



SMEC 2014 | SAILS: *Thinking Assessment in Science and Mathematics*
Dublin City University, Dublin Ireland



The following schedule presents a guide for what you will expect at this year's SMEC 2014 | SAILS conference

CONFERENCE PROGRAMME: TUESDAY 24 TH JUNE 2014						
08:30	Registration – <i>Lobby of Nursing Building, DCU</i>					
09:00	Welcome & Opening address – <i>HG23, Nursing Building</i> Dr. Odilla Finlayson, Coordinator of SAILS					
09:30	Plenary 1 – <i>HG23,</i> Professor Wynne Harlen, UK , <i>Assessment in support of inquiry-based education</i>					
10:30	Coffee Break					
11:00	Welcome & Launch – <i>HG23,</i> Sean Sherlock TD Minister of State, Department of Enterprise, Jobs & Innovation Professor John Costello, Dean of Faculty of Science and Health, Dublin City University					
11:30	Plenary 2 – <i>HG23,</i> Professor Beno Csapo, <i>Defining an assessment of cognitive outcomes of inquiry based science education</i>					
12:30	Lunch & Refreshments					
Parallel Sessions						
13:45	OR1 <i>HG07</i>	OR2 <i>HG19</i>	OR3 <i>HG17</i>	WS1 <i>HG18</i>	WS2 <i>NG22, Physics</i>	WS3 <i>HG10</i>
Parallel Session						
14:45	OR4 <i>HG07</i>	CP1 <i>HG19</i>	CP2 <i>HG18</i>	CP3 <i>HG17</i>	CP4 <i>HG10</i>	
15:45	Poster Presentations, P1-P28 and Coffee Break					
16:45	Plenary 3 – <i>HG23, Nursing Building</i> Professor Malcolm Swan, <i>Designing formative assessment in mathematics</i>					
17:45	Wrap-up Day 1					
18:15	Pick up for Conference Dinner in City Centre					



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CONFERENCE PROGRAMME: WEDNESDAY 25 th JUNE 2014						
09:15	Plenary 4 – HG23, Professor Paul Black and Dr. Christine Harrison, <i>Assessment in the Pedagogy of Inquiry</i>					
10:15	Coffee Break					
	Parallel Session					
10:45	OR5 HG07	OR6 HG19	WS3 HG18	WS4 HG17	WS5 NG24, Physics	WS6 HG10
11:45	Plenary 5 – HG23, Professor Cecília Galvão, <i>Why teachers should want to follow our curriculum design?</i>					
12:45	Lunch & Refreshments					
	Parallel Session					
14:00	OR7 HG07	OR8 HG19	CP5 HG18	CP6 HG17	CP7 HG10	WS2 NG22, Physics
15:00	Poster Presentations, P29-P55 and Coffee Break					
16:00	Plenary 6 – HG23, Dr. Michael O'Leary and Dr. Zita Lysaght, <i>Introducing the assessment for learning audit instrument: A tool developed to guide school based professional development</i>					
17:00	Farewell & Closing– HG23, Dr. Eilish McLoughlin, Director CASTeL DCU					

Further Information:

Plenary Lecture (PL):

The SMEC 2014 organising committee have invited a number of national and international experts in the area of science and mathematics education to address the general assembly. These sessions will typically be 50 minutes in length with 10 minutes reserved for questions and answers.

Oral Research (OR) Presentations

These are short research-led oral contributions are presented during the parallel sessions and will be grouped and according to their focus: Presenters should prepare a 15 minute presentation and allow for 5 minutes questions and answers.

Classroom Practice (OP) Presentations:

These are short practice-based oral contributions presented during the parallel sessions and will be grouped and according to their focus: Presenters should prepare a 15 minute presentation and allow for 15 minutes for whole group discussion.

Workshop (WS):

Workshops will include a number of practical hands on sessions, master classes and interactive oral presentations around science and mathematics education topics.

