

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



	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			Registration (Main Hall)			Registration (Main Hall)			Registration (Main Hall)			Registration (Main Hall)				08:00-08:30			
08:30-09:00																	08:30-09:00		
09:00-09:30	Bus departure to Getxo	(Mail Hail)			Oral	Oral	Oral	Oral	Oral	Oral	Oral	Oral		Oral	Oral	Oral		09:00-09:30	
09:30-10:00	Regatta					presentation WDD	presentation TDD	presentation WHM	presentation THM	presentation WDD	presentation TDD	presentation TRC	presentation EIA		presentation GPC	presentation WRC	presentation ESP		09:30-10:00
10:00-10:30			Opening Ceremony (Mitxelena Auditorium)						Defeat		9t	out it it is a (Tour	on and Obillida					10:00-10:30	
10:30-11:00			(wildelena Additionally)						Refres	shments, networking & posters exhibition (Terrace and Chillida			room)			Social programme Guided tour through the	10:30-11:00 11:00-11:30		
11:00-11:30 11:30-12:00		Keynote lectures + JRL-ORE			Oral presentation	Oral presentation	Oral presentation	Oral presentation	Oral presentation	Oral presentation	Oral		Oral presentation	Oral presentation	Oral presentation	Oral presentation	river by BILBOATS	11:30-12:00	
12:00-12:30	Regatta La mar en calma Sailing		(Mitxelena Auditorium)			WDD	TDD	WHM	THM	WDD	TDD	TRC		WDD	GPC	WRC	ESP		12:00-12:30
12:30-13:00	School in Getxo (10:00-15:00h)																		12:30-13:00
13:00-13:30										nch									13:00-13:30
13:30-14:00							(Terrace and C				Chillida room)								13:30-14:00
14:00-14:30																			14:00-14:30
14:30-15:00	Bus returning to Bilbao	Oral presentation	Oral presentation	Oral presentation	Oral presentation	Oral presentation	Oral presentation	Oral presentation	Oral presentation	Oral presentation		Oral presentation	Oral presentation	Oral presentation		Oral presentation	Oral presentation		14:30-15:00
15:00-15:30		WHM	ONM	SMM	GPC	WDD	TDD	WHM	THM	WDD		TRC	EIA	WDD		WRC	ESP		15:00-15:30
15:30-16:00		"			Refre	shments, netwo	rking & posters	exhibition (Terr	ace and Chillida	room)			Closing Ceremony			15:30-16:00			
16:00-16:30																			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																			17:00-17:30
17:30-18:00	2 Buses departing to	Oral	Oral	Oral	Oral	Oral		Oral	Oral						Technic	al visits:			17:30-18:00
18:00-18:30	Olatua Building Getxo Cruise Terminal every 30	presentation WHM	presentation SMF	presentation SMM	presentation GPC	presentation WDD		presentation WHM	presentation THM						Option 1:	MUTRIKU			18:00-18:30
18:30-19:00	minutes (around 6 buses)														Option 2	2: BIMEP			18:30-19:00
19:00-19:30								nmittee Meeting											19:00-19:30
19:30-20:00	Welcome Reception						Emuy	ar room)											19:30-20:00
20:00-20:30	(Olatua Building Getxo Cruise Terminal)					(Track Directors Dinner)			Opening of the galleries of the Museum (exclusive for Delegates)								20:00-20:30		
20:30-21:00	Registration available		Social pro Pintxos													20:30-21:00			
21:00-21:30														(Funding Board Maries and Since )				21:00-21:30	
21:30-22:00	All Buses returning to											(Executive Board Meeting and Dinner)				21:30-22:00 22:00-22:30			
22:00-22:30	Bilbao			15/1	12023	RII	RA			(At		Dinner genheim Museu	um)						22:30-22:30
23:00-23:30				European W	Vave and Tidal ference Series	3rd -7th SEF	BILBA CO 3rd -7th SEPTEMBER 2023			,								23:00-23:00	
23.00-23.30				Ellergy Coll	.c.circe Jeries												_		25.50-25.50
Colour code:	Olatua Building	Mitxelena	(440 pax)	Mai	n Hall	Barandiara	án (16 pax)	Elhuyar	(24 pax)	Chillida	(220 m2)	Oteiza (	(60 pax)	Terrace (80	10+400 m2)	Baroja (	160 pax)	Laboa (110 m2)	Arriaga (60 pax)
		Tidal hydrodyna				Wave device de		-					decommissionin	g				olitical aspects of ocean en	ergy
Tracks:						d integration, power take-off and control ave resource characterization			TDD: Tidal device development and testing TRC: Tidal resource characterization			SMF: Station-keeping, moorings and foundations SMM: Structural mechanics - materials, fatigue, loadings							



					Monday September 4				
					Registration				
-10:00				(Main Hall)					
			Jesús M. Blanco		Local Committee Chairman 1	0:00-10:10			
			Cameron Johnstone		EWTEC Executive Board Chair 1	0:10-10:20			
00-10:50	Opening Ceremony	Mitxelena Auditorium	Jose L. Villate		Local Committee Chairman 1	0:20-10:30			
			Gorka Moreno		Vicerector campus UPV/EHU 1	0:30-10:40			
			Arantxa Tapia		Basque Government 1	0:40-10:50			
	Keynote lectures		lñigo Losada		IH-Cantabria 1	1:00-11:40			
0-12:20	(Mitxelena Auditorium)	Mitxelena Auditorium	Andrew Scott		Orbital Marine Power 1	1:40-12:20			
0-12:30	JRL-ORE	Mitxelena Auditorium	Eider Robles		JRL-ORE 1	2:20-12:30			
0-14:00					Lunch & posters exhibition (Terrace and Chillida room)				
		Room /Track	Chairman	Paper ID	Tit	le	Presenter		
				142	Numerical modelling of a box-type and bottom-detached device: a comparison with experimental data and between		Vaibhav Raghavan		
		Baroja/		192	Numerical and experimental studies of the effects of WE Fast time-domain model for an array of interactive point-		Hong-Bhin Kim Charitini Stavropoulou		
		Wave hydrodynamic modelling	Deborah Greaves	163	A CFD-FEM analysis for Anaconda WEC with mooring lin		Yang Huang		
				153	CMIP6 wave climate simulation in the European North E		Ponni Maya		
				558 262	(MaRELab) Informing Early Design Decisions Through Functional An	· · · · · · · · · · · · · · · · · · ·	Sara Russo  Nathan Algarra		
				259	Renewables  Lubrication of offshore mechanical components: towards		Juan Guillermo Zapita Tamayo		
		Laboa/ Operations, maintenance	Gregorio Iglesias	535	SEASNAKE: Impact - Marine operations modelling for evenew fully dynamic cable design for ocean energy devices	idence-based results detailing the impact of using a s.	Ben Kennedy		
		and decommissioning							
:30	Oral presentations			181	Structural testing and numerical modelling of a glass fibr	e-minformed composite demonstrator for turbine blades	Yadong Jiang		
			Claudio Lugni	469	Antifouling and anticomosive prevention with ceramic coa		David Salvador Sanz Sanchez		
		Arriaga/ Structural mechanics - materials, fatigue, loadings		389	Understanding the force motion trade off of rigid and hin		Abel Arredondo-Galeana		
				147 222	Reducing the uncertainty of ULS load estimates in offs Critical Feature and Seawater Testing of Cross-Flow Rot		Joao Cruz  Rob Cavagnaro		
				267	Material characterization of elastomeric bearing elements	s in Wave Energy Converters*	Rimmie Duraisamy		
				174	Experimental validation of rollout-based model predictive taut-moored point absorber prototype	control for wave energy converters on a two-body,	Zechuan Lin		
		Oteiza/		288 396	Control co-design and uncertainty analysis of the LUPA!  Tidal barrage operation optimization using moment-base		Carlos Michelen Strofer  Agustina Skiarski		
		0.1114 (1)							
		Grid integration, power take-off and control	John Ringwood	434	Laboratory Tests Assessment of a Mechanical Sensor-le		Mohammad Rafiei		
			John Ringwood	434 590	Laboratory Tests Assessment of a Mechanical Sensor-le Design considerations for a hybrid wind-wave platform ur	ss MPPT Control Strategy for Tidal Turbines ider energy-maximising control	Mohammad Rafiei Maria Luisa Celesti		
-16:00				434 590 468	Laboratory Tests Assessment of a Mechanical Sensor-le	ss MPPT Control Strategy for Tidal Turbines ider energy-maximising control a a Cubature Kaiman Filter: Improved Design and	Mohammad Rafiei		
-16:00				434 590 468	Laboratory Tests Assessment of a Mechanical Sensor-le Design considerations for a hybrid wind-wave platform un Wave Excitation Force Estimation for a Multi-DoF WEC v Results	ss MPPT Control Strategy for Tidal Turbines ider energy-maximising control a a Cubature Kaiman Filter: Improved Design and	Mohammad Rafiei Maria Luisa Celesti		
0-16:00			Refreshment	434 590 468 ts, network	Laboratory Tests Assessment of a Mechanical Sensor-le Design considerations for a hybrid wind-wave platform un Wave Excitation Force Estimation for a Multi-DoF WEC v Results	ss MPPT Control Strategy for Tidal Turbines under energy-maximising control a a Cubature Kaiman Fiter: Improved Design and Chillida room)	Mohammad Rafiei Maria Luisa Celesti Paolino Tona		
0-16:00		take-off and control	Refreshment	434 590 468 ts, network	Laboratory Tests Assessment of a Mechanical Sensor-level Design considerations for a hybrid wind-wave platform under Excitation Force Estimation for a Multi-DOF WEC v Results  ing & posters exhibition (Terrace and Compa	ss MPPT Control Strategy for Tidal Turbines under energy-maximising control a a Cubature Kaiman Fiter: Improved Design and Chillida room)	Mohammad Rafiei Maria Luisa Celesti Paolino Tona		
		take-off and control	Refreshment "Supergen ORE Hu	434 590 468 ts, network	Laboratory Tests Assessment of a Mechanical Sensor-lead Design considerations for a hybrid wind-wave platform under Waive Excitation Force Estimation for a Multi-DoF WEC v Results ing & posters exhibition ( <i>Terrace and Cool</i> d Tidal Energy research and opportunity	ss MPPT Control Strategy for Tidal Turbines under energy-maximising control a a Cubature Kalman Filter. Improved Design and Chillida room) ties" (by SUPERGEN-ORE HUB - Univ	Mohammad Rafiei Maria Luisa Celesti Paolino Tona  Province Tona  P		
		take-off and control	Refreshment "Supergen ORE Hu	434 590 468 ts, network	Laboratory Tests Assessment of a Mechanical Sensor-level Design considerations for a hybrid wind-wave platform under Excitation Force Estimation for a Multi-DOF WEC v Results  ing & posters exhibition (Terrace and Compa	ss MPPT Control Strategy for Tidal Turbines under energy-maximising control a a Cubature Kalman Filter. Improved Design and Chillida room) ties" (by SUPERGEN-ORE HUB - Univ	Mohammad Rafiei Maria Luisa Celesti Paolino Tona  Province Tona  P		
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0-16:00 0-17:30		Mitxelena/Side event 1  Baroja/Side event 2	Refreshment "Supergen ORE Hu	434 590 468 ts, network	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid wind-wave platform u Wave Exclation Force Estimation for a Multi-DoF WEE'v Results ing & posters exhibition (Terrace and Co and Tidal Energy research and opportuni didded Energy Conversion Technology (I "Morphing Blades: New-Concept Tida "Morphing Blades: New-Concept Tida	as MPPT Control Strategy for Tidal Turbines inder energy-maximising control a a Cubatum Kahnan Filter: Improved Design and chillida room)  tiles" (by SUPERGEN-ORE HUB - Univ	Mohammad Rafiei Maria Luisa Celesti Paolino Tona  Province Tona  P		
