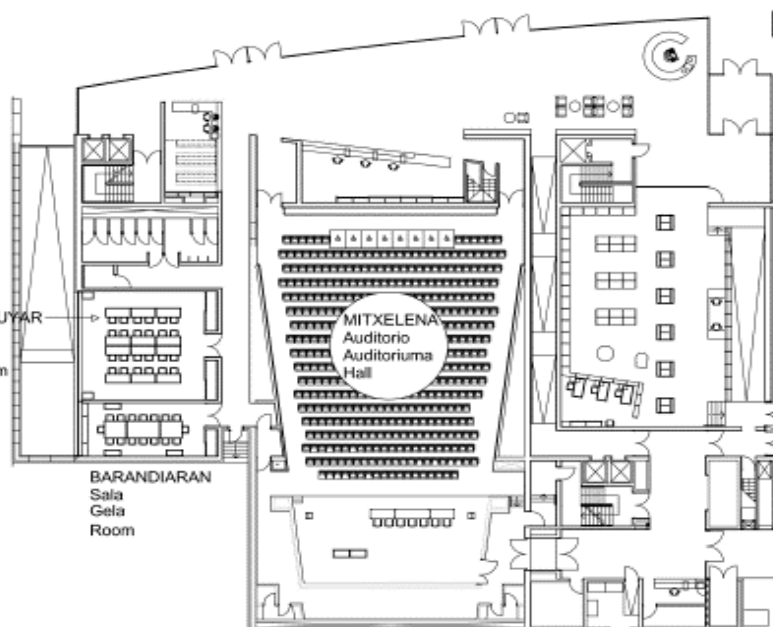


GROUND FLOOR

ELHUYAR
Sala
Gela
Room

BARANDIARAN
Sala
Gela
Room

MITXELENA
Auditorio
Auditoriums
Hall



Monday September 4							
				Registration (Main Hall)	08:00-10:00		
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			
		Mikel Amundarain	Basque Government	10:40-10:50			
Keynote lectures (Mitxelena Auditorium)	Mitxelena Auditorium	Iñigo Losada	IH-Cantabria	11:00-11:40			
		Andrew Scott	Orbital Marine Power	11:40-12:20			
JRL-ORE	Mitxelena Auditorium	Eider Robles	JRL-ORE	12:20-12:30			
Lunch & posters exhibition (Terrace and Chillida room)							12:30-14:00
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	Hong-Bhin Kim	14:15-14:30	
			265	Fast time-domain model for an array of interactive point-absorbers	Charitini Stavropoulou	14:30-14:45	
			163	A CFD-FEM analysis for Anaconda WEC with mooring lines	Yang Huang	14:45-15:00	
			153	CMIP6 wave climate simulation in the European North East Atlantic Basin using WaveWatch III	Ponni Maya	15:00-15:15	
			558	Operating and Extreme weather conditions for testing Offshore Devices at Marine Renewable Energy Lab (MaRELab)	Sara Russo	15:15-15:30	
	Laboa/ Operations, maintenance and decommissioning	Gregorio Iglesias	259	Lubrication of offshore mechanical components: towards sustainable & reliable power production	Juan Guillermo Zapita Tamay	14:00-14:15	
			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	14:15-14:30	
			262	Informing Early Design Decisions Through Functional Analysis of Maintenance Drivers: Applications in Marine Renewables	Nathan Algarra	14:30-14:45	
						14:45-15:00	
						15:00-15:15	
						15:15-15:30	
	Arriaga/ Structural mechanics - materials, fatigue, loadings	Paulino Meneses	181	Structural testing and numerical modelling of a glass fibre-reinforced composite demonstrator for turbine blades	Yadong Jiang	14:00-14:15	
			465	Antifouling and anticorrosive prevention with ceramic coatings on offshore structures for renewable energy	David Salvador Sanz Sanchez	14:15-14:30	
			305	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	
			426	Critical Feature and Seawater Testing of Cross-Flow Rotor Components Fabricated with Additive Manufacturing	Rob Cavagnaro	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	Paolino Tona	15:15-15:30	
Refreshments, networking & posters exhibition (Terrace and Chillida room)							15:30-16:00
Side events	Baroja/Side event 1	"Distributed Embedded Energy Conversion Technology (DEEC-Tec)" (by Wave Energy Scotland / NREL)					16:00-17:30
	Arriaga/Side event 2	"Morphing Blades: New-Concept Tidal and Wind Turbine Blades for Unsteady Load Mitigation" (by University of Edinburgh)					16:00-17:30
Oral presentations	Room /Track	Chairman	Paper ID	Title	Presenter		
	Baroja/ Wave hydrodynamic modelling	Markel Peñalba	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	Yerai Peña-Sanchez	18:00-18:15	
			261	Review of TEAMER Awards for WEC-Sim Support	Adam Keester	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	Vengatesan Venugopal	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	
			410	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	Carlos Michelen	17:45-18:00	
			400	Fatigue Life Assessment for Wave Energy Converter Mooring Lines under Realistic Wave Climates	Eguzkiñe Martínez	18:00-18:15	
			501	Numerical Study on Overtopping Performance of Multi-stage Overtopping Wave Energy Converters	Guoliang Zhang	18:15-18:30	
			272	A Numerical study on the effect of solidity on the performance of Transverse Axis Crossflow Tidal Turbines	Rónán Gallagher	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.	Jorge Nájera	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	
Social programme	Pintxos Route						20:00-22:00

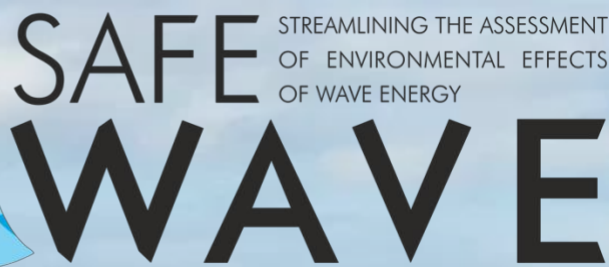
