

# EIMR 2018, Day Programme, Pickaquoy Centre, Kirkwall

Tuesday, 24<sup>th</sup> April 2018

<b>DAY 1</b>	08:00	<b>Registration</b>	
	09:00	<b>Welcome</b>	
<b>SESSION TITLE:</b>		<b>Opening Session</b>	
<b>CHAIR:</b>		<b>Ian Davies</b>	
	09:30	39	Marine renewable energy – meeting the expectations of the Highlands and Islands? Davidson
	09:45	31	Overcoming Barriers to Marine Renewable Energy Development Freeman, Copping, Gordon, Dreyer
	10:00	25	Rowing upstream: In search of the social impacts of marine energy Howell
	10:15	77	Context setting for determining the impact of marine renewable energy developments: EMF as a potential stressor (or not). Gill, Hutchison, Sigray, He, King
	10:30		Chair's Summary
	10:35		COFFEE 30 mins

<b>DAY 1</b>			
<b>SESSION TITLE:</b>		<b>Biofouling</b>	
<b>CHAIR:</b>		<b>Raeanne Miller</b>	
	11:05		<b>Poster Elevator Pitches 1</b>
	11:30	23	BioFREE: an international collaboration to assess the impacts of biofouling on the marine renewable energy industry Want, Porter
	11:45	42	Towards improving biofouling information within MRE environments Quillen et al.
	12:00	82	Effects of the marine environment on composite materials Bonheyo, Hernandez-Sanchez, Hughes, Miller, Presuel-Moreno, Gunawan, Winder
	12:15		Chair's Summary
	12:20		<b>Poster Elevator Pitches 2</b>
	12:45		LUNCH AND POSTERS 60 mins

**DAY 1  
SESSION  
TITLE:  
CHAIR:**

**Monitoring techniques and systems**

**Benjamin Williamson**

13:45	53	Advancing multi-scale hydroacoustic monitoring in highly energetic environments: From fine-scale target tracking to top predator occupancy patterns in a tidal channel	Lieber, Nimmo-Smith, Waggitt, Glynn, Nilsen, Kregting
14:00	27	Development of the Adaptable Monitoring Package: Past, Present, and Future	Polagye, Cotter, Murphy ...
14:15	12	Real-Time Target Classification using an Integrated Instrumentation Package	Cotter, Murphy and Polagye
14:30	55	Optimisation of an underwater imagery analysis method to characterise the reef effect caused by submarine power cables on epibenthic communities	Taormina, Lejart, Thiesse, Desroy, Carlier
14:45	26	Environmental Measurements at the U.S. Navy's Wave Energy Test Site in Hawaii	Cross, Li , Murphy and Polagye
15:00	9	Development of an Ocean Energy Impact Monitoring System (DOEIMS)	Hutchison
15:15		Chair's Summary	
15:20		TEA	30 mins

**DAY 1  
SESSION  
TITLE:  
CHAIR:**

**Physical Processes**

**David Woolf**

15:50	2	Can tidal stream turbines change the tides in the Pentland Firth, and is there an acceptable limit?	O'Hara Murray
16:05	11	Evaluating Environmental Impacts of Tidal Energy Extraction Using a Transport Time Scale Approach	Yang and Wang
16:20	79	Tidal modulation of Impact wave farm on sediment transport and morphodynamics	Gonzalez-Santamaria, Zou, Pan, Magar
16:35	46	The Distribution of Turbulent Mixing Around a Tidal Energy Test Site	Greenwood, Vogler, Sellar, Venugopal
16:50	16	Assessing the Impact of Rows of Tidal-Stream Turbines on the Overtides of the M2	Potter, Folkard, Ilic
17:05		Chair's Summary	
		Posters and Networking Session	

