

STEM Teacher Education - Initial and Continuing professional development

St. Patrick's Campus, Dublin City University

16th – 17th June 2016

Thursday 16 th June				
08:30	09:30	Registration		
09:30	09:45	Opening address		
09:45	10:45	Plenary 1: E223		
		Dr Andreas Stylianides, <i>Intervention-based research in mathematics teacher education</i> Chair: Dr. Therese Dooley		
10:45	11:10	Coffee		
11:10	12:10	Parallel session 1 (E403)	Parallel session 2 (E401)	Parallel session 3 (E406)
12:15	13:30	Parallel session 4(E403)	Parallel session 5 (E401)	Parallel session 6 (E406)
13:30	14:30	Lunch		
14:30	15:30	Plenary 2: E223		
		Prof. Shirley Simon, <i>Advancing the professional development of science teachers through engagement with research</i> Chair: Dr. Eilish McLoughlin		
15:30	15:45	Coffee		
15:45	16:45	Plenary 3: E223		
		Dr. Sara Hennessy, <i>School-based professional development for interactive teaching with technology: lessons learned from initiatives in UK and Africa</i> Chair: Dr. Deirdre Butler		
16:45	17:15	E223		
		Dr. Brian Trench <i>Cultural Contexts of Science Education and Science Communication</i>		
19:15		Conference dinner		
Friday 17 th June				
09:30	10:30	Plenary 4: E223		
		Prof. Thomas Guskey, <i>Designing and Evaluating Effective Professional Learning</i> Chair: Dr. Orla Kelly		
10:30	11:00	Coffee		
11:00	12:00	Parallel session 7 (E401)	Parallel session 8 (E403)	
12:10	13:10	Parallel session 9 (E403)	Parallel session 10 (E401)	
13:10	14:00	Lunch		
14:00	15:00	Parallel session 11(E403)	Parallel session 12 (E401)	
15:00	16:00	Plenary 5: E223		
		Dr. John O'Reilly, <i>Preparing the ground: considerations on cultivating scientific inquiry through curriculum</i> Chair: Dr. Paul van Kampen		
16:00	16:15	Conference Close		

Thursday 16th June 2016 11:10-12:10

Session	Author	Title
Parallel Session 1 E403	Caitríona Ní Shé, Sinéad Breen, Connor Brennan, Frank Doheny, Christine Kelly Fiona Lawless, Ciarán Mac an Bhaird, Seamus McLoone, Eabhnat Ní Fhloinn, Brien Nolan and Ann O'Shea	Assessment for learning: Resources for first year under graduate mathematics modules
	Diarmaid Hyland, Brien Nolan and Paul van Kampen	Investigating students' difficulties with differential equations in physics
	Gráinne Walshe, Jennifer Johnston and George McClelland	Integrating mathematics into science: Collaborative curriculum design
Parallel Session 2 E401	Alison Cullinane, Sibel Erduran and Paul Conway	Initial science teacher education on nature of science: A family resemblance approach
	Louise Lehane and Gráinne Walshe	Teacher-based curriculum development incorporating nature of science in Irish junior cycle science
	Kathy O' Sullivan, Niamh O' Meara and Paul F. Conway	Teaching Numeracy as a cross curricular subject in post-primary school
Parallel Session 3 E406	Mareike Frevert and David-Samuel Di Fuccia	Contemporary Science in chemistry teacher education – the conception of an empirical study
	Samantha Pugh and Michael Grove	Engaging Students in Pedagogic Research and Teaching Enhancement in Tertiary Science and Mathematics
	Anna Walshe	Curriculum development- teachers as active agents of change