		Tuesday September 5							
08:00-09:00		Registration (Main Hall)					08:00-09:00		
09:00-10:30	Oral presentations	Room /Track	Chairman	Paper ID	Title	Presenter			
		Baroja/ Wave device development and testing	Diego Vicinanza	138	Analysis of Mutriku's OWC performance	Isabel Casas	09:00-09:15		
				144	Successful innovation strategies to overcome the technical challenges in the development of wave energy technologies	Pablo Ruiz-Minguela	09:15-09:30		
				208	Spatial focussing of wave energy for improved power capture by an oscillating water column	Robert Mayon	09:30-09:45		
				302	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		
		Laboa/ Tidal device development and testing	Stephanie Ordoñez-Sanchez	405	Enabling the Ocean Internet of Things with Renewable Marine Energy	Mathew Topper	10:15-10:30		
				186	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	Seoung-won Jeong	09:45-10:00		
		Arriaga/ Wave hydrodynamic modelling	Gareth Tomas	343	Designing Vortex Generators for Tidal Turbine Blades	George Papadakis	10:00-10:15		
							10:15-10:30		
				312	Verification and validation of MoodyMarine - A free simulation tool for modelling moored MRE devices	Johannes Palm	09:00-09:15		
				344	A hybrid linear potential flow - machine learning model for enhanced prediction of WEC performance	Claes Eskilsson	09:15-09:30		
				320	Design Wave analysis of the M4 wave energy converter device	Cristine Lynggard Hansen	09:30-09:45		
		Oteiza/Tidal hydrodynamic modelling	Tim O'Doherty	148	On the state-of-the-art of CFD simulations for wave energy converters within the open-source numerical framework of DualSPHysics	Alejandro Crespo	09:45-10:00		
				300	A Study on Wave Energy Conversion Problem of Turbine-Integrated OWC Chamber	Jeong-Seok Kim	10:00-10:15		
							10:15-10:30		
				303	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		
		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	Claes Eskilsson	187	Experimental evaluation of phase and velocity control for a cyclobator wave energy converter	Andrei Ermakov	11:00-11:15
						309	Wave Energy Power Take-off Validation with a Hydraulically 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		
303	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		
Laboa/ Tidal device development and testing	Alberto Peña			405	HAPICYM: Two Rapid Prototyping Environments for Wave Energy Control	Alexandra Price	12:15-12:30		
				285	A methodology for developing a prediction model for the remaining fatigue life and residual strength of tidal turbine blades	Enis Ranjan Munaweera Thanthiringeri	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	Aidan Hunt	11:30-11:45		
				277	Observations from structural testing of full-scale tidal turbine blades	William Finnegan	11:45-12:00		
Arriaga/ Wave hydrodynamic modelling	Markel Peñaalba			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		
				488	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		
				300	Dynamic Simulation of Wave Point Absorbers Connected to a Central Floating Platform	Thiago Saksanian Hallak	11:00-11:15		
				608	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		
				300	Study with Large Eddy Simulations of energy dissipation due to backwash flows in wave overtopping	Claudio Sandoval	11:30-11:45		
Oteiza/Tidal hydrodynamic modelling	Iñigo Bidaguren			304	Nonlinear WEC modeling using Sparse Identification of Nonlinear Dynamics (SINDy)	Brittany Lydon	11:45-12:00		
				304	Numerical and Experimental Characterization of Rotational Floating Body Drag	Bryson Robertson	12:00-12:15		
				600	A development and validation of the in-house hydrodynamics code and the DNV software for TALOS wave energy converter	David Ogden	12:15-12:30		
				416	A turbines-module adapted to the marine site for tidal farms layout optimization	Mikol Pucci	11:00-11:15		