# EIMR 2018, Day Programme, Pickaquoy Centre, Kirkwall

Wednesday, 25<sup>th</sup> April 2018

<b>DAY 2</b>			
<b>SESSION TITLE:</b>	<b>Long Term Change</b>		
<b>CHAIR:</b>	<b>Elva Bannon</b>		
09:00	19	The impact of sea-level rise and coastal protection construction on the tidal energy of San Francisco Bay	Wang, Stacey, Mitchell
09:15	30	Comparative effects of climate change and tidal stream energy extraction in the NW European continental shelf	De Dominicis, Wolf and Murray
09:30	35	Effects of large scale tidal energy extraction on benthic habitats	Bell, Side
09:45	38	Assess the ecological cost/benefit of very large scale tidal energy extraction vs future climate change using joint modelling of mobile marine predators and their prey	Scott, Sadykova, Sadykova, de Dominicis, Wakelin, Wolf
10:00	24	Predicting changes to Scottish Nature Conservation MPA connectivity due to tidal energy device arrays and climate change	Millar, Murray, De Dominicis, Wolf, Gallego
10:15	Chair's Summary		
10:20	COFFEE		30 mins

<b>DAY 2</b>			
10:50	Relevant UK Research Council activities, an update		Greaves, Linley, Scott
<b>SESSION TITLE:</b>	<b>Collisions: models, real behaviour and trade-offs</b>		
<b>CHAIR:</b>	<b>Beth Scott</b>		
11:05	29	Risk of Whale Encounters with Offshore Renewable Energy Mooring Lines and Electrical Cables	Copping and Gear
11:20	76	Integrating empirical data with probability distributions from a numerical 4-D model to assess marine mammal collision risk with marine renewable energy devices	Culloch, Schmitt, Horne, Lieber, Molander, Hammar, Kregting Sparling, Band, Onoufriou,
11:35	74	Improving our predictions of collision risk for marine mammals and tidal turbines – towards a better understanding of the most critical factors.	Thompson, Joy, Wood, Gillespie, Malinka, Macaulay, Hastie
11:50	15	Experimental determination of a mortality threshold for collisions between marine megafauna and tidal turbines	Onoufriou, Thompson, Brownlow, Sparling and Hastie
12:05	70	Good noise, bad noise: a tricky case of balancing risk of physical injury against acoustic disturbance for marine mammals & tidal energy devices	Wilson, Marmo, Lepper, Risch, Benjamins, Hastie, Carter

12:20	Chair's Summary	
12:25	LUNCH AND POSTERS	60 mins

<b>DAY 2</b>		
<b>SESSION TITLE:</b>	<b>Learning from Test Sites</b>	
<b>CHAIR:</b>	<b>George Lees</b>	
13:25	72	Understanding wildlife displacement using data from real-sea testing of wave and tidal devices Long ..
13:40	65	Ecological Interactions with a Marine Renewable Energy Installation in a temperate ecosystem Sheehan, Cartwright, Holmes, Bicknell, Attrill, Witt
13:55	56	Baited underwater video systems to assess the impact of man-made infrastructure at sea: a case study for scale, time and statistical power Bicknell, Sheehan, Godley, Doherty, Witt
14:10	40	Environmental monitoring on the SEM-REV sea test site (Nantes – French Atlantic coast) Reynaud, Le Crom, Felix-Henry
14:25	3	Environmental effects from wave power generators to local fish and macro crustacean communities Bender, Sundberg and Langhamer
14:40	89	The Case for Small Tidal Energy Conversion in the Bras d'Or Lake UNESCO Biosphere Reserve, Cape Breton, Nova Scotia Hatcher, Leguizamon-Velez, Carlson, Adams
14:55		Chair's Summary
15:00	TEA	30 mins

<b>DAY 2</b>		
<b>SESSION TITLE:</b>	<b>Observing Prey and Predators in Currents</b>	
<b>CHAIR:</b>	<b>Brian Polagye</b>	
15:30	47	Pilot observations of fish behaviour around an operating hydrokinetic test turbine Langhamer, Francisco, Bender, Forslund, Hammar, Sunberg, Molander
15:45	54	Predictable changes in fish school behaviour due to a tidal turbine structure Williamson, Fraser, Williamson, Nikora, Scott
16:00	52	Passive acoustic monitoring to determine fine scale three-dimensional density, foraging rates and behaviour of cetaceans in tidal rapid habits Macauley, Gordon, Gillespie, Coram, Malinka, Lee, Hastie, Sparling, Northridge
16:15	50	Passive Acoustic Monitoring of Cetacean Movement around Operational Tidal Turbines Gillespie, Macauley, Malinka, Hastie, Joy, Sparling
16:30	58	Three-dimensional movements of harbour seals in a tidally energetic channel: development of a dual multibeam sonar system Hastie, Bivins, Wu, Coram, Gillespie, Gordon, Jepp, Macaulay, Sparling
16:45		Chair's Summary