Thursday 16th June 2016 12:15-13:30

Session	Author	Title
Parallel Session 4 E403	Stephen Quirke, Paul F. Conway, Niamh O'Meara and Olivia Fitzmaurice	Educational policy reform documents: 'Oughtering' the designated identities of mathematics teachers
	Filomena Rodrigues and Maria Mogarro	Student teachers' identity perceptions in the beginning of professional practice: Pre-service versus in-service
	Lorraine Harbison, Ingrid Duncan, David McAndrew and Sarah O'Brien	Student teachers' experience of reflective practice in the mathematics classroom
	Louise Lehane, John O'Reilly and Geraldine Mooney-Simmie	Understanding the interactions between pre-service science teachers within a learning community focused on enhancing scientific inquiry orientations
Parallel Session 5 E401	Joseph Roche	CPD strategies for teachers and scientists in higher education
	Ciara Lane, Fiona Faulkner and Aoife Smith	A CPD programme for out-of-field mathematics teachers: Programme outline and preliminary evaluations by participants
	Monica Ward and Gary Conway	Helping Teachers to Teach Coding
	Eamon Costello, Mark Brown, Enda Donlon, Monica Ward and Deirdre Butler	Massive Open Online Coding: Exploring the role of MOOCs for post-primary computing education in Ireland
Parallel Session 6 E406	Paul Grimes, Odilla Finlayson, Eilish McLoughlin and Paul van Kampen	Patterns of discourse in pre-service teachers' explanations
	John Murphy	Using physics and technology in mathematics lessons to encourage a growth mind-set
	Richard Moynihan, Paul van Kampen, Odilla Finlayson and Eilish McLoughlin	Progress and difficulties in student's understanding of vector and field concepts in electrostatics: A qualitative study of a small group of upper secondary students
	Sven Schimek, Knut Wille, Henning Rode and Gunnar Friege	Learning with optical blackbox-experiments

Friday 17th June 2016 11:00-12:00

Session	Author	Title
Parallel Session 7 E401	Carolina Kearney and Marina Jiménez-Iglesias	Is there a shortage of STEM teachers in Europe?
	Peter Childs, Sarah Hayes and Orla McCormack	The TEMIFICATION of science teaching: Using mysteries to initiate inquiry
	Pauline Hoyle	How effective evaluation and a strategic approach to CPD can support school improvement: implications for teachers, schools and CPD providers
Parallel Session 8 E403	Aisling Leavy, Mairéad Hourigan and Claire Carroll	The effect of reform curricula on pre-service teachers' attitude towards mathematics on entry to initial teacher education
	Aoibhinn Ní Shúilleabháin, Patrick Johnson, Mark Prendergast and Máire Ní Ríordáin	Pre-service mathematics teachers' concerns and attitudinal beliefs on implementing curriculum reform
	Emma Howard, Maria Meehan and Aoibhinn Ní Shúilleabháin	Students' sense of belonging to maths in the transition from post-primary to tertiary education

Friday 17th June 2016 12:10-13:10

Session	Author	Title
Parallel Session 9 E403	Madeline Hickey and Pauline Connolly	Promoting and advancing the teaching of science for students with special educational needs
	Penny L Humby and Cliona Murphy	An evaluation of a national continuous professional development programme in science education for Irish primary school teachers.
	Karen Sheeran, Sandra Austin, Odilla Finlayson, Maeve Liston, Tom McCloughlin, Cliona Murphy and Greg Smith	The RDS STEM Learning Programme: Challenging science facilitation
Parallel Session 10 E401	Louise McFadzean, Nichola Mortimer, Ruth Chadwick, Eilish McLoughlin and Odilla Finlayson	Assessment of scientific literacy in the Scottish curriculum for excellence
	Laurie Ryan and Peter Childs	To develop, implement and evaluate a transition year module based on the principles of the Teaching Enquiry with Mysteries Incorporated project
	Sibel Erduran, Regina Kelly, Liam Guilfoyle and Gráinne Walshe	Step into science project: Engaging students, teachers and parents in debates

Friday 17th June 2016 14:00-15:00

Session	Author	Title
Parallel Session 11 E403	Declan Cathcart	Myths and misconceptions among students and teachers about the nature of science
	Ruth Chadwick, Eilish McLoughlin and Odilla Finlayson	Teaching and assessing socio-scientific research in pre-service teacher education
	Enda Carr, Odilla Finlayson and Eilish McLoughlin	PCP as a bridge between Theory and Practice in Chemistry Education
Parallel Session 12 E401	Morten Rask Petersen and Claus Michelsen	Interdisciplinary science teacher education in Denmark
	Majella Dempsey, Niamh Burke and Ann O'Shea	Role of technology in promoting formative assessment practices in science and mathematics classes
	Leeanne Hinch, Odilla Finlayson and Eilish McLoughlin	Evaluation of the Impact of SAILS IBSE and Assessment Teacher Education Programme