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		Mitxelena/Side event 1  Baroja/Side event 2	Refreshment "Supergen ORE Hu	434 590 468 ts, network ub Wave ar	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid whid-wave platform us Wave Excitation Force Estimation for a Multi-DoF WEC or Results Ing & posters exhibition (Terrace and Co d Tidal Energy research and opportunit  dded Energy Conversion Technology (I  "Morphing Blades: New-Concept Tida for Unsteady Load Mitigation" (by I	as MPPT Control Strategy for Tdal Turbines under energy-maximising control a a Cubatum Kaiman Filter, Improved Design and chillida room)  titles" (by SUPERGEN-ORE HUB - Univ DEEC-Tec)" (by Wave Energy Scotland and Wind Turbine Blades University of Edinburgh)	Mohammad Rafiel  Maria Luisa Celesti Paolino Tona  ersity of Plymouth)		
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		Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room/Track  Baroja/ Wave hydrodynamic	Refreshment "Supergen ORE Hu "Distribu	434 590 468 Is, network uted Embe	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid wind-wave platform us Wave Excatation Force Estimation for a Multi-DoF VEC or Results Ing & posters exhibition (Terrace and Co d Tidal Energy research and opportuni ddded Energy Conversion Technology (I  "Morphing Blades: New-Concept Tida for Unsteady Load Mitigation" (by I  An Experimental Study for Wave Energy Converter of W Tachique Demonstrating real-time hydrodynamic motion response ig with a point-sorter WEC Data-base Hydrodynamic Coefficients Interpolator for Co	as MPPT Control Strategy for Tdal Turbines under energy-maximising control a a Cubatum Kaiman Filter. Improved Design and chillida room)  tities" (by SUPERGEN-ORE HUB - Univ DEEC-Tec)" (by Wave Energy Scotland and Wind Turbine Blades University of Edinburgh)  le between the control for regular waves in a rebottzed dry test introl Co-Design of Wave Energy Converters Energy System through Genetic Algorithm	Mohammad Rafiei  Maria Luisa Celest  Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter Yoon-Jin Ha Dana Salar Yerai Peña-Sanchez Adam Keester Emeel Kerikous		
		Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room/Track  Baroja/ Wave hydrodynamic	Refreshment "Supergen ORE Hu "Distribu	434 590 468 Is, network uted Embe- tuted Embe- 152 643 534 261	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid white wave platform us Wave Excitation Force Estimation for a Multi-DoF WEC or Results ing & posters exhibition (Terrace and of d Tidal Energy research and opportunit dded Energy Conversion Technology (I  "Morphing Blades: New-Concept Tida for Unsteady Load Mitigation" (by I  An Experimental Study for Wave Energy Converter of W Technique Energy Conversion Technology (I  An Experimental Study for Wave Energy Converter of W Technique English as Phydrodynamic motion response ig with a point-absorber WCofficients Interpolator for Co Review of TEAMER Awards for WCO-Sim Support Performance Enhancement of Fluidic Diode for a Wave I	as MPPT Control Strategy for Tdal Turbines under energy-maximising control a a Cubatum Kalman Filter, Improved Design and Chillida room)  tities" (by SUPERGEN-ORE HUB - Univ DEEC-Tec)" (by Wave Energy Scotland and Wind Turbine Blades Iniversity of Edinburgh)  le eventar Type using Real-Time Hybrid Model Testing in force control for regular waves in a rebottzed dry test introl Co-Design of Wave Energy Conventers  Energy System through Genetic Algorithm unity to be exploited? A case for a 2-1 wave energy	Mohammad Rafiei  Maria Luisa Celest  Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter  Yoon-Jin Ha  Dana Salar  Yerai Peña-Sanchez  Adam Keester		
		Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room/Track  Baroja/ Wave hydrodynamic modelling	Refreshment "Supergen ORE Hu "Distribu	434 590 468 ts, network uted Ember 152 643 534 261 182 272 344 582	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid whid-wave platform us Wave Excitation Force Estimation for a Multi-DoF WEC or Results Ing & posters exhibition (Terrace and Co d Tidal Energy research and opportuni  dded Energy Conversion Technology (I  "Morphing Blades: New-Concept Tidal for Unsteady Load Mitigation" (by I  An Experimental Study for Wave Energy Converter of W Technique Demonstrating real-time hydrodynamic motion response as with a point absorber WEC-Sim Support Performance Enhancement of Fludic Dode for a Wave Parameter enhancement of Fludic D	as MPPT Control Strategy for Tdal Turbines older energy-maximising control a a Cubature Kalman Filter, Improved Design and chillida room)  titles" (by SUPERGEN-ORE HUB - Univ  DEEC-Tec)" (by Wave Energy Scotland  and Wind Turbine Blades Iniversity of Edinburgh)  te eventar Type using Real-Time Hybrid Model Testing in force control for regular waves in a robotized dry test introl Co-Design of Wave Energy Converters Energy System through Genetic Algorithm unity to be exploited? A case for a 2:1 wave energy tic conditions: a generalised framework for moored energy for Extreme Waves	Mohammad Rafiel  Maria Luisa Celest  Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter Yoon-Jin Ha Dana Salar Yerai Peña-Sanchez Adam Keester Emed Kerikous Giuseppe Giorgi Bruno Paduano Vengatesan Venugopal		
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	Side events	Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room/Track  Baroja/ Wave hydrodynamic modelling	Refreshment "Supergen ORE Hu "Distribu Chairman Markel Peñalba	434 590 468 ts, network uted Ember 152 643 534 261 182 272 344 582	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid whid-wave platform us Wave Excitation Force Estimation for a Multi-DoF WEC or Results Ing & posters exhibition (Terrace and Co d Tidal Energy research and opportuni  dded Energy Conversion Technology (I  "Morphing Blades: New-Concept Tidal for Unsteady Load Mitigation" (by I  An Experimental Study for Wave Energy Converter of W Technique Demonstrating real-time hydrodynamic motion response as with a point absorber WEC-Sim Support Performance Enhancement of Fludic Dode for a Wave Parameter enhancement of Fludic D	as MPPT Control Strategy for Tdal Turbines inder energy-maximising control a a Cubatum Kaiman Filter, Improved Design and Chillida room)  Titles" (by SUPERGEN-ORE HUB - Univ DEEC-Tec)" (by Wave Energy Scotland I and Wind Turbine Blades University of Edinburgh)  To Edinburgh  To Edinburgh  To Co-Design of Wave Energy Converters  Energy System through Genetic Algorithm Unity to be expibilited? A case for a 2:1 wave energy the conditions: a generalised framework for moored enter in Exferen Waves  Territor Design of Wave Energy Converters  The Co-Design of Co-Design	Mohammad Rafiel  Maria Luisa Celest  Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter Yoon-Jin Ha Dana Salar Yerai Peña-Sanchez Adam Keester Emed Kerikous Giuseppe Giorgi Bruno Paduano Vengatesan Venugopal		
17:30	Side events	Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room /Track  Baroja/ Wave hydrodynamic modelling  Laboa/ Station-keeping, moorings	Refreshment "Supergen ORE Hu "Distribu Chairman Markel Peñalba	434   590   468	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid whit wave platform un Wave Excitation Force Estimation for a Multi-DoF WEE or Results ing & posters exhibition (Terrace and of d Tidal Energy research and opportuni dded Energy Conversion Technology (I  "Morphing Blades: New-Concept Tida for Unsteady Load Mitigation" (by I  An Experimental Study for Wave Energy Converter of W Technology I  An Experimental Study for Wave Energy Converter of W Technology I  An Experimental Study for Wave Energy Converter of W Technology I  An Experimental Study for Wave Energy Converter of W Technology I  An Experimental Study for Wave Energy Converter of W Technology I  An Experimental Study for Wave Energy Converter of W Technology I  An Experimental Study for Wave Energy Converter of W Technology I  An Experimental Study for Wave Energy Converter of W Technology I  An Experimental Resonance of Moster Design I  Parameter Sensonance a rised and the Sensor I  Parameter Response of Moscen Wave Energy Converter  Experimental measurements of two elastic taut-slack mo	as MPPT Control Strategy for Tdal Turbines  Inder energy-maximising control a a Cubatum Kalman Filter. Improved Design and  Chillida room)  Ities" (by SUPERGEN-ORE HUB - Univ  DEEC-Tec)" (by Wave Energy Scotlance  I and Wind Turbine Blades  Joilversity of Edinburgh)  Ide  Interpretation of Edinburgh Model Testing in force control for regular waves in a robotized dry test  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretat	Mohammad Rafiei  Maria Luisa Celest  Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter  Yoon-Jin Ha  Dana Salar  Yeral Peña-Sanchez  Adam Keester  Emeel Kerikous  Giuseppe Giorgi  Bruno Paduano  Vengatesan Venugopal  Kate Smith  Samuel Draycott		