				442	High-fidelity modelling of a six-turbine tidal array in the Shetlands	Pablo Ouro	11:15-11:30		
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	Nadav Cohen	14:00-14:15
						180	Enhancing the efficiency of an axial impulse turbine with a diffuser	Lei Zuo	14:15-14:30
		200	Numerical performance assessment of a new wave energy conversion system			André F. L. Governo	14:30-14:45		
		522	Basin testing of the 1-2-1 M4 WEC			Hugh Wolgamot	14:45-15:00		
		401	Experimental Investigation on Performance of Counter-rotating Impulse Turbine with Middle Vanes for Wave Energy Conversion			Kichiro Suto	15:00-15:15		
		208	Design of an integrated generator and heaving buoy			Nick Baker	15:15-15:30		
		Laboa/ Tidal device development and testing	Daniel Coles	306	A two-scale blockage correction for an array of tidal turbines	Daniel Dehtyriov	14:00-14:15		
				305	Performance Assessment of a Multi-Rotor Floating Tidal Energy System	Nicholas Kaufmann	14:15-14:30		
				301	The Influence of the Downstream Blade Sweep on Cross-flow Turbine Performance	Abigale Snortland	14:30-14:45		
				420	Additive Manufacturing for Powering the Blue Economy Applications: A Tidal Turbine Blade Case Study	Miguel Gonzalez-Montijo	14:45-15:00		
				504	Design and Demonstration of a Passive Pitch System for Tidal Turbines	Anna Young	15:00-15:15		
							15:15-15:30		
		Arriaga/ Wave hydrodynamic modelling	Sara Russo	304	Wave Amplification inside an Open Circular Caisson for Wave Energy Conversion in Waters with Medium Energy Density	Jiahn-Hong Chen	14:00-14:15		
				414	System Identification for Modelling M4 Wave Energy Converter *	Xuefei Wang	14:15-14:30		
				300	Semi-analytical, numerical, and CFD formulations of the spherical floater	Spyridon Zafeiris	14:30-14:45		
				419	Spectral-Domain Modeling of Wave Energy Converters as an Efficient Tool for Adjustment of PTO Model Parameters	Antonio Jarquin Laguna	14:45-15:00		
				404	A multiquery analysis of a PeWEC farm	Beatrice Battisti	15:00-15:15		
				300	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/Tidal hydrodynamic modelling	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 Fereidoonhezad	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		
				262	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		
				501	A methodology to capture the single blade loads on a cross-flow tidal turbine flume model	Stefan Hoerner	15:15-15:30		
Refreshments, networking & posters exhibition (Terrace and Chillida room)							15:30-16:00		
16:00-17:30	Side events	Mitxelena/Side event 3	"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 4	Technology Performance Level Assessment (TPL) (by SANDIA LAB. -TPL TEAM-)					16:00-17:30	
		Arriaga/Side event 5	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	310	A Novel Hybrid Floating Breakwater- Wave Energy Converter Device: Preliminary Experimental Investigations	Sara Russo	17:30-17:45		
				320	Origami-adapted clam design for wave energy conversion	Jingyi Yang	17:45-18:00		
				300	The Geometrical Design of the L-shaped Oscillating Water Column Using Artificial Neural Network	Chen-Chou Lin	18:00-18:15		
				214	Maximizing the surge amplitude of a floater through an adaptable mooring tightening technique	Andreas Asikakis	18:15-18:30		
				318	Reliability and Cost Assessment of Critical Components: Electrical generator failure of IDOM wave energy converter	Julia Fernandez Chozas	18:30-18:45		
				200	Heterogeneous WEC array optimization using the Hidden Genes Genetic Algorithm	Ossama Abdelkhalik	18:45-19:00		
		Arriaga/ Wave hydrodynamic modelling	Jesús M. Blanco	305	Numerical investigation of a new hybrid floating wind turbine concept	Beatrice Fenu	17:30-17:45		