Poster (PO) Presentations:

These presentations should be prepared as A0 portrait, preferably un-laminated, and all posters will be displayed for the duration of the conference. Presenters will be responsible for mounting their own posters and will be allocated which day they should attend to their poster.

SESSION	AUTHORS	CONTRIBUTION TITLE
PL1	Wynne Harlen	Issues in policy and practice in the assessment of inquiry-based science education
PL2	Beno Csapo	Defining an assessment of cognitive outcomes of inquiry based science education
PL3	Malcolm Swan	Designing Formative Assessment Lessons in Mathematics
PL4	Paul Black and Christine Harrison	Assessment in the Pedagogy of Inquiry
PL5	Cecília Galvão	Why teachers should want to follow our curriculum?
PL6	Michael O'Leary and Zita Lysaght	Introducing the assessment for learning audit instrument: A tool developed to guide school based professional development

SESSION	AUTHORS	CONTRIBUTION TITLE
OR1	Aisling Leavy, Mairead Hourigan and Claire Carroll	Lesson Study in Mathematics: Authentic Assessment of Inquiry Learning
OR1	Siún Nic Mhuirí	Thinking and evaluation in a mathematical discourse community: a shared responsibility
OR1	Sean Close and Gerry Shiel	A Comparison of the TIMSS 2011 and PISA 2012 Mathematics Frameworks in the Context of Irish Mathematics Curricula
OR2	Eilish McLoughlin, Odilla Finlayson, Sarah Brady and Marian Kires	Establish - A model for widespread implementation of Inquiry Based Science Education
OR2	Odilla Finlayson, Eilish McLoughlin and Sarah Brady	Evaluation of the impact of ESTABLISH IBSE Teacher education Programme on participating teachers
OR2	Marian Kires, Eilish McLoughlin, Odilla Finlayson and Sarah Brady	Case Study on the implementation of the ESTABLISH Teacher Education Programme in Slovakia
OR3	Wim Peeters	The secure project: some results coming from the research of science curricula and teachers' and learners' opinions on science education
OR3	Thomas J.J. McCloughlin	Cognitive acceleration in primary science teacher education: catching-up at third level
OR3	Orla Kelly and Roger Cutting	Primary Science and Creativity: Strange Bedfellows?
OR4	Mairead Greene	Optimisation: from discovery to assessment
OR4	Ciaran Mac An Bhaird, Brien Nolan, Ann O'Shea and Kirsten Pfeiffer	An analysis of the opportunities for creative reasoning in undergraduate Calculus courses

OR4	Cormac Breen and Michael Carr	A Study on the Difference in Engagement Levels with Maths Learning Support between the Mature and the Traditional Student
OR4	Seamus McLoone and Conor Brennan	A Smartphone-based Student Response System for Obtaining High Quality Real-time Feedback – Evaluated in an Engineering Mathematics Classroom
OR5	Michael Delargey	Potential uses of the common European framework of reference for languages to inform the teaching of project maths
OR5	Sinead Breen and Ann O'Shea	The design of tasks to aid students' understanding of the threshold concept 'function'
OR5	Gerry Shiel, Brian Merriman, Rachel Perkins and Jude Cosgrove	Project Maths and PISA: Comparing the PISA 2012 Performance of Students in Initial and Other Schools
OR6	Rob Toplis	The value of practical work: school students' perspectives
OR6	Teri Donaghy, Aoife Morrin and Blanaid White	Technology enhanced feedback for 3rd year laboratory practical sessions
OR6	Susan Ryan, Odilla Finlayson, Tom McCloughlin, Eilish McLoughlin	CASE and metacognition
OR7	Marie Ryan and Peter E. Childs	Language in science project (LISP)
OR7	Cliona Murphy and Greg Smith	A considerable loss of personal fear: The impact of the Fibonacci Project on Dublin primary school teachers
OR7	Michela Insenga	An overview of the INSTEM project - Innovation network in Science, Technology, Engineering and Mathematics
OR8	Grainne Walshe, Jennifer Johnston and George McClelland	Designing, developing and evaluating integrated stem activities for junior science
OR8	Yalcin Yalaki, Gultekin Cakmakci, Derya Yahsi, Betul Sen Gumus, Ayse Gurel, Gamze Kavak Yuksel and Ipek Ince	Development and validation of an assessment instrument for inquiry skills
OR8	Enda Carr, Eilish McLoughlin and Odilla Finlayson	The Particulate Nature of Matter, Inquiry Based Learning and the Transformative Education of Junior Secondary School Students.