17:30	Side events	Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room /Track  Baroja/ Wave hydrodynamic modelling  Laboa/ Station-keeping, moorings	Refreshment "Supergen ORE Hu "Distribu Chairman Markel Peñalba	434 590 468 ts, network uted Ember 152 643 261 182 272 344 582 427 485	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid wind-wave platform un Wave Excitation Force Estimation for a Multi-DoF WEE'U Results ing & posters exhibition (Terrace and of d Tidal Energy research and opportuni dddd Energy Conversion Technology (I "Morphing Blades: New-Concept Tida for Unsteady Load Mitigation" (by I  An Experimental Study for Wave Energy Convertered With Technique System of Teams (System System) Demonstrating real-time hydrodynamic motion response system a point-absorber WEC Table Asses Hydrodynamic Coefficients Interpolator for Co Review of TEAMER Awards for WEC-Sim Support Performance Enhancement of Fluidic Dods for a Wave Persumedic resonance: a risk to be avoided or an opport Control of Teams (System System) The Dynamic Response of Mocean Wave Energy Com- Time Dynamic response of floating offshore renewable or Experimental measurements of two elastic taut-slack mo  Flatique-Mile particulor methods of a dynamic power calls  Estate-weston Testing and Demonstration of the Desport  Balse-weston Testing and Demonstration of the Desport  Balse-weston Testing and Demonstration of the Desport  Balse-weston Testing and Demonstration of the Desport	as MPPT Control Strategy for Tdal Turbines  Inder energy-maximising control a a Cubatum Kalman Filter. Improved Design and  Chillida room)  Ities" (by SUPERGEN-ORE HUB - Univ  DEEC-Tec)" (by Wave Energy Scotlance  I and Wind Turbine Blades  Joilversity of Edinburgh)  Ide  Interpretation of Edinburgh Model Testing in force control for regular waves in a robotized dry test  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretation of Wave Energy Converters  Energy System through Genetic Algorithm  Interpretat	Mohammad Rafiei  Maria Luisa Celesti Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter Yoon-Jin Ha Dana Salar Yerai Peña-Sanchez Adam Keester Emeel Kerikous Giuseppe Giorgi Bruno Paduano Vengatesan Venugopal Katie Smith Samuel Draycott  Daniela Beniles-Munoz		
17:30	Side events	Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room /Track  Baroja/ Wave hydrodynamic modelling  Laboa/ Station-keeping, moorings	Refreshment "Supergen ORE Hu "Distribu  Chairman  Markel Peñalba	434   590   468	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid which wave platform us Wave Excitation Force Estimation for a Multi-DoF WEC or Results ing & posters exhibition (Terrace and of d Tidal Energy research and opportuni dded Energy Conversion Technology (I  "Morphing Blades: New-Concept Tidal for Unsteady Load Mitigation" (by I  The An Experimental Study for Wave Energy Converter or W Technique Demonstration Demonstration Demonstration Demonstration Demonstration Demonstration Review of TEAMER Awards for WEC-Sim Support Control synthesis via Investment of Fluidic Dode for a Wave Parametric resonance: a risk to be avoided or an opport control synthesis via Investment of Studic Dode for a Wave Hydrodynamic Response of Mocean Wave Energy Conv The Dynamic response of floating offshore renewable or Experimental measurements of two elastic taut-slack mo	as MPPT Control Strategy for Tdal Turbines older energy-maximising control as Cubatum Kaiman Filter, Improved Design and Chillida room)  titles" (by SUPERGEN-ORE HUB - Univ DEEC-Tec)" (by Wave Energy Scotland I and Wind Turbine Blades University of Edinburgh)  le evestar Type using Real-trine Hybrid Model Testing in force control for regular waves in a robotized dry test into Co-Design of Wave Energy Converters  Energy System through Genetic Algorithm unity to be exploited? A case for a 2-1 wave energy tits conditions: a generalised framework for moored enter in Extreme Waves energy devices: Sensitivity to mooring more stiffness energy devices: Sensitivity to mooring more stiffness energy devices: Sensitivity to mooring more stiffness energy configurations for the muti-float M4 WEC	Mohammad Rafiei  Maria Luisa Celest  Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter  Yoon-Jin Ha  Dana Salar  Yeral Peña-Sanchez  Adam Keester  Emeel Kerikous  Giuseppe Giorgi  Bruno Paduano  Vengatesan Venugopal  Kate Smith  Samuel Draycott		
-17:30	Side events	Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room /Track  Baroja/ Wave hydrodynamic modelling  Laboa/ Station-keeping, moorings and foundations	Refreshment "Supergen ORE Hu "Distribu Chairman Markel Peñalba	Paper ID	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid which wave platform use the process of the process o	as MPPT Control Strategy for Tdal Turbines older energy-maximising control a a Cubature Kalman Filter, Improved Design and Chillida room)  titles" (by SUPERGEN-ORE HUB - Univ DEEC-Tec)" (by Wave Energy Scotland  and Wind Turbine Blades Interestry of Edinburgh)  le wester Type using Real-Time Hybrid Model Testing in force control for regular waves in a robotized dry test introl Co-Design of Wave Energy Converters Energy System through Genetic Algorithm unity to be exploited? A case for a 2-1 wave energy the conditions: a generalised framework for moored enter in Extreme Waves sergy devices: Sensitivity to mooring mope stiffness pring configurations for the multi-float M4 WEC  tor a floating testing platform — a numerical approach and Clase Generator. A Web-based Tool to Support and Lines under Resistic Wave Climates	Mohammad Rafiei Maria Luisa Celest Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter Yoon-Jin Ha Dana Salar Yerai Peña-Sanchez Adam Keester Emeel Kerikous Giuseppe Giorgi Bruno Paduano Vengatesan Venugopal Katie Smith Samuel Draycott  Daniela Benites-Munoz Vincent Neary Eguzkiñe Martinez Guoliang Zhang		
.17:30	Side events	Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room /Track  Baroja/ Wave hydrodynamic modelling  Laboa/ Station-keeping, moorings and foundations  Arriaga/ Structural mechanics - materials, fatigue,	Refreshment "Supergen ORE Hu "Distribu  Chairman  Markel Peñalba	Paper ID   152   643   534   261   182   272   344   419   490   584   273   284   273   485   427   485   427   485   427   485   427   485   427   485   427   485   427   485   427   485   427   485   427   485   427	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid wind-wave platform un Wave Excitation Force Estimation for a Multi-DoF WEEV Results Ing & posters exhibition (Terrace and Co d Tidal Energy research and opportunit dided Energy Conversion Technology (I  "Morphing Blades: New-Concept Tida for Unsteady Load Mitigation" (by I  An Experimental Study for Wave Energy Converter of W Technique Study Study For Wave Energy Converter of W Technique Study Study For Wave Energy Converter of W Technique Study Study For Wave Energy Converter of W Technique Study Study For Wave Energy Converter of W Technique Study Study For Wave Energy Converter of W Technique Study Study For Wave Energy Converter of W Technique Study Study For Wave Energy Converter of W Technique Study Study For Wave Energy Converter of W Technique Study Study For Wave Energy Converter Convert	as MPPT Control Strategy for Tidal Turbines inder energy-maximising control a a Cubatum Kahnan Filter. Improved Design and chillida room)  tities" (by SUPERGEN-ORE HUB - Univ DEEC-Tec)" (by Wave Energy Scotland and Wind Turbine Blades University of Edinburgh)  te e le	Mohammad Rafiei  Maria Luisa Celest  Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter  Yoon-Jin Ha  Dana Salar  Yerai Peña-Sanchez  Adam Keester  Emeel Kerikous  Giuseppe Giorgi  Bruno Paduano  Vengatesan Venugopal  Kale Smith  Samuel Draycott  Daniela Bentles-Munoz  Vincent Neary  Eguzăiñe Marinoz  Guoliang Zhang  Rönân Galiagher		
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-17:30	Side events	Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room/Track  Baroja/ Wave hydrodynamic modelling  Station-keeping, moorings and foundations  Arriaga/ Structural machanics - materials, fatigue, loadings	Refreshment "Supergen ORE Hu "Distribu  Chairman  Markel Peñalba	### ### ### ### ### ### ### ### ### ##	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid whid-wave platform under the control of the control	as MPPT Control Strategy for Tdal Turbines  Inder energy-maximising control a a Cubatum Kaiman Filter, Improved Design and  Chillida room)  Ities" (by SUPERGEN-ORE HUB - Univ  DEEC-Tec)" (by Wave Energy Scotland  I and Wind Turbine Blades  John Strategy Scotland  I and Wind Turbine Blades  John Scotland	Mohammad Rafiel  Maria Luisa Celesti Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter  Presenter  Yoon-Jin Ha Dana Salar  Yeral Peña-Sanchez  Adam Keester  Emeel Kerikous Giuseppe Giorgi Bruno Paduano Vengatesan Venugopal  Katie Smith Samuel Draycott  Daniela Benites-Munoz Vincent Neary  Eguzkiñe Martinez  Gudiáng Zhang  Ronán Gallagher  Muslim Jameel Syed Christoffer Fjellstedt  Md Imran Ullah		
17:30	Side events	Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room /Track  Baroja/ Wave hydrodynamic modelling  Station-keeping, moorings and foundations  Arriaga/ Structural mechanics - materials, fatigue, loadings	Refreshment "Supergen ORE Hu "Distribu  Chairman  Markel Peñalba	Paper ID   152   643   534   582   427   485   410   419   490   584   273   315   552   552   552   550   50   500	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid wind-wave pistrom un Wave Excitation Force Estimation for a Multi-DoF WED or Results Ing & posters exhibition (Terrace and of d Tidal Energy research and opportuni didded Energy Conversion Technology (I  "Morphing Blades: New-Concept Tida for Unsteady Load Mitigation" (by I  The An Experimental Study for Wave Energy Converted or W Technique Tech	as MPPT Control Strategy for Tidal Turbines  Inder energy-maximising control  a Cubatum Kahnan Filter: Improved Design and  Chillida room)  Ities" (by SUPERGEN-ORE HUB - Univ  DEEC-Tec)" (by Wave Energy Scotland  I and Wind Turbine Blades  University of Edinburgh)  In one control for regular waves in a robotized dry test  Introl Co-Design of Wave Energy Converters  Energy System through Genetic Algorithm  Unity to be exploited? A case for a 2:1 wave energy  tic conditions: a generalised framework for moored  energy devices: Sensitivity to mooring ope stiffness  aring configurations for the muti-float M4 WEC  In the Cost of States of the Support  ord Case Generator: A Web-based Tool to Support  ord Case Generator A Web-based T	Mohammad Rafiel  Maria Luisa Celesti Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter Yoon-Jin Ha Dana Salar Yerai Peña-Sanchez Adam Keester Emeel Kerikous Giuseppe Giorgi Bruno Paduano Vengatesan Venugopal Katie Smith Samuel Draycott  Daniela Benites-Munoz Vincent Neary Eguzkifre Marinoz Guoliang Zhang Rönän Galliagher Muslim Jameel Syed Christoffer Fjellstedt Md Imran Ullah Anton Schaap		