				310	Quantification of uncertainty in linear wave energy hydrodynamic models from experimental data	Mahdiyeh Farajvand	17:45-18:00		
				124	An overview of an experimental campaign for arrays of wave energy conversion systems	Nicolas Faedo	18:00-18:15		
				300	Solution verification of WECs: comparison of methods to estimate numerical uncertainties in the OES wave energy modeling task	Claes Eskilsson	18:15-18:30		
				404	HydroChrono: An Open-Source Hydrodynamics Package for Project Chrono	David Ogden	18:30-18:45		
				600	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 Edwards	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		
				506	Tidal turbulence in medium depth water, primarily a model study	Göran Broström	18:00-18:15		
				318	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				
19:00-20:30	Technical programme	Elhuyar	Technical Committee meeting					19:00-20:30	
21:00-22:30	Social programme	Track Directors Dinner					21:00-22:30		

Wednesday September 6						
Registration (Main Hall)						08:00-09:00
Oral presentations	Room /Track	Chairman	Paper ID	Title	Presenter	
	Baroja/ Wave device development and testing	Gareth Tomas	291	Simulations of extreme wave load on an oscillating water column wave energy converter	Chris Chartrand	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
			392	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	Tim Mundon	10:00-10:15
	0					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	408	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	Eloi Droniou	09:30-09:45
			404	Measurements of tidal flow variability in Ramsey Sound, Pembrokeshire	Jon Miles	09:45-10:00
			111	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/ Environnemental impact and appraisal	Andrea Copping	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
			303	SafeWAVE The contribution of the SafeWAVE EU project to the future development of ocean energy	Juan Bald	09:30-09:45
			623	Automated detection of wildlife in proximity to marine renewable energy infrastructure using machine learning of underwater imagery	David Gold	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		
Refreshments, networking & posters exhibition (Terrace and Chillida room)						10:30-11:00
Oral presentations	Room /Track	Chairman	Paper ID	Title	Presenter	
	Baroja/ Wave device development and testing	Urko Izquierdo	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	Richard Willden	11:30-11:45
			574	Tidal Turbine Benchmarking Project: Stage I - Steady Flow Blind Predictions	Xiaosheng Chen	11:45-12:00
			567	On the design of a small scale tidal converter for long time deployment at sea	Marco Torresi	12:00-12:15
						12:15-12:30
	Arriaga/ Tidal resource characterization	Vincenzo Nava	303	Influence of the spatial variation of upstream velocity on a vertical-axis tidal turbine performance	Lilia Flores Mateo	11:00-11:15
			309	Tracking a large vortex at a tidal power site	Philippe Mercier	11:15-11:30
			811	Overview of Resource and Turbine Modelling in the Tidal Stream Industry Energiser project: TIGER	Tim Stallard	11:30-11:45
			365	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
	409	Estimation and characterisation of the wave-induced turbulent kinetic energy and turbulent dissipation from ADCP data	Clément Calvino	12:15-12:30		
Lunch & posters exhibition (Terrace and Chillida room)						12:30-14:00
Oral presentations	Room /Track	Chairman	Paper ID	Title	Presenter	
	Baroja/ Wave device development and testing	Iñigo Albaina	253	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 multiple wave energy absorbers into a floating offshore wind platform considering a future Open Sea Trial of a Wave-Energy Converter at Tuticorin Port – Challenges	Nial McLean	14:30-14:45
