

**Horizons in STEM Higher Education Conference: Making Connections, Innovating and Sharing Pedagogy
29-30 June 2021, via MS Teams**

PROGRAMME

9:00-9:15	Registration Day One: Horizons in STEM Higher Education Conference: Tuesday 29th June			
	Helpdesk			
9:15-9:20	Welcome and Introduction			
	Main Room			
	Trevor Collins, Director eSTeEM, The Open University			
9:20-9:30	Opening Address			
	Main Room			
	Professor Nicholas Braithwaite, Executive Dean, Faculty of STEM, The Open University			
9.30-10.00	Opening Keynote Presentation			
	Main Room			
	Paul Taylor, Professor of Chemical Education & Dean: Student Education (Experience), University of Leeds			
	<i>Success for All Students in the STEM Curriculum</i>			
10:00-10:15	Break			
10:15-11:15	Short Orals: Assessment 1 Chair: Sue Pawley Room A	Short Orals: EDI 1 Chair: Cristina De Matteis Room B	Short Orals: Active Learning 1 Chair: Derek Raine Room C	Short Orals: Laboratory Work 1 Chair: Sally Smith Room D
	<i>Enhancing learning through online open book MCQ examinations – an example from the Biosciences</i>	<i>A case study for connective learning: connecting students, tutors and subject</i>	<i>Addressing the challenges of delivering a laboratory class when students are miles away</i>	<i>Supporting the affective dimension of laboratory learning in the biosciences with virtual laboratory software</i>
	Alfred Thumser, Ian Bailey, Sarah Bailey, Rita Jabr and Simon Lygo-Baker	Stephanie Bridges	Sarah K. Coleman and Caroline Smith	Danielle L Knight and Ian G Bailey
	<i>Multiple True-False quizzes with unlimited attempts</i>	<i>Using food to encourage a sense of belonging at university: The Cultural Food Stories project</i>	<i>Flipping the classroom: results from a pre-pandemic study to inform the post-pandemic future</i>	<i>Summative assessment and digital collaboration: scaffolding reflection in laboratory learning</i>
	Mark MacDonald	Hilda Mulrooney, Mau Lola, Ashley Nabukenya Ndenzi,		Rebecca Ferrari and Christof Jaeger

		Chidera Nnadozie, Fatmata Sow and Maya India Jackson	Charlotte Price and Maria Walker	
	<i>You Have 10 Minutes of My Attention – Using Time as the Criterion for Assessment Deliverable</i> Sean Lancaster and Martin Ould	<i>The value of the Personal Tutor Scheme (PTS) as a mechanism of supporting belonging in an online world</i> Paty Paliokosta, Karen Lipsedge, Matthew Cunningham, Christopher Barker, Gianpiero Calebrese, Hilda Mulrooney, Konami Groves, Rachel Davies, Penny Burden, Joanna Bailey and Mel Topcu		<i>#DryLabsRealScience a collaborative network addressing the virtual</i> David Smith, Nigel Francis, Ian Turner, Tom Bassindale and Robert LeSuer
11:15-11:30	Break			
11:30-12:30	Short Orals: Blended and Online Learning 1 Chair: Jan Kowal Room A	Short Orals: EDI 2 Chair: Julie Robson Room B	Short Orals: Transitions and Student Support 1 Chair: Alix Blockley Room C	Learning Science Workshop - Teaching Innovation Award Winners 2020 Chair: Trevor Collins Room D
	<i>Attitudes and Aptitudes in an Interdisciplinary STEM Programme</i> Sarah Gretton, Derek Raine and Cheryl Hurkett	<i>How students' inspirations and aspirations impact motivation and engagement in the first year of study</i> Mel Lacey, Hollie Shaw, Caroline Dalton and David Smith	<i>Flexible STEM education for a post-pandemic world: a case study in Computer Science</i> Neil Gordon	<i>Smart Worksheets to Identify Student Numeracy Skills in the Division of Natural Sciences</i> Alexandra Moores and Francis Samra **
	<i>Employing a Socratic Dialogue when creating online lecture content</i> Sion Hannuna	<i>Inclusivity in academic support: Can strategies to support remote learning help to narrow the gap?</i> Nicola Swann, Hannah J. Moir, Frank Owusu-Sekyere, Taz Baker and Jeanette Dahl	<i>Statistics Service Teaching: What type of support should we provide?</i> Rachel Hilliam and Carol Calvert	<i>A Virtual Practical Produces Surprising Results</i> David Gould and Sadani Cooray **
	<i>An investigation of how Jupyter Notebooks enhance</i>	<i>Perceptions of science research: visibility and accessibility of</i>	<i>Opportunities and challenges of online mathematics support</i>	<i>The impact of effective online design and the use of Learning Science resources</i> Juliet Stoltenkamp, Carolynne Kies and Faghad Khan