.17:30	Side events	Mitxelena/Side event 1  Baroja/Side event 2  Arriaga/Side event 3  Room/Track  Baroja/ Wave hydrodynamic modelling  Station-keeping, moorings and foundations  Arriaga/ Structural mechanics - materials, fatigue, loadings	Refreshment "Supergen ORE Hu "Distribu  Chairman  Markel Peñalba  Iñaki Zabala	### ### ### ### ### ### ### ### ### ##	Laboratory Tests Assessment of a Mechanical Sensories Design considerations for a hybrid whid-wave platform under the control of the control	as MPPT Control Strategy for Tdal Turbines  Inder energy-maximising control a a Cubatum Kahnan Filter. Improved Design and  Chillida room)  Ities" (by SUPERGEN-ORE HUB - Univ  DEEC-Tec)" (by Wave Energy Scotland  I and Wind Turbine Blades  University of Edinburgh)  In Grove Control for regular waves in a robotized dry test  Introl Co-Design of Wave Energy Conventers  Energy System through Genetic Algorithm  unity to be exploited? A case for a 2-1 wave energy  tic conditions: a generalized framework for moored  energy devices: Sensitivity to mooting ope stiffness  pring configurations for the multi-float M4 WEC   for a floating testing platform—a numerical approach  and Case Generator. A Web-based Tool to Support  control framework Asia Cossidov Tdal Turbines  age Overlooping Weve Energy Conventers  and Case Generator. A Web-based Tool to Support  control framework Asia Cossidov Tdal Turbines  age Overlooping Weve Energy Conventers  and on Tdal Blade Damage?  John Common Residency and common on the common series.  Azimuthal Multi-translator Switched Reluctance  formance less.  Azimuthal Multi-translator Switched Reluctance  formance less.	Mohammad Rafiel  Maria Luisa Celesti Paolino Tona  ersity of Plymouth)  I / NREL)  Presenter  Presenter  Yoon-Jin Ha Dana Salar  Yeral Peña-Sanchez  Adam Keester  Emeel Kerikous Giuseppe Giorgi Bruno Paduano Vengatesan Venugopal  Katie Smith Samuel Draycott  Daniela Benites-Munoz Vincent Neary  Eguzkiñe Martinez  Gudiáng Zhang  Ronán Gallagher  Muslim Jameel Syed Christoffer Fjellstedt  Md Imran Ullah		



			Er	ergy Confe	Tuesday September 5		1			
0-09:00					Registration (Main Hall)		08:0			
i		Room /Track	Chairman	Paper ID	Title Analysis of Mutriku's OWC performance	Presenter Isabel Casas	09:0			
				144	Successful innovation strategies to overcome the technical challenges in the development of wave energy technologies	Pablo Ruiz-Minguela	09:1			
		Baroja/ Wave device development and testing	Diego Vicinanza	266 352	Spatial focussing of wave energy for improved power capture: by an oscillating water column  Relevance of Robustness and Uncertainties Analysis in the Optimal Design of Wave Energy Converters	Robert Mayon Filippo Giorcelli	09:3 09:4			
		and testing		176	Tuning Wave Energy Converters to local wave conditions	Wilson Guachamin-Acero	10:0			
				466 166	Enabling the Ocean Internet of Things with Renewable Marine Energy  Intracycle Active Blade Pitch Control for Cross-Flow Tidal Turbines Using Embedded Electric Dive Systems	Mathew Topper Zhao Zhao	10:1			
				209	Numerical optimisation of the active lift turbines using OpenFoam's overset method	llan Robin	09:1			
		Laboa/ Tidal device development and testing	Stephanie Ordoñez-Sanchez	231 264	Non-dimensional scaling of passive adaptive blades for a marine current surbine  Optimal Design of a Submerged Tidal Device for Low Current Environment	Katherine Van Ness Seoung-won Jeong	09:3 09:4			
	Oral			343	Designing Vortex Generators for Tidal Turbine Blades	George Papadakis	10:0			
-10:30	presentations			317	Verification and validation of MoodyMarine - A free simulation tool for modeling moored MRE devices	Johannes Palm	10:1: 09:0			
		Arriaga/		321 476	A hybrid linear potential flow - machine learning model for enhanced prediction of VECO performance  Design Wave analysis of the M4 were energy converter device	Claes Eskilsson Cristine Lynggard Hansen	09:1			
		Wave hydrodynamic modelling	Gareth Tomas	145	Design view alleges to the 4x wave energy convertee between On the state of the art of CFD simulations for wave energy converters within the open-source numerical framework of Dual SPHysics	Alejandro Crespo	09:3 09:4			
				158	A Study on Wave Energy Conversion Problem of Turbine-Integrated OWC Chamber	Jeong-Seok Kim	10:0 10:1			
				503	Large-eddy simulations of interaction between surface waves and a tidal turbine wake in a turbulent channel	Tim Stallard	09:0			
				195 218	Actuator-Line CFD Simulation of Tidal-Stream Turbines in a Compact Array  High-fidelity modeling of a vertical axis tidal turbine model under realistic flow conditions	David Apsley	09:1 09:3			
		Oteiza/Tidal hydrodynamic modelling	Tim O'Doherty	307	Synthetic eddy generation and modelling of turbine operation in a turbulent tidal flow	Mikaël Grondeau Francesco Salvatore	09:4			
				367 334	A study on tidal rotors under the combined effects of currents and waves using actuator-line CFD simulations  Impact of lateral turbine spacing on the performance of a multi-rotor tidal energy device	Federico Zilic de Arcos Bryn Townley	10:0 10:1			
0-11:00				reshments	networking & posters exhibition (Terrace and Chillida room)		10:3			
		Room /Track	Chairman	Paper ID 167	Title  Experimental evaluation of phase and velocity control for a cyclorotor wave energy converter	Presenter Andrei Ermakov	11:0			
		Bter		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	11:1			
		Baroja/ Wave device development and testing	Claes Eskilsson	212	A Removable elevated-hinge wave generator for testing marine energy devices  Wave energy converter power take-off characterization: comparing dynamometer and field data	Pedro Lomonaco Curtis Rusch	11:3 11:4			
				448 499	Limiting the available pneumatic power in a U-OWC  HARKYME Two Racid Protestance Environments for Wave Energy Control	Joao Henriques Alexandra Price	12:0 12:1			
				285	HAPRGYM. Two Rapid Prototyping Environments for Wave Energy Control  A methodology for developing a prediction model for the remaining fatigue life and residual strength of tidal turbine blades	Tenis Ranjan Munaweera Thanthirige	11:0			
		Laboa/		177	Multi-Actuator Full-Scale Fatigue Test of a Tidal Blade  Experimental techniques for evaluating the performance of high-blockage cross-flow turbine arrays	Sergio Lopez Dubon Aidan Hunt	11:1 11:3			
		Tidal device development and testing	Alberto Peña	277	Observations from structural testing of full-scale tidal turbine blades	William Finnegan	11:4			
0-12:30	Oral			322 498	Experimental flow conditions effects on a bottom-mounted ducted twin vertical axis tidal turbine compared to real sea conditions Experimental comparison of the flow-induced loading between a ducted bottom-mounted twin vertical axis tidal turbine at still and	Martin Moreau Saouli	12:0 12:1			
	presentations			496	an undusted prototype  Joyannic Simulation of Wave Point Absorbers Connected to a Central Roating Platform  Hadrodynamic and Static Stubithy Analysis of a Hubrid Offshore Wind-Wave Energy Generation. An Expansion of Serresubmensible	Thiago Saksanian Hallak Payam Aboutalebi	11:0			
		Arriaga/	Markel Peñalha	628 626	regions/mainte and State States yearings of a hybrid clistione vento-valve energy deneration. An expansion of sensitivities the Resisted Wind Further Concept.  Study with Large Eddy Simulations of energy dissipation due to backwash flows in wave overtopping.	Payam Aboutalebi Claudio Sandoval	11:1 11:3			
		Wave hydrodynamic modelling	Markel Penalba	383	Nonlinear WED modeling using Sparse Identification of Nonlinear Dynamics (SINDy)  Numerical and Experimental Characterization of Rotational Relating Body Drag	Brittany Lydon Bryson Robertson	11:4 12:0			
				392 460	Numerical and Experimental Unatarizeration of Hotational Hosting Body Urag  A development and validation of the in-house hydrodynamics code and the DNV software for TALOS wave energy conventer.	David Ogden	12:0			
				416 442	A turbines-module adapted to the marine site for tidal farms layout optimization  High-fidelity modelling of a six-turbine tidal array in the Shetlands	Mikol Pucci	11:0 11:1			
		Oteiza/Tidal hydrodynamic	lñigo Bidaguren	454	Instabilities in tidal turbine wakes	Pablo Ouro Anna Young	11:3			
		modelling	Inigo Bidaguren	505 506	On the accuracy of BEMT and CFD on the power and trust prediction of tidal turbines  The performance of counter-rotating tidal turbine in different sea states	Ignazio Maria Viola Cameron Johnstone	11:4: 12:0			
				544	Comparison of Actuator Line Modelling of Tidal Power Kites with ADCP Measurements	Nomal Prabahar	12:1			
0-14:00					Lunch & posters exhibition (Terrace and Chillida room)		12:3			
		Room /Track	Chairman	Paper ID	Title	Presenter				
				242	Experimental Investigation into the Air Compressibility Scaling Effect on CWC Performance and Wave Height	André F.L. Governo	14:0			
		Baroja/ Wave device development		185 260	Enhancing the efficiency of an avial impulse turbine with a diffuser  Numerical performance assessment of a new wave energy conversion system	Geetam Saha André F. L. Governo	14:1: 14:3			
		Wave device development and testing	Yago Torre-Enciso	522	Basin testing of the 1-2-1 M4 WEC	Hugh Wolgamot	14:4			
				451 268	Experimental Investigation on Performance of Counter-rotating Impulse Turbine with Middle Vanes for Wave Energy Conversion  Design of an integrated generator and heaving buoy	Kichiro Suto Nick Baker	15:0 15:1			
				366 365	A two-scale blockage correction for an array of tidal turbines	Daniel Dehtyriov Nicholas Kaufmann	14:0			
		Laboa/ Tidal device development	Daniel Coles	365	Performance Assessment of a Multi-Rotor Floating Tidal Energy System  The Influence of the Downstream Blade Sweep on Cross-flow Turbine Performance	Nicholas Kautmann  Abigale Snortland	14:1 14:3			
		and testing		420 504	Additive Manufacturing for Powering the Blue Economy Applications: A Tidal Turbine Blade Case Study  Design and Demonstration of a Passive Pitch System for Tidal Turbines	Miguel Gonzalez-Montijo Stefano Gambuzza	14:4 15:0			
0-15:30	Oral presentations				7		15:1			
		Arriaga/ Wave hydrodynamic		164 513	Wave Amplification inside an Open Circular Calsson for Wave Energy Conversion in Waters with Medium Energy Censity  System Identification for Modelling MM Wave Energy Converter*	Jiahn-Homg Chen Xuefei Wang	14:0 14:1			
			Sara Russo	198	Semi-analysical and CFD formulations of a spherical floater	Spyridon Zafeiris	14:3			
		modelling		278 333	Spectral-Domain Modelling of Wave Energy Convertiers as an Efficient Tool for Adjustment of PTO Model Parameters  A multipuery analysis of a PaWEC farm	Antonio Jarquin Laguna Beatrice Batristi	14:4 15:0			