			481	Open Sea Trial of a Wave-Energy Converter at Tuticorin Port – Challenges	Prashant Kumar	14:45-15:00
			484	Test rig for submerged transmissions in wave energy converters as a development tool for dynamic sealing systems	Anthon Jonsson	15:00-15:15
						15:15-15:30
	Arriaga/ Tidal resource characterization	Rodolfo Olvera-Trejo	409	Turbine fatigue load prediction from field measurements of waves and turbulence	Hannah Mullings	14:00-14:15
			419	Development of a Tool to Optimise Tidal Stream Energy Sites	Jingjing Xue	14:15-14:30
			467	Assessing wave-turbulence separation from ADCP measurements with artificial flow data	Michael Togneri	14:30-14:45
			473	Multi-criteria analysis to evaluate tidal energy potential in France	Jordi Serret	14:45-15:00
						15:00-15:15
					15:15-15:30	
	Oteiza/ Environnemental impact and appraisal	Juan Bald	220	Siting tidal energy projects through resource characterization and environmental considerations	Andrea Copping	14:00-14:15
			326	ITSASDRONE, an autonomous marine surface drone for fish monitoring around wave energy devices	Ainhize Uriarte	14:15-14:30
			281	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 combining image-based and acoustic methods	Iñigo Muxika	14:45-15:00
			554	Effects of the spacing between two hydrokinetic turbines on the bedforms by numerical simulations	Sylvain Guillou	15:00-15:15
	675	Underwater noise impact assessment of a wave energy converter in the northern Atlantic (Spain)	José Antonio García	15:15-15:30		
Refreshments, networking & posters exhibition (Terrace and Chillida room)						15:30-16:00
Side events	Mitxelena/Side event 6	SafeWAVE project (by AZTI / WavEC)				16:00-17:30
	Baroja/Side event 7	Wave Energy Converter Simulator (WEC-Sim) (by SANDIA LAB. -WEC-SIM TEAM-)				16:00-17:30
	Arriaga/Side event 8	Environmental monitoring for marine energy – instrumentation for devices and arrays (Ocean Energy Systems – Environmental and Pacific Northwest National Laboratory)				16:00-17:30
	Oteiza/Side event 9	"Supergen ORE Hub Wave and Tidal Energy research and opportunities" (by SUPERGEN-ORE HUB - University of Plymouth)				16:00-17:30
Social programme	Gala Dinner (Atrium of the Guggenheim Museum)					20:00-22:00

08:00-09:00	Thursday September 7						08:00-09:00
	Registration (Main Hall)						
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
		Baroja/ Wave resource characterization	Joannes Berque	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	Giuseppe Giorgi	10:00-10:15
				305	Validation of ERA5 Wave Energy Flux through Sailor diagram in Spain (2005-2014)	Alain Ulazia	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	Deborah Rose	10:00-10:15
		10:30-11:00	Refreshments, networking & posters exhibition (Terrace and Chillida room)				
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	Sara Russo	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
				170	Wave Excitation Tests on a Fixed Sphere: Comparison of Physical Wave Basin Setups	Jacob Andersen	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	Carlos Michelen	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	538	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 Tzang	11:15-11:30
				169	Internal waves: A potentially untapped marine energy resource	Kastubha Raghukumar	11:30-11:45
				102	Feasibility of wave energy harvesting in the Ligurian Sea	Manuel Alejandro Corrales-González	11:45-12:00
				079	Identification of optimal sites for the deployment of wave energy converters: the importance of a technology-centred approach	Riccardo Novo	12:00-12:15
		Oteiza/ Economical, social, legal and political aspects of ocean energy	Yago Torre-Enciso	399	Techno-economic optimization of an offshore hybrid power system: Argentine Basin case study	Sarah Palmer	11:00-11:15