	<i>students learning of data management and analysis</i> Sharon Dawes, Chris Thomson, Stephen Bowles and Stephen Rice	<i>science research as a career in post-16 Biosciences and Chemistry students</i> Mel Lacey, Rachel Schwartz-Narbonne, Susan Campbell, Alex Hamilton, Catherine Duckett and Katherine Rawlinson	Holly Gilbert, Duncan Lawson, Mark Hodds, Lara Gildhaus, Mirko Shurmann and Michael Liebendoerfer	** <i>The Use of an Inclusive Curriculum Framework to close a BAME module award gap</i> Neil Williams
12:30-13:30	Lunch			
13:30-14:00	'Birds of a Feather' Networking Session			
Room BoF 1	BoF Topic 1 Facilitators: Simon Grey and Neil Gordon	<i>Learning from the pandemic</i>	<i>What should the new normal look like?</i> Over the past 16 months we've had to rapidly adapt ourselves and our teaching to a new way of functioning. Some adaptations have been successful, and some less so. As we ease our way back to face to face teaching what lessons have we learned – what worked and what didn't, and what practices should we carry forward to ensure that our teaching is better than ever with a truly blended approach?	
Room BoF 2	BoF Topic 2 Facilitator: Mark Jones	<i>Can we use Course Level assessment for STEM subjects?</i>	How can we support our graduates in studying their whole subject rather than compartmentalising their learning into modules? What approaches can we use to move away from module assessment to a more course-based approach? Are you already doing this, and would you be willing to share some good practice?	
Room BoF 3	BoF Topic 3 Facilitator: Trevor Collins	<i>Tools and Techniques for Effective Hybrid Teaching</i>	Over the past year, teaching staff have had to rapidly get to grips with online teaching and learning. As we move forward into the future, it is likely that we will need to become proficient with running Hybrid teaching sessions – where some students are co-present in a teaching space, whilst other students access the session remotely. The aim of this discussion is to share experiences on how such Hybrid teaching sessions can be best achieved.	
Room BoF 4	BoF Topic 4 Facilitator: Alison Graham	<i>How do we best support under-represented students whilst they are at university?</i>	In recent years, there has been a focus on supporting students from under-represented groups to apply to university but less focus on supporting these students once they are at university. Do these students need support in specific areas and how do we best deliver that support in an inclusive way?	