SESSION	AUTHORS	CONTRIBUTION TITLE
CP1	Ana Vicêncio	Biotechnology, millions that can generate billions: Teacher perspective on students' assessment
CP1	Declan Cathcart	Towards an assessment of an inquiry module on the living conditions of woodlice
CP1	Monika Antušová, Ivana Slepáková and Katarína Kimáková	Assessment of selected biological activity based on inquiry at lower secondary
CP1	Danny Van der Veken	Introducing stem education in secondary schools: some ideas. Kogeka's story
CP2	Carla Matoso	Black tide - Oil in the water: Teacher perspective on students' assessment
CP2	Dorota Černíková and Zuzana Ješková	Experience with inquiry activities and their assessment at a lower secondary school in Slovakia
CP2	Lisbeth Vive	Egg collision and the bottle contains
CP2	Joachim Gretsch and Nadine Reddersen	How to improve the image of a camera obscura – an inquiry-based approach from the middle school optics curriculum.
CP3	Aikaterini Kasimatis, Ourania Petropoulou, Symeon Retalis, Ioannis Dimopoulos, Yannis Psaromiligkos and Konstantinos Karaggelis	Using Moodle and e-assessment methods during a collaborative inquiry learning scenario
CP3	Karin Marianne Lilius	Inquiry based science education in the joint science exam in Denmark
CP3	Wim Peeters	The Flemish (Belgium) assessment system in secondary education: from decree to daily practice, with focus on IBL
CP3	David Keenahan	Investigating misconceptions in mechanics using mcqs
CP4	Maria Ganajova and Milena Kristofova	Assessment of selected aspects of inquiry during teaching topic properties of plastics
CP4	Brigid Corrigan	Inquiry assessment in the chemistry classroom - fundatory experiments made relevant
CP4	Kinga Orwat, Paweł Bernard and Karol Dudek	Sailing on an anolyte – results of a case study on galvanic cells unit at upper secondary school level
CP4	Derya Yahsi	Teachers' reflection on IBSE
CP5	Richard Moynihan, Eilish McLoughlin, Paul van Kampen and Odilla Finlayson	The application of tutorial based worksheets to enhance student understanding of static electricity and magnetism at lower and upper second level education
CP5	Michael A. Wunder	Formative assessment while pupils study circular motion
CP5	Slavka Ropekova and Marian Kires	The role of inquiry activities in physics education at lower secondary school

CP5	Vanessa de Andrade	Assessing planning skills when students are involved in the inquiry activity “Up there... how is it?”
CP5	Aine Woods	Using model based inquiry to teach atmospheric pressure
CP6	Bea Veulemans & Carine Vallons	Learning path of implementing inquiry based teaching and its assessment in a science teacher team
CP6	Elaine Doyle	That’s mad! There’s More Calories in Nutella than Crisps
CP6	Louise Bindel and Martin Lindner	Design and evaluation of an interdisciplinary workshop about climate change
CP6	Stine Caspersen and Morten Rask	“Young Scientists” through IBSE
CP7	Mirosław Brożis	IBSE on math lesson - is it possible?
CP7	Ulrich Dahl	ISI 2015 (Innovation, Science, Integration)
CP7	Ourania Petropoulou, Symeon Retalis, Ioannis Psaromiligkos, George Stefanidis and Spyidoula Loi	Inquiry based learning in primary education: a case study using mobile digital science lab
CP7	Teresa Loureiro	Goats and human, resources and sustainability: Teacher perspective on students’ assessment

