EUROPEAN MARINE SCIENCE EDUCATORS ASSOCIATION CONFERENCE

3rd – 5th SEPTEMBER 2013

PLYMOUTH UNIVERSITY, UNITED KINGDOM

PROGRAMME*

Tuesday 3rd September		
	09:00 – 10:00	**Registration**, Rolle Building Please hand your poster to the staff on the Registration desk who will put all the posters on display

Session 1	Scene Setting Rolle 018 Lecture Theatre, Rolle Building, Plymouth University	
	10:00	**Welcome address – Jon Parr**, Deputy Director – Operations, Infrastructure & Education, Marine Biological Association
	10:10	**EMSEA** Fiona Crouch & Geraldine Fauville
	10:30	**C-change learning – the very idea** John Spicer
	11:00	**Tea and coffee break**
	11:30	**Keynote Speaker** Paul Rose
	12:30	**Lunch**

Session 2	Workshops Rolle Building 114, 115, 116, 117	
	13:30	**Introduction to Workshops** Fiona Crouch
	13:45	**1. Ocean Literacy in Europe – Open questions and major challenges** Rolle 117
	13:45	**2. US Ocean Literacy experience** Rolle 116
	13:45	**3. Examples of new technologies** Rolle 115
	13:45	**4. Adapting OL to European Curricula** Rolle 114
	15:00	**Tea and coffee break** Poster Session
	15:30 – 16:45	**Workshops Round 2** Please see above for room locations
	18:00 – 20:30	**Wine Reception** Held at the Marine Biological Association (sponsored by Marinexus

* Programme correct at time of printing

Wednesday 4th September		
	09:00 – 09:30	**Registration**, Rolle Building Please hand your poster to the staff on the Registration desk who will put all the posters on display

Session 3	Ocean Literacy in Europe – Examples and Way Forward Rolle Building 018 Lecture Theatre, Rolle Building, Plymouth University	
Chair: Jan Seys	09:30	**Session Introduction** Jan Seys
	09:40	**MarineArt as part of a SHOCK therapy** Jan Seys
	10:00	**Transatlantic Experiences Connecting Marine Science, Ocean Education & Exploration** Melissa Ryan, Peter Tuddenham & Tina Bishop
	10:20	**Pre-service teachers' knowledge of ocean issues in Greece** Athanasios Mogias
	10:40	**Incorporating Ocean Literacy into the Learning Strategy of the Titanic Belfast Visitor Attraction** Susan Heaney
	11:00	**Tea and coffee break**

Session 4	Report back from Workshops/Discussion Rolle Building 018 Lecture Theatre	
Chair: Jon Parr	11:30	**Panel Discussion** EU/UK Experts
	12:30	**Lunch**

Session 5	Marine Education in Practice Rolle Building 018 Lecture Theatre	
Chair: **Geraldine Fauville**	13:30	**Session Introduction** Geraldine Fauville
	13:40	**How to Create Marine Outreach Programs that work** John Joyce
	14:00	**How do we get the ocean into the classrooms?** Jamie Buchanan
	14:20	**Think like a Scientist** Elisabet Brock
	14:40	**International Student Carbon footprint Challenge** Pam Miller
	15:00	**Bringing Northern Ireland's inhabitants to the land's edge, and then a little further** Kerrie Whiteside
	15:20	**Tea and coffee break**

Session 6	Linking scientists with Marine Education Rolle Building 018 Lecture Theatre	
Chair: **John Spicer**	15:50	**Session Introduction** John Spicer
	16:00	**The development and delivery of a NE maritime curriculum** Annie Russell & Susan Gebbels
	16:20	**Virtual Marine Scientist** Geraldine Fauville
	16:40	**Life Adrift – teaching marine science using plankton** Clare Buckland
	17:00	**Why does the sea foam?** Victor Martinez Vicente
	17:20	**The Micro B3 Project** Anna Klindworth
	17:40 – 17:50	**Wrap up/information about fieldtrips** Fiona Crouch
	19:00 – 22:30	**Conference Dinner** National Marine Aquarium

Thursday 5th September	
	Fieldtrips Please see the pre-conference information for further details: • Slapton Ley Field Studies Centre (FSC) • National Marine Aquarium – Just Add H^{20} • From Anemones to Zooplankton • Blue Sound Snorkelling

International Student Carbon Footprint Challenge

Miller, P.[1], Fauville, G.[2], Hodin, J.[1], Thorndyke, M.[2], Dupont, S.[2] and Epel, D.[1]
[1]Hopkins Marine Station of Stanford University
[2]University of Gothenburg

In the International Student Carbon Footprint Challenge (ISCFC), students explore precisely how their different behaviors affect their carbon emissions through use of a digital tool that we designed specifically for high school students. This centerpiece of the ISCFC, our carbon footprint calculator (http://footprint.stanford.edu/calculate.html), is unique in its comprehensive, student-focused, inquiry-based approach, tailored to provide location-specific data for every country in the world. The calculator is scientifically validated with clear documentation, provides instantaneous feedback on the connection between specific behaviors and emissions, and allows students to save their data for future use.

Students calculate the carbon impacts of their personal choices relating to transportation, home energy, diet and purchases. Following their calculations, classes submit their data and receive a pin on our world map, which shows their mean footprints and standard deviations. Then, students log on to a social learning network developed by our partners at Einztein (http://www.einztein.com), where they engage in asynchronous international dialog in microblog format, grappling with difficult issues arising from their footprints such as prioritizing "wants" and "needs," the pros and cons of nuclear energy, and ways of promoting sustainable development across the globe. The depth and passion of the student dialog has been inspiring. We invite all EMSEA participants to involve their classes in our quarterly ISCFC sessions

Pre-service teachers' knowledge of ocean science issues in Greece

Mogias, AM., Boubonari, TB., Markos, AM. and Kevrekidis, TK.
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It is widely accepted that the ocean defines almost everything on our planet, and therefore understanding its role, is essential to comprehend the planet upon which we base our well-being. The need for achieving high levels of ocean literacy, if we wish to take informed decisions and lifestyle choices which affect aquatic environments, is getting more important than ever nowadays. Considering the pivotal role of classroom teachers as important change agents in shaping environmental literacy of future generations, the present study analyzed the underlying factors contributing to ocean literacy and reasoning of 421 prospective primary school teachers in Greece. A 54-item survey instrument, aligned with the seven essential ocean literacy principles and the corresponding fundamental concepts, was used to measure respondents' understanding about ocean science issues. Item response theory was used to refine and validate the instrument as a reasonable measure of ocean content knowledge. Results revealed relatively low to moderate levels of content knowledge, which could be mainly attributed to the lack of integration of ocean issues into both formal education and teacher training curricula; furthermore, this is in line with the finding that the internet and mass media were indicated as the primary information sources for the participants to acquire knowledge on ocean issues. In conclusion, the study highlights an urgent need for reorienting teacher preparation programs in Greek Universities toward more emphasis on educational practices, which can establish a more meaningful and confident engagement with ocean issues.