Room BoF 5	BoF Topic 5 Facilitators: Rachel Cornish and Mansi Patel	<i>Students should co-create STEM curricula: let's ruffle feathers with a student-led debate!</i>	We are Biomedical Science students and also Student Lecturers. We would be interested to have a discussion with staff (and any students present) to debate the extent to which students are currently involved as equal partners in the creation of STEM courses, and to recommend the Student Lecturer model.	
14:00-15:00	Short Orals: Assessment 2 Chair: Nicola McIntyre Room A	Short Orals: Employability, WBL and Apprenticeships 1 Chair: Elinor Jones Room B	Short Orals: Active Learning 2 Chair: Sarah Gretton Room C	Workshop 1 Chair: Duncan Parker Room D
	<i>Searching for Best Practice in the Successful use of Mark Schemes: Top Ten Tips for Successful Post-hoc Marking</i> Simon Lock, Lucy Berthoud and Becky Selwyn	<i>Supporting activities to embed creativity and innovation as an implicit part of the bioscience student experience</i> Francesca Mackenzie, Anna Morgan, Michael Stolinski, Amanda Baker, Dwain Reid, Martha Mador and Nigel Page	<i>Interdisciplinary Co-creation for active learning of immunology concepts</i> Eva Malone, Richard Firth and Iain Macdonald	<i>Developing online collaborative design and prototyping for a Gold Standard Project Based Learning (GSPBL) Multi-disciplinary Project</i> Avalon Cory and Corrina Cory
	<i>Implementation of exam proctoring for an end of module exam: Case study from the department of Pharmacy at Kingston University</i> Ali Al-Kinani, Shereen El Nabhani, John Fletcher and Kyren Burns	<i>Structured Biomedical Sciences Honours Projects: A Protocol for Resilience and Preparedness for the World of Work During the Pandemic?</i> Claire Garden	<i>Inclusive inter-disciplinary outreach: Learning in action, learning from action</i> Jane Essex and Margaret Cunningham	
	<i>Peer Assessment through Comparative Judgement: setting and assessing less structured mathematics questions</i> David Sirl	<i>Outreach in the curriculum: Skills development in undergraduate and postgraduate Biosciences and Chemistry students</i> Katherine Rawlinson, Susan Campbell, Amber Shakeel, Harry Linsley and Melissa Lacey	<i>Design, Development and Evaluation of a Green Chemistry Concept Inventory</i> Barbara Villa Marcos, James Bennett and Mohamed Hamud	
15:00-15:15	Break			

15:15-16:15	Short Orals: Pedagogical Research 1 Chair: Julie Robson Room A	Short Orals: Sustainability 1 Chair: Alix Blockley Room B	Short Orals: Transitions and Student Support 2 Chair: Neil Gordon Room C	Workshop 2 Chair: Mark Jones Room D
	<i>Disciplinary literacies in STEM: What do undergraduates read, how do they read it, and can we teach scientific reading more effectively?</i> Katharine Hubbard	<i>A sustainability snapshot within a large post-92 university from different perspectives</i> Hilda Mulrooney and Lisa Chevallereau	<i>Student use of digital experience insights and transitions data to develop data literacy via undergraduate MPharm research projects</i> Elizabeth Newall, Cristina De Matteis, Stephanie McDonald, Helen Boardman, Vibhu Solanki, Celine Thien, Chidubem Ugwu, Madihah Hussain and Po Kamta	<i>What should an inclusive and student-centred timetable look like post-COVID-19?</i> Nigel Page, Gary Forster-Wilkins and Mark Bonetzky
	<i>The Importance of Problem Solving in Maths Online Teaching</i> Ksenia Shalnova	<i>Computing student attitudes to environmental sustainability education</i> Sally Smith, Callum Egan and Christina Plum	<i>Forging friendships in first year: CS entrants' reflections on collaborating in a small-group, large-class setting</i> Jyoti Bhardwaj	
	<i>Training the Lively Mind: Toward a Signature Pedagogy for Cybersecurity</i> Ashley Gess	<i>Enhancing Programme Management to enable Programme Leadership: A Roadmap for Programmes</i> Eva Malone, Adam Satur, James Fontana and Steve Yorkstone	<i>What's the point of A-levels?</i> Nicky King	
16:15-16:30	Break			
16:30-17:30	Short Orals: Assessment 3 Chair: Neil Williams Room A	Short Orals: Employability, WBL and Apprenticeships 2 Chair: Sarah Gretton Room B	Short Orals: Transitions and Student Support 3 Chair: Duncan Parker Room C	Short Orals: Pedagogical Research 2 Chair: Elinor Jones Room D
	<i>Integrated Assessment in Brunel Design Programmes</i>	<i>Two Years into a Level 6 Laboratory Scientist (Chemistry)</i>	<i>Transition and support experiences of first-year STEM</i>	<i>Design and application of the LivChoices web app to signpost</i>