				538 579	Effects of control strategies on the performance of floating WEC point absorbers operating attached to a breakwater by time doma Experimental characterisation of the wake of a bottom-mounted two tandem of cylinders placed in a high velocity area	Markos Bonovas  Alina Santa Cruz	15:1: 14:0			
				579 676	Experimantal characterisation of the wake of a bottom-mounted two tandem of cylinders placed in a high velocity area  Development of a modified BEMT model for the analysis of helical bladed vertical axis tidal turbines	Alina Santa Cruz  Mohammad Fereidoonnezhad	14:1			
		Oteiza/Tidal hydrodynamic modelling	AbuBakr Bahaj	199 252	A comparative study of power production using a generic empirical model in a stdal farm  Objective Functions for the Blade Shape Optimisation of a Cross-Flow Tistal Turbine under Constraints	Kabir Bashir Shariff	14:3 14:4			
				252 283	Objective Functions for the Blade Shape Optimisation of a Cross-Flow Total Turbine under Constraints  Investigating the impact of multi-rotor structure shadowing on tidal stream turbine performance	Karla Ruiz-Hussmann Bryn Townley	14:4 15:0			
0-16:00			Pai	501 reshments	A methodology to capture the single blade loads on a cross-flow tidal turbine flume model , networking & posters exhibition (Terrace and Chillida room)	Stefan Hoemer	15:1 15:3			
							1			
		Mitxelena/Side event 4	"SUPPORTING THE FUT	TURE OF OCEAN ENERGY HERE AND NOW; A GLIMPSE OF BASQUE PUBLIC INITIATIVES TO FOSTER SECTOR SCALE-UP" (by EV						
0-17:30	Side events	Baroja/Side event 5	:5		Technology Performance Level Assessment (TPL) (by SANDIA LABTPL TEAM-)		16:0			
		Arriaga/Side event 6		NEMMO	Project, On the Cutting Edge of Tidal Blade Design and Materials (by Ocean Energy Euro	pe)	16:0			
ŀ		Room /Track	Chairman	Paper ID	Title	Presenter				
				318	A Novel Hybrid Floating Breakwater- Wave Energy Conventer Device: Preliminary Experimental Investigations Organi-adapted claim design for wave energy convension	Sara Russo Jingvi Yang	17:3 17:4			
		Baroja/ Wave device development	Luis Gato	329 555	Origami-adapted claim design for wave energy conversion The Geometrical Design of the L-shaped Oscillating Water Column Using Artificial Neural Network	Jingyi Yang Chen-Chou Lin	18:0			
		Wave device development and testing		274 516	Maximizing the surge amplitude of a floater through an adaptable mooring tightening technique Relability and Cost Assessment of Critical Components: Electrical generator failure of IDCM wave energy converter	Andreas Asiikkis Julia Fernandez Chozas	18:1 18:3			
				286	Heterogeneous WEC array optimization using the Hidden Genes Genetic Algorithm	Ossama Abdelkhalik	18:4			
				355 376	Numerical investigation of a new hybrid floating wind furbine concept.  Cuantification of uncertainty in linear wave energy hydrodynamic models from experimental data	Beatrice Fenu Mahdiyeh Farajvand	17:3 17:4			
0-19:00	Oral presentations	Arriaga/ Wave hydrodynamic	Jesús M. Blanco	379	An overview of an experimental campaign for arrays of wave energy conversion systems	Nicolas Faedo	18:0			
		modelling		426 473	Solution verification of WECs: comparison of methods to estimate numerical uncertainties in the OES wave energy modeling task HydroChrono: An Open-Source Hydrodynamics Package for Project Chrono	Claes Eskilsson David Ogden	18:1: 18:3			
				474	Nonlinear hydrodynamics of a heaving sphere in diffraction, radiation, and combined tests	Jana Orszaghova	18:4			
				407 464	Modelling the effects of boundary proximity on a tidal rotor using the actuator line method Characterisation of furbulent flow and the wake of a tidal stream furbine in proximity to a ridge	Huw Edwards Sulaiman Hurubi	17:3 17:4			
		Oteiza/ Tidal hydrodynamic	Pablo Ruiz-Minguela	566 316	Tidal turbulence in medium depth water, primarily a model study  Verification and validation of blade-resolved viscous-flow tidal turbine simulations	Göran Broström	18:0 18:1			
		modelling		544	Vermication and validation of blade-essowed viscous-how boat surining simulations  Comparison of Actuator Line Modelling of Tidal Power Kites with ADCP Measurements	Manuel Rentschler Nomal Prabahar	18:3			
0-20:00	Technical	Elhuyar								
. 23.00	programme	Emuyaf			.co.ancar commune meeting		19:0			
0-22:00	Social programme				Track Directors Dinner		20:0			



				•	ednesday September 6	
9:00					Registration (Main Hall)	
- 1		Room /Track	Chairman	Paper ID	Title	Presenter
		ROOM/ITACK	Chairman	291	Simulations of extreme wave load on an oscillating water column wave energy converter	Chris Chartrand
				298	On the survivability of WECs through submergence and passive controllers	Elie Al Shami
		Baroja/		393	A probabilistic framework for fatigue damage of lift based wave energy converters*	Abel Arredondo-Galeana
		Wave device development	Gareth Tomas	382	1 1 1	D.N. Ferreira
		and testing			Preliminary design of an OWC wave energy converter battery charger	
				540	Development & performance enhancement of an AUV wave-charging system  A methodology to measure the energy flux captured by a submerged U-OWC by using	Brian Rosenberg
				550	temperature sensors	Luana Gumari
				137	CFD analysis of hydrodynamic force on a horizontal axis tidal turbine	Kai Xu
				150	Dynamic Responses of a 1:5-Scale Ocean Current Energy Converter	Shun-Han Yang
		Laboa/		328	The Development of a passive blade-pitch mechanism to reduce the loads on a tidal turbine	Thomas Summers
		Tidal device development	Gustavo Esteban	348	in high-flow conditions  Effects of non-isotropic blockage on a tidal turbine modeled with the Actuator-Line method	Enzo Mascrier
		and testing				Ari Athair
	Oral			400	Intracycle Control Sensitivity of Cross-Flow Turbines	
:30	presentations			402	Development of an Unmanned Mobile Current Turbine Platform	Manhar Dhanak
				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
				302	On tidal array layout sensitivity to regional and device model representation	Connor Jordan
		Arriaga/		457	Resource assessment using a combination of seabed mounted and semi-stationary vessel- mounted ADCP measurements	Eloi Droniou
		Tidal resource characterization	Cameron Johnstone	228	Measurements of tidal flow variability in Ramsey Sound, Pembrokeshire	Jon Miles
				171	Investigation of Low Order Parameters Affecting Tidal Stream Energy Resource Assessments	Misha Patel
				178	Mapping the Unresolved Tidal Resource in Estuaries	Matt Lewis
l				187	Acoustic Characterization around the CalWave Wave Energy Converter	Kaustubha Raghukumar
l				214	A conditional probabilistic encounter-impact model for fish-turbine interactions	Jezella Peraza
l		Oteiza/ Environemental impact	Andrea Copping	303	SafeWAVE The contribution of the SafeWAVE EU project to the future development of ocean energy	Juan Bald
l		and appraisal	, шалеа соррину	623	Automated detection of wildlife in proximity to marine renewable energy infrastructure using machine learning of underwater imagery	David Gold
l				221	Choose Your Own Marine Energy Adventure Game: Collision Risk	Lenaig Hemery
l				284	Measurements of the wake from a floating tidal energy platform	Maricarmen Guerra Paris
11:00			Refreshments no		& posters exhibition (Terrace and Chillida room)	
0		Doom /Tes -1:		Paper ID		Propents -
l		Room /Track	Chairman		Title	Presenter
l				270	Biofilm prevention in the generator of a direct drive wave energy converter	Nick Baker
l				330	Hydro-elastic interaction of polymer materials with regular waves	Krishnendu Puzhukkil
l		Baroja/	Helm from t	380	Degrees of Freedom Effects on a Laboratory Scale WEC Point Absorber	Courtney Beringer
l		Wave device development and testing	Urko Izquierdo	155	Effects of projected wave climate changes on the sizing and performance of OWCs: a focus	Irene Simonetti
l				211	on the Mediterranean and Atlantic European coastal waters  A multi-PTO Wave Energy Converter for Low Energetic Seas: Ensenada Bay Case.	Paulino Meneses Gonzalez
				216	Graphene oxide reinforced room-temperature-vulcanising elastomers for flexible wave energy	Xinyu Wang
				418	Converters  Design, Manufacture and Testing of an Open-Source Benchmark Composite Hydrokinetic	
					Turbine Blade  Wake characterization of tidal turbines in the Pentland Firth using vessel-mounted ADCP	Miguel Gonzale-Montijo
	Oral			456	measurements	Marion Huchet
12:30	presentations	Laboa/ Tidal device development	Iñigo Bidaguren	553	Tidal Turbine Benchmarking Project: Stage I - Steady Flow Experiments	S.W. Tucker Harvey
	•	and testing	ingo Bidaguren Vincenzo Nava	574	Tidal Turbine Benchmarking Project: Stage I - Steady Flow Blind Predictions	Xiaosheng Chen
				567	On the design of a small scale tidal converter for long time deployment at sea	Marco Torresi
				202	Influence of the spatial variation of upstream velocity on a vertical-axis tidal turbine	Lilia Flores Mateo
				323	performance	
				339	Tracking a large vortex at a tidal power site  Overview of Resource and Turbine Modelling in the Tidal Stream Industry Energiser project:	Philippe Mercier
		Arriaga <i>l</i> Tidal resource characterization		577	TIGER	Tim Stallard
				165	characterization	Zhaoqing Yang
				296	Tidal turbine wake characterization by vessel-mounted ADCP data analysis	Patxi Garcia Novo
				299	Estimation and characterisation of the wave-induced turbulent kinetic energy and turbulent dissination from ADCP data	Clément Calvino
14:00					nch & posters exhibition rrace and Chillida room)	
		Room /Track	Chairman	Paper ID	Title	Presenter
		TOOM! / IT GON		263	A Dual Hardware-In-the-Loop (DHIL) platform for testing and validation of WEC subsystems	Giacomo Alessandri
		TOOM / TOOK				
I				430		Chen Zeng
				430	Hardware-in-the-loop testing framework for active accumulator wave energy converters  Multi wave absorber platform design, modelling and testing: Investigating the integration of	Chen Zeng
		Baroja/ Wave device development	lñigo Albaina	354	Hardware-in-the-loop testing framework for active accumulator wave energy converters  Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore wind platform considering a future	Nial McLean