## EIMR 2018, Day Programme, Pickaquoy Centre, Kirkwall

Thursday, 26<sup>th</sup> April 2018

<b>SESSION TITLE:</b>	<b>Animal - machine close encounters?</b>		
<b>CHAIR:</b>	<b>Ben Wilson</b>		
08:45	68	Electromagnetic fields (EMFs) from a buried HVDC cable and the effect on migratory and electro-sensitive species	Hutchison, Gill, Sigray, He, King Johnston, Furness, Robbins, Taggart and Masden
09:00	13	Investigating the foraging habitat of black guillemots in relation to tidal stream turbines	Wilson, Searle, ....
09:15	20	Spatially explicit tools for the assessment of potential impacts of marine renewables on breeding seabirds.	Sanderson, Stokesbury, Redden Palmer, Hastie, Onoufriou, Thompson
09:30	80	Use of Fish Tracking Data to Estimate the Probability of Fish Encountering a Marine Hydrokinetic Turbine	Hastie, Russell, Lepper, Elliott, Wilson, Benjamins, Thompson
09:45	44	Using animal tag data to parameterise collision risk models: the importance of sampling rate	
10:00	57	Harbour seals avoid tidal turbine noise: implications for collision risk	
10:15	Chair's Summary		
10:20	COFFEE		30 mins

<b>Day 3</b>			
<b>SESSION TITLE:</b>	<b>Innovative monitoring tools and techniques</b>		
<b>CHAIR:</b>	<b>Caitlin Long</b>		
10:50	45	Regional and seasonal scale-studies into seabird use of coastal environments: abundant and diverse communities consistently associate with moderate and complex currents	Waggitt, Brown, Evans, Goldsmith, Piano, Robins, Veneruso
11:05	37	Recent investigations into the marine migration of salmon smolts in the context of marine renewable development	Gardiner, Main, Davies, Kynoch, Gilbey, Adams, Newton
11:20	36	Effects of wave energy extraction on intertidal species of extremely exposed rocky shores	Bell, Want, Burrows, Venugopal, Waldman, Side Graham, Farcas, Merchant, Barton, Cheney and Thompson
11:35	41	Porpoise displacement at different noise levels during construction of an offshore windfarm	Rumes, Haelters, Vigin, Degraer
11:50	78	Possible positive long term effects on harbour porpoise from a large scale offshore renewable energy zone in the Southern North Sea	
12:05	60	Monitoring the environmental interactions of tidal devices – how do we achieve what is required in a practical and cost effective manner whilst retaining focus on the key issues to assist the consenting of future projects?	Foubister ...
12:20	Chair's Summary		
12:25	LUNCH AND POSTERS		60 mins

<b>Day 3</b>	
<b>SESSION</b>	<b>Differing perspectives working towards a common goal</b>
<b>TITLE:</b>	
<b>CHAIR:</b>	<b>Andrea Copping</b>
13:25	To be formulated
14:55	Chair's Summary
15:00	TEA
	30 mins

<b>Day 3</b>	
<b>SESSION</b>	<b>Sustainable ORE: planning and management</b>
<b>TITLE:</b>	
<b>CHAIR:</b>	<b>Annie Linley</b>
15:30	73 Developing a streamlined consenting process at a tidal test site Long ...
15:45	33 Multiple maritime uses in European seas: Findings from the MUSES project Kafas, Ripken, Wright, Davies, Scheffler ...
16:00	32 Offshore Energy Planning Provisions and transnational Maritime Spatial Planning in the North Sea Region: Findings from the NorthSEE project Kafas, Ripken, Wright, Davies, Scheffler ...
16:15	7 Assessing the cumulative effects of marine renewable energy installations in multi-user marine environments Willsteed, Jude, Birchenough and Gill
16:30	43 Adaptive Management to inform wave and tidal development: a Scottish perspective Bennet
16:45	Close out and prizes