	Hua Dong and Stephen Cockett	<i>Degree Apprenticeship: A Reflection</i> Barbara Villa Marcos, Oscar Siles Brugge, James A. Bennett, Trevor Farren, Kyle W. Galloway, Katherine Jolley, Glenn Lees, Sian Masson and Jonathan McMaster	<i>students in distance learning universities</i> Maria Aristeidou	<i>programme pathways for C100 Biological Sciences students</i> Rachel Floyd, Zenobia Lewis and Robert Treharne
	<i>Flipped Feedback – Engaging Students with the Feedback Process</i> Nigel Francis, Kathryn Sinclair and Owen Bodger	<i>Cross-disciplinary perceptions of research-informed teaching</i> David Smith, Libby Allcock, Lewis Partington, Jo Lidster, Girish Ramchandani, Jon Wheat and Mel Lacey	<i>Exploring and supporting undergraduate students’ digital learning transition from school to university</i> Stephanie McDonald, Cristina De Matteis, Elizabeth Newall, Fiona McCullough, Lisa Mott, Barbara Villa Marcos, Vibhu Solanki, Nicholas Rea, Rossana Wright, Steven Bagley, Steven Bamford, Qingqi Wang and Anshul Lau	<i>Students as Partners in Scholarship of Teaching and Learning – Lessons from Practice</i> Cath Brown, Jenny Duckworth, Charlotte Hancox and Catherine Halliwell
	<i>Engaging students through feedback at scale on an introductory programming course</i> Simon Grey and Neil Gordon	<i>Student agency in a chemical engineering curriculum: perceptions, connections, and critical thinking</i> Mark Haw, Steven Pisani and Conor Teahan	<i>Moving beyond a threshold – developing writing skills in a Bioscience undergraduate cohort</i> Alfred Thumser, Sarah Bailey and Simon Lygo-Baker	<i>Learning & Teaching Adjustments within the Mathematical Sciences in Response to the Covid-19 Pandemic</i> Michael Grove, Matthew Henley, Rachel Hilliam, Kevin Houston and Duncan Lawson
17:30-18:00	Wine Down Main Room A chance to come together with other delegates and reflect on the highlights from day one over a tipples of your choice!			
18:00	Close of Day One			

