

The 3rd eSTEeM Annual Conference STEM Futures – Reflecting on Teaching and Learning

6 May 2014

FINAL PROGRAMME

Time	Session	Venue
8:45 – 9:25	Registration and Coffee	Bay Reception/ Medlar and Juniper
9:25 – 9:30	Welcome and Introduction Nick Braithwaite and Keith Williams, eSTEeM Co-Directors	Hub Lecture Theatre
9:30 – 9:45	Opening Address Belinda Tynan, Pro-Vice Chancellor (Learning and Teaching) Are we fit for purpose for designing the learning and teaching experience of the future? The big global trends of 2050 provide a challenge for all an in increasingly globalised culture. Five key areas have been identified by the Oxford Martin Commission (2013) which provides insight into what may be facing us in the areas of Health, Technology, Demographics, Geo politics, Mobility and Sustainability. Recently, the Higher Education Academy suggested six 'new pedagogical ideas' for the future of an increasingly flexible HE that could be the way forward. With this in mind I pose a challenge to colleagues to consider whether these are suitable responses and whether we are moving quickly enough to disrupt our own thinking about learning and teaching.	Hub Lecture Theatre
9:45 – 10:15	Keynote Presentations Martin Weller, Professor of Educational Technology (IET) Learning Design - innovation & the institution. An overview of the learning design approach, and the approach to encourage innovation while using a universal approach across the University.	Hub Lecture Theatre

	<p>Viki Burnage, Head of Curriculum Management (Science) and Maria Kantirou, Senior Manager (e-learning) (MCT)</p> <p>Learning Design in Practice: What do you get out of it?</p> <p>In order for Learning Design to become an integral part of the planning and development of modules (and qualifications), module teams have to see the benefit of engagement during a period when time and resources are limited. This presentation will focus on the implementation of Learning Design within the Faculties of Science and MCT, how we have tailored the tools for our use, related the Learning Design output to the student workload calculator and how the output can inform the activity of the production team.</p>		
10:15 – 10:30	Coffee-to-go		Medlar and Juniper
10:30 – 11:30	Parallel Session - Short Oral Presentations		CMR 15
Session A Chair: Maggie King	Jon Rosewell	Practical activities in robotics: hands-on or simulator?	Can students learn practical skills at the computer or must they have hands-on practical experience? T184 Robotics offered two options: students could provide their own robot kit or work with a simulated robot. Student attitudes were surveyed, at the beginning and end of their study.
	Lee Page	Online Experimentation: Innovative Technologies to support Practical Investigations in Schools.	The Royal Society of Chemistry is developing an Online Experimentation website. This presentation will showcase the RSCs first interactive screen experiment. We will discuss how the product meets the needs of the student and reveal much of the pedagogical understanding we have gained in order to develop it thus far.
	Elaine Thomas, Sarah Davies and Steve Walker	Hybrid/Digital Networked Learning scruffy mongrel or sleek new breed? Practices and implications of blending physical and digital resources for learning in HE – progress to date.	The project explores how 'hybrid' digital material networked learning resources could radically change STEM education. The presentation will report on our systematic literature review and discuss early findings on 'hybrids', such as remote laboratories used in Engineering and Science, and how these suggest new patterns of learning interaction.
10:30 – 11:30	Parallel Session - Short Oral Presentations		CMR 11
Session B Chair: Jane Roberts	Emma Rothero	Flight of the Fritillary; an update.	Ideas needed for assessing volunteer engagement? The Flight of the Fritillary project has been running for three years, establishing volunteer groups to collect scientifically robust data both on the rare snakeshead fritillary and declining bumblebee populations; but how

			engaged are our volunteers? How can we assess this without being too invasive? We would welcome any suggestions.	
	Nigel Mason, Rachel Ferris, Clem Herman and Rosaria Gracia	e-Ambassadors: Exploring innovative methods to embed employability in practice based STEM distance learning.	This project presents student concerns and recommendations from an investigation into the use of online technologies for the delivery of careers and employability advice to distance learning STEM students. This research was a partnership between two Open University (OU) Faculties (Maths, Computing and Technology and Science), the OU Careers Advisory Service, and STEMNET.	
	Martin Reynolds	Building a community of practice and employer engagement to enhance Systems Thinking in Practice.	The eSTEEem project Building a community of practice and employer engagement to enhance Systems Thinking in Practice began in January 2014. The presentation outlines the project aims, how it will systemically achieve these aims, and the significance for continual professional development in complex work situations of uncertainty in any domain.	
10:30 – 11:30	Parallel Session – Workshop/Demonstration			Cedar Training Room, Wilson C Block
Session C	Tom Argles, Shailey Minocha and Brian Richardson	3D virtual geology field trip: Exploring its potential and limitations through a hands-on session.*	As a part of the OU's OpenScience Laboratory, we have developed a 3D virtual Geology field trip based around Lake District's Skiddaw mountains. In this workshop, a hands-on session will follow after an introductory-presentation/demo. We will discuss attendees' perceptions on: usability, and opportunities and limitations of 3D field trips.	<i>*Please note that this session is limited to 15 participants on a first come first served basis. The workshop may be repeated in the afternoon if there is sufficient demand.</i>
11:45 – 12:30	Poster Presentations			Hub Lecture Theatre
12:30 – 13:15	Lunch Delegates are invited to continue browsing posters and speaking to presenters over lunch.			Medlar and Juniper