SESSION	AUTHORS	CONTRIBUTION TITLE
P1	John Murphy	In Orbit with Europa: Making Science an Attractive Force
P2	Jane Holland, Eric Clarke, Morag Munro, Evelyn Kelleher and Mark Glynn	Examining the relationships between attendance, online engagement and summative examination performance.
P3	Alison Farrell, Bob Lawlor, Anne Jordan, Judith Strawbridge, Dermot Brabazon and Kevin Casey	Full steam ahead! Guiding principles for the design of interdisciplinary approaches to the development of communication skills and enquiry based collaborative learning in stem and arts subjects
P4	Marie Killilea, Stephen O'Brien and Michael Delargey	Sociocultural Lessons for Reform-Based Mathematics: Tracing Pedagogical Shifts in a Transition Year Classroom
P5	Luísa Encarnação	Bacteria from Mars in Alentejo: Teacher perspective on students’ assessment
P6	Dulce Campos	Speed Activity: Teacher’s perspective about student’s assessment
P7	Paweł Bernard, Kinga Orwat and Karol Dudek	Sailing on an anolyte – results of a case study on galvanic cells unit at upper secondary school level
P8	Laura Rice, Odilla Finlayson and Kieran Nolan	Organic Chemistry through Visualisation: Following the Electrons
P9	Beáta Kirešová, Eva Vysopalová, Katarína Kullová and Marian Kires	Science in action – school inquiry project

P10	Beata Sobocińska	'woodlice' unit – application and assessment at the lower secondary school level in poland
P11	Anna Levin	In my classroom
P12	Christina Karlsson and Anna Falkstedt Svensson	Why do we use road salt in winter time? How does the salt affect our vehicles?
P13	Ed Mclaughline and Ed Carew-Robinson	Implementing an inquiry based approach into our school
P14	Matylda Dudzinska, Gabriele Hoffmann and Fredericke Langmaak	The embedding of IBSE-Units into german physics curriculum
P15	Ismail Donmez	A case study on “candle” activity
P16	Funda Atak	A case study on “speed” activity
P17	Tilman Kant and Alexander Gehring	A learning cycle to foster inquiry skills
P18	Rüdiger Weiß	Circular motion – a problem based IBSE approach
P19	Leeanne Hinch, Odilla Finlayson, Eilish McLoughlin, Paul van Kampen	Assessment Practices: Applications to Inquiry Teaching
P20	Katalin Kopasz, Károly Tóth and Imre Csiszár	Computer-based experiments as IBL-exercises
P21	Ágota Somogyi and Csaba Csíkos	Free Falling Eggs Reaching Different Types of Ground
P22	Attila Pásztor and Benő Csapó	Improving Combinatorial Reasoning through Inquiry-Based Science Learning
P23	Tünde Kontai and Lászlóné Nagy Erzsébet Nagy	Is yeast alive? The experiences of testing an inquiry task
P24	Imre Csiszár and Szilveszter Szélpál	Scientific Student Laboratory – Where You Will Get to Like Science
P25	Zsuzsa Oláhné Nádasdi, Géza Barta and Erzsébet Korom	Studying the Decomposition of Starch in Saliva
P26	Ana Vicêncio	Biotechnology, millions that can generate billions: Teacher perspective on students' assessment
P27	Kupčíková Vlasta, and Ješková Zuzana	Guided inquiry activities on motion supported by digital technologies
P28	Aikaterini Kasimatis, Ourania Petropoulou, Symeon Retalis, Ioannis Dimopoulos, Yannis Psaromiligkos and Konstantinos Karaggelis	Using moodle and e-assessment methods during a collaborative inquiry learning scenario
P29	Vanessa de Andrade	Assessing planning skills when students are involved in the inquiry activity “Up there... how is it?”
P30	Teresa Loureiro	Goats and human, resources and sustainability: Teacher perspective on students' assessment
P31	Carla Matoso	Black tide - Oil in the water: Teacher perspective on students' assessment
P32	Katalin Radnóti, Mária Nagy and Mária B. Németh	Studying the temperature dependence of the speed of chemical reactions