		Baroja/	lñigo Albaina	354 481	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into facting offshore wide platform considering a future Analysis of data from the full-scale prototype testing of the WASP – A novel wave measuring body.	Nial McLean Brendan Walsh
		Baroja/ Wave device development	Iñigo Albaina	354	Hardware-in-the-loop testing framework for active accumulator wave energy converters Malit wave absorber platform design, modeling and sesting: investigating the integration of multiple wave energy absorbers into 8 bothing offshore world platform considering a future Analysis of data from the full-scale prototype testing of the WASP – A novel wave measuring buoy.  Open Sea Trial of a Wave-Energy Converter at Tutcorin Port – Challenges	Nial McLean
		Baroja/ Wave device development	Iñigo Albaina	354 481	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into facting offshore undiplation consistency as future. Analysis of data from the full-scale prototype testing of the WASP – A novel wave measuring body.	Nial McLean Brendan Walsh
		Baroja/ Wave device development	Iñigo Albaina	354 481 484	Hardware-in-the-loop testing framework for active accumulator wave energy converters Malit wave absorber platform design, modeling and sesting: investigating the integration of multiple wave energy absorbers into 8 bothing offshore world platform considering a future Analysis of data from the full-scale prototype testing of the WASP – A novel wave measuring buoy.  Open Sea Trial of a Wave-Energy Converter at Tutcorin Port – Challenges	Nial McLean Brendan Walsh Abdus Samad
		Baroja/ Wave device development	Ifigo Albaina	354 481 484 576 390	Hardware-in-the-loop testing framework for active accumulator wave energy converters  Multi wave absorber platform design, modeling and testing; investigating the integration of  multiple wave energy absorbers into a floating offshore world platform considering a future  Annaysia of data from the full-scale prototype testing of the WASP – A novel wave measuring  tupy.  Open Sea Trial of a Wave-Energy Converter at Tuticorin Port – Challenges  Test rig for submerged transmissions in wave energy converters as a development tool for  dynamic sealing systems  Turbine fatigue load prediction from Felt measurements of waves and turbulence.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings
15:30	Oral	Baroja/ Wave device development and testing	Migo Albaina	354 481 484 576 390 428	Hardware-in-the-loop testing framework for active accumulator wave energy converters  Multi wave absorber platform design, modeling and testing: investigating the integration of  multiple wave energy absorbers into a floating offshore under platform considering a future  Analysis of data from the full-scale prototype testing of the WASP – A novel wave measuring  tury.  Open Sea Trial of a Wave-Energy Converter at Tutcorin Port – Challenges  Test rig for submerged transmissions in wave energy converters as a development tool for  dynamic testing systems.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans
15:30	Oral presentations	Baroja/ Wave device development and testing  Arriaga/ Tidal resource	Migo Albaina Rodolfo Olvera-Trejo	354 481 484 576 390 428 467	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore undiplation considering a future Analysis of data from the full-scale prototype testing of the WASP – A novel wave measuring study.  Open Sea Trail of a Wave-Energy Converter at Tutcors Port – Challenges Testing for submarged transmissions in wave energy convertens as a development tool for dynamic sealing systems.  Tutures faights duck prediction from fixed measurements of waves and turbulence.  Development of a Tool to Optimise Tital Stream Energy Stee  Assessing wave-turbulence separation from ADDP measurements with artificial flow data.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Togneri
15:30		Baroja/ Wave device development and testing		354 481 484 576 390 428 467 478	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore wide platform consistency a future Analysis of data from the full-scale prototype testing of the WASP — A novel wave measuring budy.  Open See Trial of a Wave-Energy Overfers at Tuticorin Port — Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic sealing systems.  Tuthrie fallique load protiction from field measurements of waves and turbulence.  Development of a Tool to Optimise Tital Stream Energy Stes.  Assessing wave-furturence separation from ADCP measurements with artificial flow data.  Multi-orders analysis to evaluate tidal energy potential in France.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Togneri Jordi Serret
15:30		Baroja/ Wave device development and testing  Arriaga/ Tidal resource		354 481 484 576 390 428 467	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore undiplation considering a future Analysis of data from the full-scale prototype testing of the WASP – A novel wave measuring study.  Open Sea Trail of a Wave-Energy Converter at Tutcors Port – Challenges Testing for submarged transmissions in wave energy convertens as a development tool for dynamic sealing systems.  Tutures faights duck prediction from fixed measurements of waves and turbulence.  Development of a Tool to Optimise Tital Stream Energy Stee  Assessing wave-turbulence separation from ADDP measurements with artificial flow data.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Togneri
15:30		Baroja/ Wave device development and testing  Arriaga/ Tidal resource		354 481 484 576 390 428 467 478	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore undiplation consistency a future Analysis of data from the full-scale prototype testing of the WASP — A novel wave measuring Open Sea Trial of a Wave-Energy Converter at Tuticorin Port — Challenges Testing for subminged transmissions in wave energy converters as a development tool for dynamic sealing systems. Tuther fallips load prediction from field measurements of waves and surbulence. Development of a Tool to Optimize Tallal Stream Energy Stes Assessing wave-struktures separation from ADDP measurements with artificial flow data. Multi-orders analysis to evaluate total energy potential in France Improved Modeling of Vertical Velocity Profiles at a Total Energy Ste	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Togneri Jordi Serret Lilli Enders
15:30		Baroja/ Wave device development and testing  Arriaga/ Tidal resource		354 481 484 576 390 428 467 478	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore undiplation considering a future Analysis of data from the full-scale probleps testing of the WASP – A novel wave measuring activ.  Open Sea Trial of a Wave-Energy Converter at Tutcorin Port – Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic easiling systems.  Tutchine falging load prediction from field measurements of waves and surfacial flow data.  Assessing wave-surfacial control of the measurements of waves and surfacial flow data.  Multi-criteria analysis to evaluate tital Stream Energy Sites  Assessing wave-surfacial control from ADCP measurements with artificial flow data.  Multi-criteria analysis to evaluate tital energy potential in France Improved Modeling of Vertical Velocity Profiles at a Tidal Energy Site.  Strip tidal energy projects through resource characterization and environmental consideration.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Togneri Jordi Serret
15:30		Baroja/ Wave device development and testing  Arriaga/ Tidal resource		354 481 484 576 390 428 467 478 563	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore undiplation consistency a future Analysis of data from the full-scale prototype testing of the WASP — A novel wave measuring Open Sea Trial of a Wave-Energy Converter at Tuticorin Port — Challenges Testing for subminged transmissions in wave energy converters as a development tool for dynamic sealing systems. Tuther fallips load prediction from field measurements of waves and surbulence. Development of a Tool to Optimize Tallal Stream Energy Stes Assessing wave-struktures separation from ADDP measurements with artificial flow data. Multi-orders analysis to evaluate total energy potential in France Improved Modeling of Vertical Velocity Profiles at a Total Energy Ste	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Togneri Jordi Serret Lilli Enders
15:30		Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization	Rodolfo Olvera-Trejo	354 481 484 576 390 428 467 478 563	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore undiplation considering a future Analysis of data from the full-scale probleps testing of the WASP – A novel wave measuring activ.  Open Sea Trial of a Wave-Energy Converter at Tutcorin Port – Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic easiling systems.  Tutchine falging load prediction from field measurements of waves and surfacial flow data.  Assessing wave-surfacial control of the measurements of waves and surfacial flow data.  Multi-criteria analysis to evaluate tital Stream Energy Sites  Assessing wave-surfacial control from ADCP measurements with artificial flow data.  Multi-criteria analysis to evaluate tital energy potential in France Improved Modeling of Vertical Velocity Profiles at a Tidal Energy Site.  Strip tidal energy projects through resource characterization and environmental consideration.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Tognerl Jordi Serret Lilli Enders Andrea Copping Ainhize Uriarte
15:30		Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization  Oteiza/ Environemental impact		354 481 484 576 390 428 467 478 563 220 326 600	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore undiplatform considering a future Analysis of data from the full-scale problegs testing of the WASP – A novel wave measuring active.  Open Sea Trial of a Wave-Energy Converter at Tutcorn Port – Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic easing systems.  Tutcher failigue dood prediction from field measurements of waves and surbulence.  Development of a Tool to Optimize Tital Steam Energy Sites  Assessing wave-strukturence separation from ADOP measurements with artificial flow data.  Multi-citizens analysis to evaluate data energy potential in France  Improved Modeling of Vertical Velocity Profites at a Total Energy Site  Siting stale energy projects through resource characterization and environmental considerations.  ITSASERONE, an autonomous marine surface done for fash monitoring around wave energy devices.  Empowering communities to participate in marine energy planning and development.  Assessing the effect of onshore and offshore Wave Energy Convertion on seafloor integrity.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Machael Tognerl Jord Serret Littl Enders  Andrea Copping Ainhize Uriarte Grace Chang