13:15 – 14:15	Parallel Session – Workshop/Demonstration			CMR 1
Session D	Helen Donelan, Clem Herman and Ann Grand	How STEM academics are using social media: a game of snakes and ladders.*	This interactive workshop will use findings from two research projects concerned with the use of social media for professional development and engagement to encourage participants to think about how they <i>currently</i> use, and how they <i>could</i> use, social media. The output of the workshop will inform university strategies on the use of social media.	<i>*Please note that this session is limited to 30 participants on a first come first served basis.</i>
13:15 – 14:15	Parallel Session – Structured Discussion/Briefing			CMR 11
Session E	Ruth Williams, Eleanor Crabb and Simon Collinson	Challenges of embedding (retrofitting!) PDP and Employability skills into an UG qualification.	This discussion covers graduate skills: online delivery, assessment and tracking and their incremental development within a pathway. Particular issues include: <ul style="list-style-type: none"> • Identifying key skills categories • Defining skills categories • Retrofitting employability skills development in existing qualifications/modules • Changing pathway composition as modules are rewritten • Development of University PDP? 	
13:15 – 14:15	Parallel Session – Workshop/Demonstration			CMR 15
Session F	Nick Braithwaite, Iain Gilmour, Jonathan Silvertown, Emma Rothero, Ulrich Kolb and Eloy Villasclaras-Fernandez	Science and the citizen.	Involving non-specialists in the gathering and analysis of scientific data is one way for publicly funded scientists to give added value to their funders. There are currently many public engagements in the form of "citizen science" activities and the OU has a number of fine examples: iSpot, Treezilla, Flight of the Fritillary and Sense-it. But what makes an effective citizen science task or enquiry and what type of progression can we offer to the citizen science community?	
14:15 – 14:30	Afternoon tea-to-go			CMRs 1, 11 and 15
14:30 – 15:30	Parallel Session – Short Oral Presentations			CMR 15
Session G	Victoria Nicholas,	Student perception of online practical science.	Anecdotally students have a negative perception of the value of online practical science before starting to study.	

Chair: Tom Argles	David Robinson and Steve Swithenby		Many appear to enrol because the module is a compulsory requirement and are sceptical about how much “real science” they will be learning. We aim to find out whether their perceptions are affected by the experience of study.	
	Janet Haresnape	Student perceptions of an assessed online collaborative activity on S366 (Evolution).	Student perceptions of a collaborative online assessed activity based on contributions to a series of wiki pages were explored by both telephone interviews and an online questionnaire. The importance of collaboration, authenticity and the feeling of responsibility towards peers, by more and less able students, were compared.	
	John Woodthorpe, Jim Donohue and Sarah Mukherjee	How students’ use of language relates to learning, retention, and performance in assessment on TU100.	Do students with better language skills perform better in assignments on a level one Computing & IT module? Early indications are that they do. So what are the implications for learning design, assessment strategy and tuition practices for this module, the MCT Faculty, and STEM?	
14:30 – 15:30	Parallel Session – Short Oral Presentations			CMR 11
Session H Chair: Keith Williams	Chris Douce	What are the views of our e-business tutors? A focus group to inform tutor-centred pedagogic research.	The OU’s ebusiness technologies module, having been first presented in 2008 is due to end in 2015. This presentation shares the experiences and opinions from some of its tutors, gathered through a focus group. These tutor experiences have the potential to inform the development of future modules and research projects.	
	Jeff Johnson, Paul Bourguine, Jorge Louçã, Cristian Jimenez Romero, David Rodrigues and Jane Bromley	The UNESCO UniTwin Digital Campus for Complex Systems: a global experiment in high-quality no-cost education.	The OU is a founder member of the UNESCO CS-DC (Complex Systems Digital Campus) which networks hundreds of universities worldwide for international collaborations in research and teaching. The CS-DC will provide no-cost certificated education to thousands of postgraduate students through its unique and innovative approach to massive open online courses.	
	Helen Jefferis, Chris Dobbyn and Frances	iCMAs: Who needs them?	In this presentation we address moves to online assessment using interactive computer marked assignments (iCMAs).	

	Chetwynd		
15:45 – 16:15	Closing Keynote Presentations		Hub Lecture Theatre
	<p>David Brannan, Emeritus Professor (MCT)</p> <p>The KHAN ACADEMY: how it works for students and tutors. <i>Khan Academy</i> is a [relatively] ‘new kid on the block’, offering learning resources to students and teaching resources to tutors, using a large collection of (mostly mathematical) screencasts. What makes it so successful? Why do learners like it so much? Why do tutors find it such a good teaching system?</p> <p>Mike Sharples, Chair in Educational Technology (IET)</p> <p>FutureLearn: massive open social learning. FutureLearn is a new MOOC platform that has been developed to support massive-scale social learning, based on principles of effective pedagogy. As well as providing teaching from world-leading academics through video and text on multiple devices, our aim has been to create a community of FutureLearners who share ideas, hold engaging discussions, and support each other. And rather than struggling to prevent failure and dropout, we have chosen to reward success at each step. Each decision about design of the FutureLearn platform has been made to support these three principles of: world-class storytelling, social learning, and celebrating progress. I shall describe the design principles of FutureLearn, the theory-informed agile development process, and a summary of data and findings from the initial courses.</p>		
16:15	Close		