P33	Ourania Petropoulou, Symeon Retalis, Ioannis Psaromiligkos, George Stefanidis and Spyidoula Loi	Inquiry based learning in primary education: a case study using mobile digital science lab
P34	Gábor Veres and Erzsébet Korom	The Test of the Pudding
P35	Dorota Černíková and Zuzana Ješková	Experience with inquiry activities and their assessment at a lower secondary school in Slovakia
P36	Slavka Ropekova and Marian Kires	The role of inquiry activities in physics education at lower secondary school
P37	Richard Moynihan, Eilish McLoughlin, Paul van Kampen and Odilla Finlayson	The application of tutorial based worksheets to enhance student understanding of static electricity and magnetism at lower and upper second level education
P38	Joachim Gretsche and Nadine Reddersen	How to improve the image of a camera obscura – an inquiry-based approach from the middle school optics curriculum.
P39	Michael A. Wunder	Formative assessment while pupils study circular motion
P40	Erzsébet Korom, Mária B. Németh and Lászlóné Nagy Erzsébet Antal	The Diagnostic Assessment of Scientific Literacy
P41	Joanne Broggy, Peter Childs, Orla McCormack, Beulah McManus, Anne O' Dwyer	TEMI: Teaching Enquiry with Mysteries Incorporated
P42	Bea Veulemans & Carine Vallons	Learning path of implementing inquiry based teaching and its assessment in a science teacher team
P43	Zuzana Mackovjaková and Zuzana Jeskova	Using interactive demonstrations at Slovak secondary schools
P44	Małgorzata Chmurska	Ibse assessment at the upper secondary school level – report on application of 'household vs. Natural environment' unit
P45	Klaudia Ciura and Joanna Duch	Sugars - ibse project for upper secondary school level
P46	Monika Jurek	Locating the centre of gravity – application of ibse in sociotherapy process
P47	Beata Sobocińska	Natural selection – using lego® creatures at the lower secondary school level in poland
P48	Anna Persson, Alexandra Andersson and Björn Forsberg	If you keep your mobile phone in your pocket does the ability to get children decrease?
P49	Mirosław Brozis	IBL in maths lesson - is it possible?
P50	Ali Akinci	IBSE in the Turkish Science Classroom
P50	Gunnar Friege and Maximilian Barth	SAILS-Germany: overview and aims
P51	Larissa Greinert, Maximilian Barth and Gunnar Friege	"Ample Cups" - a formative assessment tool

P53	Stephen Comiskey, Eilish McLoughlin and Odilla Finlayson	From substitution to integration: How can the use of 1:1 technology develop a range of skills and competences across the post-primary curriculum?
P54	Karden Onsoz	Use of mobile technologies in science teaching

SESSION	Authors	Contribution Title
WS1	Chris Harrison	Assessing Inquiry in a Formative Fashion : The SAILS Project
WS2	Sally Reynolds	Introduction to using video in the science classroom
WS3	Premysl Velek and Agueda Gras-Velazquez	Scientix, Inquiry Based Learning and Online content
WS4	Paul Grimes, Paul van Kampen, Eilish McLoughlin and Odilla Finlayson	Teacher-Student Dialogue in the Inquiry Classroom
WS5	Stephen Phillips, Georgina Turner, Amandeep Kang, Sian Herring and Anja Luther	Workshop on Inquiry and Assessment
WS6	Marián Kireš, Zuzana Jeskova and Lenka Miklošová	Let's explore the power of candle