15:30		Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization	Rodolfo Olvera-Trejo	354 481 484 576 390 428 467 478 563 220 326 600 374	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing. Investigating the integration of multiple wave energy absorbers into a floating offshore with platform consistency a future Analysis of data from the full-scale prototype testing of the WASP — A novel wave measuring holy.  Open See Trial of a Wave-Energy Overferr at Tutoon Port — Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic sealing systems.  Tuthine failing less of protocols from field measurements of waves and subsidence Development of a Tool to Optimes Tidel Stream Energy Stes.  Assessing wave-surfulence separation from ADCP measurements with attrical fice data Multi-clerks analysis to evaluate tidel energy potential in France Improved Modeling of Vertical Velocity Profites at a Tidel Energy Site  Sting tidal energy projects through resource characterization and environmental considerations  TITALSCRONCE. an autonomous marine surface drone for fish monitoring around wave energy devices.  Empowering communities to participate in marine energy planning and development	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Millings Paul Evans Michael Togneri Jord Serret Lill Enders Andrea Copping Anhize Uriarte Grace Chang Itiigo Muxika
15:30		Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization  Oteiza/ Environemental impact	Rodolfo Olvera-Trejo	354 481 484 576 390 428 467 478 563 220 326 600 374 554	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into Stading offshore und platform considering a future. Analysis of data from the full-scale problegs testing of the WASP —A novel wave measuring Application of March 1997. An active wave measuring Application of the Masp —A novel wave measuring Open Sea Trial of a Wave-Energy Converter at Tuticorin Port —Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic sealing system.  Tuther fallipse dood prediction from field measurements of waves and turbulence  Development of a Tool to Optimize Tidal Stream Energy Stee  Assessing wave-strukturence separation from ADCP measurements with artificial flow data.  Multi-orderia analysis to evaluate total energy potential in France tempoved Modeling of Vertical Velocity Profiles at a Tidal Energy Stee  Stimp steal energy projects through resource characterization and environmental consideration.  TISAS/RONCE, an autonomous martine surface done for finh monitoring around wave energy devices  Empowering communities to participate in marrine energy planning and development  Assessing the effect of onshore and offshore Wave Energy Convertion on seafloor integrity contribing trage-based and accusion methods.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullinga Paul Evans Michael Togneri Jordi Serret Lilli Enders  Andrea Copping Anhize Uriarte Grace Chang Irigo Musika Sylvain Guillou
		Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization  Oteiza/ Environemental impact	Rodolio Olvera-Trejo Juan Bald	354 481 484 576 390 428 467 478 563 220 326 600 374 554 675	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore undiplation considering a future Analysis of data from the full-scale problegs testing of the WASP – A novel wave measuring active.  Open Sea Trial of a Wave-Energy Converter at Tutcorn Port – Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic easing systems.  Tutcher falging load prediction from field measurements of waves and surbulence.  Development of a Tool to Optimize Trial Steam Energy Sites  Assessing wave-strukturence separation from ADOP measurements with artificial flow data.  Multi-citizenia analysis to evaluate stall energy potential in France  Improved Modeling of Vertical Velocity Profites at a Total Energy Site  Siting stall energy projects through resource characterization and environmental considerations.  ITS/SISPRONE, an autonomous marine surface done for fain monitioning around wave energy devices.  Empowering communities to participate in marine energy planning and development.  Assessing the effect of onshore and distince Wave Energy Converters on seafloor integrity combining image-based and account methods turbines on the bedforms by numerical Effects of the specingly between two hydrokinetic turbines on the bedforms by numerical Undernatur roles impact assessment of a wave energy converter in the northern Atlantic (Spean)	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Millings Paul Evans Michael Togneri Jord Serret Lill Enders Andrea Copping Anhize Uriarte Grace Chang Itiigo Muxika
		Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization  Oteiza/ Environemental impact	Rodolio Olvera-Trejo Juan Bald	354 481 484 576 390 428 467 478 563 220 326 600 374 554 675	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into Stading offshore und platform considering a future. Analysis of data from the full-scale problegs testing of the WASP —A novel wave measuring Application of March 1997. An active wave measuring Application of the Masp —A novel wave measuring Open Sea Trial of a Wave-Energy Converter at Tuticorin Port —Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic sealing system.  Tuther fallipse dood prediction from field measurements of waves and turbulence  Development of a Tool to Optimize Tidal Stream Energy Stee  Assessing wave-strukturence separation from ADCP measurements with artificial flow data.  Multi-orderia analysis to evaluate total energy potential in France tempoved Modeling of Vertical Velocity Profiles at a Tidal Energy Stee  Stimp steal energy projects through resource characterization and environmental consideration.  TISAS/RONCE, an autonomous martine surface done for finh monitoring around wave energy devices  Empowering communities to participate in marrine energy planning and development  Assessing the effect of onshore and offshore Wave Energy Convertion on seafloor integrity contribing trage-based and accusion methods.	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullinga Paul Evans Michael Togneri Jordi Serret Lilli Enders  Andrea Copping Anhize Uriarte Grace Chang Irigo Musika Sylvain Guillou
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16:00	presentations  Side events	Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization  Oteiza/ Environemental impact and appraisal  Mitxelena/Side event 7  Baroja/Side event 8	Rodolfo Olvera-Trejo  Juan Bald  Refreshments, ne	354 481 484 576 390 428 467 478 563 220 326 600 374 554 675 565 tworking &	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of intuitive wave integral yabsorbers into a floating offshore und platform considering a future Analysis of data from the full-scale probletyse testing of the WASP—A novel wave measuring.  Open Sea Trial of a Wave-Energy Converter at Tutcorin Port — Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic testing systems.  Tutters falgine submerged transmissions in wave energy converters as a development tool for dynamic testing systems.  Assessing wave-durchence separation from ADP measurements with artificial flow data.  Multi-creates analysis to evaluate tital energy potential in France  Improved Modeling of Vertical Velocity Profites at a Total Energy Site  Sting tital energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental environ	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Tognerl Jordi Serret Lilli Enders Andrea Copping Ainhize Urlarte Grace Chang Iliigo Muxika Sylvain Guillou José Antonio García
16:00 17:30	presentations  Side events	Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization  Oteiza/ Environemental impact and appraisal  Mitxelena/Side event 7  Baroja/Side event 8	Rodolfo Olvera-Trejo  Juan Bald  Refreshments, ne	354 481 484 576 390 428 467 478 563 220 326 600 374 554 675 565 tworking &	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of multiple wave energy absorbers into a floating offshore undiplation considering a future Analysis of data from the full-scale probleyse testing of the WASP – A novel wave measuring study.  Open Sea Trial of a Wave-Energy Converter at Tutcorn Port – Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic easing systems.  Tutcher failpus doub prediction from field measurements of waves and turbulence Development of a Tool to Optimize Trial Steam Energy Sites Assessing wave-ultrulivence separation from ADOP measurements with artificial flow data Multi-criteria analysis to evaluate idial energy potential in France Improved Modeling of Vertical Velocity Portice at a Total Energy Site  Siting state energy projects through resource characterization and environmental considerations ITS/SISRONE, an autonomous marine surface done for fash monitioning around wave energy develope.  Empowering communities to participate in marine energy planning and development Assessing the effect of onshore and distribute Wave Energy Converters on seafloor integrity combining image-based and account on hydrokinetic turbines on the bedforms by numerical Underwater rosies impact assessment of a wave energy converter in the northern Atlantic (Scan)  Sposters exhibition (Terrace and Chillida room)  SafeWAVE project (by AZTI / WavEC)	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Tognerl Jordi Serret Lilli Enders Andrea Copping Ainhize Urlarte Grace Chang Iliigo Muxika Sylvain Guillou José Antonio García