9:15-9:30	Registration Day Two: Horizons in STEM Higher Education Conference: Wednesday 30 th June Helpdesk			
9:30-10:30	Short Orals: Assessment 4 Chair: Trevor Collins Room A	Short Orals: EDI 3 Chair: Elinor Jones Room B	Short Orals: Active Learning 3 Chair: Cristina De Matteis Room C	Short Orals: Laboratory Work 2 Chair: Neil Williams Room D
	<p><i>Evaluation of students' employability skills development and the use of radar diagrams in Personal Development Planning</i></p> <p>Fiona Aiken and Christopher Hutton</p>	<p><i>Study skills for scientists - are students prepared for the transition to a science degree?</i></p> <p>Katherine Rawlinson, Elise Charlton and Susan Campbell</p>	<p><i>Does taking part in a healthy lifestyle challenge enhance student learning and change their attitudes to people living with obesity?</i></p> <p>Louise Dunford, Yannan Jin, Agata Buczak, Amena Abdulla and Zoe Redshaw</p>	<p><i>Challenges and Opportunities for Online Practical Work in Sub-Saharan Africa</i></p> <p>Femi Babalola and Sina Fakoyede</p>
	<p><i>Curriculum review for 1st year Mechanical, Aerospace and Civil Engineering</i></p> <p>Lucy Berthoud, Sean Lancaster and Mark Gilbertson</p>	<p><i>Supporting Students' Scientific Writing in the Age of COVID: Taking Kingston University's SEC Academic Success Centre (SASC) Online</i></p> <p>Simon Lambe and Maia Ibsen</p>	<p><i>Using a SLICC (Student-led Individually Created Course) and the RDF (Researcher Development Framework) to capture the experiential learning of a cohort of interdisciplinary PhD students on an industry project</i></p> <p>Layla Mathieson, Kirsty Ross, Jean O'Donoghue and Fumi Kitagawa</p>	<p><i>Cloud Computing in Computer Science Education</i></p> <p>Matt Collison and Achim Bruker</p>
	<p><i>"Discussion boards don't work": Evaluation of a course blog for teaching with Second Year Bioscientists</i></p> <p>Chris Willmott</p>	<p><i>An Appraisal of Apprentices' Satisfaction and Engagement</i></p> <p>Nnedinma Umeokafor, Hasan Haroglu, Lily Dixon, Imogen Dyer and Kieran Turner</p>	<p><i>Problem-Based Tuition in Blended Environments</i></p> <p>Derek Raine, Sarah Gretton and Dylan Williams</p>	<p><i>Home Lab kits: a COVID anomaly or a learning innovation to promote 'playful' Engineering? Reflections on their development, delivery, and impact on learning</i></p> <p>Jude Bramton, Sean Lancaster, Joel Ross and Becky Selwyn</p>
10:30-10:45	Break			

10:45-11:45	Short Orals: Blended and Online Learning 2 Chair: Mark Jones Room A	Short Orals: EDI 4 Chair: Neil Gordon Room B	Short Orals: Transitions and Student Support 4 Chair: Julie Robson Room C	Workshop 3 Chair: Derek Raine Room D
	<p><i>Exploring belonging in an online world: perspectives of staff and students</i></p> <p>Lija Abu, Craig Chipfuwamiti, Adrian Costea, Alison Kelly, Krisztina Major and Hilda Mulrooney</p>	<p><i>Practitioner examples of improving accessibility in online tuition</i></p> <p>Rachel Slater, Anne Campbell, Elaine McPherson and Christine Pearson</p>	<p><i>Professional Practice, Accreditation and Citizenship: Embedding Equality, Diversity and Inclusion in Engineering Programmes</i></p> <p>Corrina Cory and Avalon Cory</p>	<p><i>A Table-Top Role-Playing Game (TTRPG) for developing Higher Education employability skills</i></p> <p>Ian Turner and Louise Robinson</p>
	<p><i>The Virtual Palaeosciences Project: connecting, innovating and sharing online pedagogies in a traditionally hands-on field</i></p> <p>M. Jane Bunting</p>	<p><i>Widening Participation by Effective Outreach in Chemistry</i></p> <p>Andrea Mallaburn, Linda Seton and Victoria Brennan</p>	<p><i>Maintaining Engineering Students' Sense of Community through a Peer Assisted Study Scheme</i></p> <p>Sean Lancaster, Aaron Grice and Lucy Rycroft</p>	
	<p><i>Evaluation of NUMBAS software for creating undergraduate chemistry online lab resources</i></p> <p>Frances Docherty, Beth Paschke and Ellecia Queen</p>	<p><i>Demographic gaps in physics attainment and degree outcomes</i></p> <p>Arran Stirton, Holly Hedgeland, Annika Lohstroh and Sally Jordan</p>		
11:45-12:15	<p>Closing Keynote Presentation Main Room Professor Jon Scott FRSB, Higher Education Consultant and Emeritus Professor of Bioscience Education, University of Leicester <i>Fragmented transitions: Reflections on student progression to and within university</i></p>			
12:15-12:30	<p>Awards, New Directions Submission Process and Closing Remarks Main Room</p>			
12:30	<p>Conference Close</p>			