452	Ensuring Resilience in Ocean Energy Power Plants: A Survey of Cybersecurity Measures			Thalita Nazare	11:15-11:30		
340	On the complementarity of wave, tidal, wind and solar resources in Ireland			Hafiz Ashan Said	11:30-11:45		
335	A Comparison of the European Regulatory Framework for the deployment of Wave Energy Converters			Claudio Moscoloni	11:45-12:00		
507	Ocean Energy: Markets – Currency – Impact. Dimension of & Choices in the Technology Development Space			Jochem Weber	12:00-12:15		
397	Informing development of a socioeconomic data collection toolkit for marine energy: a literature review			Deborah Rose	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	Félix Elefant	14:15-14:30
				395	Hybrid wind-wave systems: The case of the VoltumUS-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 Wa	Aitor Vega-Valladares	14:45-15:00
				445	An Early Design Phase Method for Characterizing and Comparing Wave Energy Converter	Aeron Roach	15:00-15:15
		Arriaga/ Wave resource characterization	Jose L. Villate	064	Upsampling wave temporal resolution: Investigating wave parameters and the	Hannah Mankle	14:00-14:15
				418	On spatial interpolation of ocean energy source variables: A comparative ana	Leonardo Gambarelli	14:15-14:30
				475	The application of temporal gating in the measurement of response amplitude	Natalia Sergienko	14:30-14:45
				119	Analysis of the impact of floater interactions on the power extraction of a den	Alva Bechlenberg	14:45-15:00
				463	New design options for the improvement of the Mutriku power plant	Urko Izquierdo	15:00-15:15
		Oteiza/ Economical, social, legal and political aspects of ocean energy	Jochem Weber	223	Using human-centered design to develop a national research landscape for marine energy in the United States	Samantha Quinn	14:00-14:15
				385	Choosing Wave Energy Devices for Community Led Marine Energy Development	Molly Grear	14:15-14:30
				388	A Socioeconomic, Environmental, and Regulatory Assessment for Current Energy Converter Technologies	Jonathan Colby	14:30-14:45
				413	Floating wind and wave energy technologies: applications, synergies and role in decarbonization in Portugal	Craig White	14:45-15:00
				436	Wave energy communication and social opposition: can we improve perception of ocean energy development projects?	Maria C. Uyarra	15:00-15:15
		15:40-16:15	Closing ceremony	Mitxelena Auditorium	Iñigo Ansola	Chair EVE (Basque Agency for Energy)	15:40-15:45
Irene Penesis	ICOE 2024 Melbourne (Australia)				15:45-15:50		
AbuBakr Bahaj	PRIMaRE 2024 Southampton (UK)				15:50-15:55		
Bruce Cameron	PAMEC 2024 Barranquilla (Colombia)				15:55-16:00		
C H Jo	AWTEC 2024 Busan (Korea)				16:00-16:05		
Luis Gato	EWTEC 2025 Madeira (Portugal)				16:05-16:10		
Cameron Johnstone	EWTEC Executive Board				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 wave flume and circulating water channel	Iñigo, Bidaguren; Natalia, Montalban; Urko, Izquierdo; Iñigo, Albaina; Alberto, Peña; Egoitz, Urtaran; Jesus Maria, Blanco;
578	Experimental Optimization Environment for Developing an Intracycle Pitch Control in Cross Flow Turbines	Stefan, Hoerner; Roberto, Leidhold; Shokoofeh, Abbaszadeh; Karla, Ruiz-Husmann; Timo, Bennecke; Zhao, Zhao; Christian-Tora, Weber; Pierre-Luc,
570	Assessment of tidal energy resources in the Strait of Magellan in southern Chile	Leandro, Suarez Atias; Cristian, Escauriaza; Megan Williams; Maricarmen, Guerra;
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 Kim; 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
368	Development of the Exowave Oscillating Wave Surge Converter	Sarah Krogh Iversen; Jacob Andersen; Lars Wigant; Peter Frigaard
682	An analysis of the German tidal energy resource	Alexander Korte, Christian Windt, and Nils Goseberg

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