16:00 17:30	presentations  Side events	Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization  Oteiza/ Environemental impact and appraisal  Mitxelena/Side event 7  Baroja/Side event 8	Rodolfo Olvera-Trejo  Juan Bald  Refreshments, ne	354 481 484 576 390 428 467 478 563 220 326 600 374 554 675 565 tworking &	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of intuitive wave integral yabsorbers into a floating offshore und platform considering a future Analysis of data from the full-scale probletyse testing of the WASP—A novel wave measuring.  Open Sea Trial of a Wave-Energy Converter at Tutcorin Port — Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic testing systems.  Tutters falgine submerged transmissions in wave energy converters as a development tool for dynamic testing systems.  Assessing wave-durchence separation from ADP measurements with artificial flow data.  Multi-creates analysis to evaluate tital energy potential in France  Improved Modeling of Vertical Velocity Profites at a Total Energy Site  Sting tital energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental environ	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Tognerl Jordi Serret Lilli Enders Andrea Copping Ainhize Urlarte Grace Chang Iliigo Muxika Sylvain Guillou José Antonio García
7:30	presentations  Side events	Baroja/ Wave device development and testing  Arriaga/ Tidal resource characterization  Oteiza/ Environemental impact and appraisal  Mitxelena/Side event 7  Baroja/Side event 8	Rodolfo Olvera-Trejo  Juan Bald  Refreshments, ne	354 481 484 576 390 428 467 478 563 220 326 600 374 554 675 565 tworking &	Hardware-in-the-loop testing framework for active accumulator wave energy converters Multi wave absorber platform design, modeling and testing: Investigating the integration of intuitive wave integral yabsorbers into a floating offshore und platform considering a future Analysis of data from the full-scale probletyse testing of the WASP—A novel wave measuring.  Open Sea Trial of a Wave-Energy Converter at Tutcorin Port — Challenges Testing for submerged transmissions in wave energy converters as a development tool for dynamic testing systems.  Tutters falgine submerged transmissions in wave energy converters as a development tool for dynamic testing systems.  Assessing wave-durchence separation from ADP measurements with artificial flow data.  Multi-creates analysis to evaluate tital energy potential in France  Improved Modeling of Vertical Velocity Profites at a Total Energy Site  Sting tital energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental considerables.  Assessing the energy projects through resource characterization and environmental environ	Nial McLean Brendan Walsh Abdus Samad Anthon Jonsson Hannah Mullings Paul Evans Michael Tognerl Jordi Serret Lilli Enders Andrea Copping Ainhize Urlarte Grace Chang Iliigo Muxika Sylvain Guillou José Antonio García



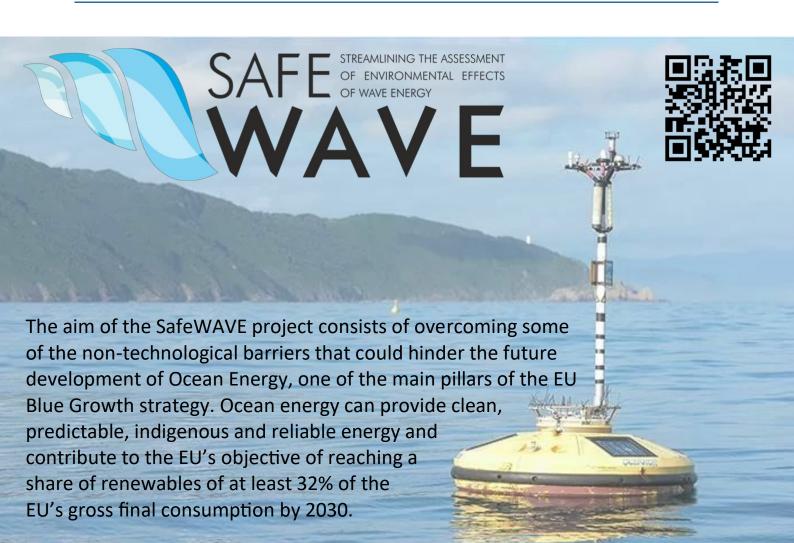
					Thursday September 7			
00-09:00					Registration (Main Hall)			08:00
		Room /Track	Chairman	Paper ID	Title		Presenter	
				472 493	A time domain approach for the optimal control of Optimisation of Air turbines for OWC Wave Energy		Mohamed Shabara  Ander Zarketa-Astigarraga	09:00
		Laboa/ Grid integration, power	Joao Henriques	500	Integrated hydrodynamic-electrical hardware mod ocean demonstrator	el for wave energy conversion with M4	Judith Apsley	09:30
		take-off and control	Joao Heilliques	409	On data-based control-oriented modelling applica		Edoardo Pasta	09:45
				592 161	The Performance evaluation of 30kW class OWC breakwater Investigation on the extreme peak mooring force		Kilwom Kim Zahra Shahroozi	10:00
				140	converter with and without a survivability control s Analysis of the North Atlantic offshore energy flux	ystem	Matias Alday	10:15 09:00
				175	Wave Spectral Analysis for designing Wave Energ	gy Converters	Jesus Portilla-Yandun	09:15
00-10:30 P	Oral presentations	Arriaga/ Wave resource	Joannes Bergue	275	Long term wave load trends against offshore mor Biscay	nopile structures: A case study in the Bay of	Nahia Martinez-Iturricastillo	09:30
		characterization		279	parameters On the errors in annual energy yield estimation di	ue to monodirectional wave spectra	Tian Tan	09:45
				205 305	assumption  Validation of ERA5 Wave Energy Flux through Sa		Giuseppe Giorgi  Alain Ulazia	10:00
				154	Do recent renewable energy policy changes in Ire wave energy technology development sector?	eland satisfy the requirements of a nascent	Carrie Anne Barry	09:00
		Oteiza/		157	Integration of wave energy into Energy Systems: forward		George Lavidas	09:15
		Economical, social, legal and political aspects of	Pablo Ruiz-Minguela	306 351	Can Risk-Based Approaches benefit future Marini and consenting processes? Towards increased social acceptability of marine in		Emma Verling Niall P. Dunphy	09:30
		ocean energy		362	Environmental Effects of MRE: Advancing the Ind		Deborah Rose	09:45 10:00
					Engagement			10:15
30-11:00		l e			ng & posters exhibition (Terrace a			10:30
		Room /Track	Chairman	Paper ID 453	Title The Impact of Uncertainty on the Control of a Mul		Presenter  Carrie Hall	11:00
				531	Spectral control co-design of wave energy conver		Yerai Peña-Sanchez	11:15
		Baroja/ Wave device development	Urko Izquierdo		A new seawater low-head turbine for the OBREC		Sara Russo	11:30
		and testing		549	Experimental investigation on the hydrodynamic p breakwater		Yusuf Almalki	11:45
				170	Weight Reduction Methodologies for Wave Energ Wave Excitation Tests on a Fixed Sphere: Compa		Michael O'Shea  Jacob Andersen	12:00 12:15
				215	Wave Excitation Tests on a Fixed Spriere: Comps Wave Farms Integration in a 100% renewable iso and grid compliance analysis.		Marcos Blanco	11:00
				309	Wave-to-Wire Control of an Oscillating Water Colu Wells Turbine		Marco Rosati	11:15
		Laboa/ Grid integration, power	Eider Robles	510	Maximizing Wave Energy Converter Power Extrac Stiffness Magnetic Spring Development of control strategies for novel system		Carlos Michelen	11:30
	Oral presentations	take-off and control		561 346	project Enhancing energy system resilience using tidal st		James Kelly  Danny Coles	11:45
0-12:30				551	Analysis of Ocean Energy Integration in Ibero-Am		Marcos Lafoz	12:15
	presentations		Jesús M. Blanco	529	Impact of Resource Uncertainties on the Design of	of Wave Energy Converters	Markel Peñalba	11:00
		A meta and		539	Discussions on Wave energy period in higher way		Shiaw-Yih Tzang	11:15
		Arriaga/ Wave resource characterization  Oteiza/ Economical, social, legal and political aspects of ocean energy		159 197	Internal waves: A potentially untapped marine en Feasibility of wave energy harvesting in the Liguri		Kastubha Raghukumar  Manuel Alejandro Corrales-Gonzále.	11:30
				378	Identification of optimal sites for the deployment of a technology-centred approach		Riccardo Novo	12:00
								12:15
				399	Techno-economic optimization of an offshore hyb study		Sarah Palmer	11:00
				452 340	Ensuring Resilience in Ocean Energy Power Plan On the complementarity of wave, tidal, wind and		Thalita Nazare	11:15
			Yago Torre-Enciso	335	A Comparison of the European Regulatory Frame		Hafiz Ashan Said Claudio Moscoloni	11:45
		ocean energy		507	Ocean Energy: Markets – Currency – Impact. Development Space		Jochem Weber	12:00
				397	Informing development of a socioeconomic data literature review	collection toolkit for marine energy: a	Deborah Rose	12:15
30-14:00					Lunch & posters exhibition (Terrace and Chillida room)			12:30
		Room /Track	Chairman	Paper ID	Title		Presenter	
				350	Performance enhancement of pitching WECs via Numerical investigation of the energy performance	oscillating water columns technology e of a wave energy converter comprising a	Marco Fontana Félix Elefant	14:00
		Baroja/		357 395	multi-body power take-off  Hybrid wind-wave systems: The case of the Voltus		Maximilian Hengstmann	14:15
		Wave device development and testing	t Tony Lewis  Jose L. Villate	439	Analysis of the viability of a radial Double Decker Column devices		Aitor Vega-Valladares	14:45
				445	An Early Design Phase Method for Characterizing Archetypes	and Comparing Wave Energy Converter	Aeron Roach	15:00
					Upsampling wave temporal resolution: Investigation	ng wave parameters and the influence on	Hannah Mankle	15:15
				564 619	WEC power performance On spatial interpolation of ocean energy source v	rariables: A comparative analysis	Hannan Mankie  Leonardo Gambarelli	14:00
0-15:30	Oral presentations	Arriaga/		475	The application of temporal gating in the measure		Nataliia Sergiienko	14:30
		Wave resource characterization		310	Analysis of the impact of floater interactions on th with adaptable nonlinear PTO	e power extraction of a dense WEC array	Alva Bechlenberg	14:45
				483	New design options for the improvement of the M	utriku power plant	Urko Izquierdo	15:00 15:1
				223	Using human-centered design to develop a nation the United States	nal research landscape for marine energy in	Samantha Quinn	14:00
		Oteiza/	Jochem Weber	385	Choosing Wave Energy Devices for Community L		Molly Grear	14:15
		Economical, social, legal and political aspects of		388	A Socioeconomic, Environmental, and Regulatory Technologies Floating wind and wave energy technologies: app		Jonathan Colby	14:30
		ocean energy		413 436	decarbonization in Portugal Wave energy communication and social opposition		Craig White	14:45 15:00
					energy development projects?		Maria C. Uyarra	15:15
			Iñigo Ansola	Chai	ir EVE (Basque Agency for Energy)	15:40-15:45		
			Irene Penesis	IC	COE 2024 Melbourne (Australia)	15:45-15:50		
			AbuBakr Bahaj			15:50-15:55		
0-16:15	Closing	Mitxelena Auditorium	Bruce Cameron			15:55-16:00		
	ceremony							
			CHJo			16:00-16:05		
			Luis Gato	E		16:05-16:10		
			Cameron Johnstone		EWTEC Executive Board	16:10-16:15		
					Technical visits:			
30-20:30	Social programme				Option 1: MUTRIKU			16:30
	h of anime				Option 2: BIMEP			
-								_
0-22:30	Technical programme		(Executive Board Meeting and Dinner)					
- 1								1



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;
578	Experimental Optimization Environment for Developing an Intracycle Pitch Control in Cross Flow Turbines	Stefan, Hoemer, Roberto, Leidhold; Shokoofen, Abbaszadeh; Karla, Ruiz-Hussmann; Timo, Bennecke; Zhao, Zhao; Christian-Tora, Weber; Pierre-Luc, Delafin; Curille, Ronamy: Yuse, Delannov.
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 Kumiawan; 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



Notes	





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