

Room Name	The Theatre	The Gallery	The Space	The Blueroom	Q119	Q120	Q121	Larkin Theatre
Location	The Helix, Ground Floor	The Helix, Level 2	The Helix, Ground Floor	The Helix, Level 2	Business School Level 1	Business School Level 1	Business School Level 1	
09:00 - 10:00	<b>Plenary Session 0219:</b> A portrait of the teacher as a young professional <b>Paul van Kampen</b>							
10:00 - 10:30	Refreshments							
<b>Session Title</b>	<b>Strand 2: Primary and Secondary School Physics</b>		<b>Strand 1: Teaching Physics Concepts: Sharing Practice</b>			<b>Strand 3: University Physics</b>	<b>Strand 6: ICT and Multimedia in Physics Education</b>	
10:30 - 10:50	0271: A concept-driven interactive pathway (CDIP) about electric current in simple DC circuits <b>Nicolas Décamp</b>	<b>Workshop 0283:</b> New scientific results as a tool for detection of gifted students: The case of colours <b>Mojca Cepic</b>	0054: Model of solar system: Kepler's third law and elongation of Venus at science competition <b>Barbara Rovšek</b>	<b>Workshop 0101:</b> Boat in the pool - lab work <b>Irena Dvorakova</b>	<b>Workshop 0221:</b> Practitioners inquiry in a learning group as sustainable professional development, Part A <b>Wim Peeters</b>	0051: Student difficulties with symbolic and graphical representations of vector fields <b>Laurens Bollen</b>	0037: Mobile phones in physics teaching - an overview on development and research activities <b>Gerhard Rath</b>	
10:50 - 11:10	0068: Teaching quantum wells, barriers and wave functions at secondary schools <b>Kim Kijtenburg-Lewerissa</b>		0133: Space mishap as a stimulus context for thermal conduction exploration in secondary school <b>Annamária Komáromi</b>			0097: How students understand the concept of field in electromagnetism at university introductory physics courses <b>Thomas Kelly</b>	0090: ICT and multimedia in physics education <b>Jaroslav Jarošević Beata</b>	
11:10 - 11:30	0232: Didactic potential of "brick-wall-models" of electric circuits <b>Oliver Bodensiek</b>		0134: "Panta Rhei": A learning experience on rheological properties of fluids within a young apprenticeship programme <b>Assunta Bonanno</b>			0123: A SE-based learning workshop on the quantum Hall effect <b>Dominique Persano Adorno</b>	0111: Customized smartphone experiments with phyphox <b>Sebastian Kuhlen</b>	
11:30 - 11:50	0147: Reflecting about the nature of science in the physics classroom through philosophical dialogue <b>Jan Sermeus</b>		0143: Using paradox to introduce dark energy in the classroom <b>Joao Pereira</b>			0196: Converting errors in physics textbooks into students' opportunities to learn to solve open-ended problems <b>Josip Slisko</b>	0119: Use of smartphones in high school physics teaching to improve learning and motivation <b>Manuel Á. González</b>	
11:50 - 12:00	Discussion	Discussion	Discussion	Discussion	Discussion	Discussion	Discussion	
12:00 - 13:00	Lunch							
<b>Session Title</b>	<b>Strand 2: Primary and Secondary School Physics</b>		<b>Strand 1: Teaching Physics Concepts: Sharing Practice</b>			<b>Strand 5: Physics Teacher Education</b>	<b>Strand 8: Physics Curriculum: Development and Implementation</b>	
13:00 - 13:20	0095: Perception of difficulty of physics problems by students and by teachers <b>Jiri Kohout</b>	<b>Workshop 0055:</b> The nature of science and physical observables in lower secondary science education <b>David King</b>	0036: Reasoning static friction: What students fail to understand and what textbooks miss <b>Wheijien Chang</b>	<b>Workshop 0235:</b> Physics demonstrations with bare classroom objects including students <b>Ed van den Berg</b>	<b>Workshop 0221:</b> Practitioners inquiry in a learning group as sustainable professional development, Part B <b>Wim Peeters</b>	0034: Science teachers' professional development program with low cost experiments <b>Marko Kapanadze</b>	0039: Seeking co-production of knowledge in alternate training: insights from DESCI first round of world cafés <b>Adriano Valente</b>	
13:20 - 13:40	0207: Exploring physical concepts applied to public health to high school <b>Andrea Antunes</b>		0046: Visualization of chaotic attractors as motivating tools for introductory physics course <b>Péter Taszdi</b>			0059: Re(cognition) of discipline based on metacognitive exercises, in physics teacher education <b>Olga L. Castiblanco A.</b>	0066: Contemporary science in the lower-secondary physics classroom <b>Marie Pendrill Ann</b>	
13:40 - 14:00	0014: Developing second level students' understanding of the inverse square law and electrostatic fields <b>Richard Moynihan</b>		0048: What is the Center of Mass and why students should learn about it? <b>Paulo Simeão Carvalho</b>			0152: The workshop on basic experiments of high school <b>Hiroshi Masuko</b>	0118: Polyphonic STEM and the role of physics <b>Renaat Frans</b>	
14:00 - 14:20	TBD: EPS Teacher Oral		0063: Developing and tracking profiles of students' conceptions of force through an engineering degree <b>James Mackay</b>			0151: Some reasons that influence dropout in a physics teacher's training program <b>Roberto Nardi</b>		
14:20 - 14:30	Discussion	Discussion	Discussion	Discussion	Discussion	Discussion	Discussion	
14:30 - 15:00	Refreshments							
<b>Session Title</b>	<b>Strand 3: University Physics</b>		<b>Symposium 0297:</b> International perspectives of women in physics			<b>Strand 2: Primary and Secondary School Physics</b>	<b>Strand 9: Assessment and Evaluation of Physics Teaching and Learning</b>	
<b>Chairperson:</b>			<b>Yvonne Kavanaeh</b>					
<b>Discussant:</b>			<b>Hideo Nitta</b>					
15:00 - 15:20	0030: How do university teachers introduce modelling in a fluid mechanics course? <b>Clement Crastes</b>	<b>Workshop 0077:</b> Magnets and magnetic field around them: what we can learn from simple experiments <b>Leos Dvorak</b>	0298: Gender differences in undergraduate physics: Performance, assessment type, attitudes and beliefs <b>Cait MacPhee</b>	<b>Roundtable 0230:</b> Preparing teachers (K-6) to integrate concepts with practices of physics: promising models and international challenges <b>Stamatis Volos</b>	<b>Workshop 0221:</b> Practitioners inquiry in a learning group as sustainable professional development, Part C <b>Wim Peeters</b>	0017: Physics achievement of Filipino highschool students and their 'spatial' skills: Addressing a gender gap area <b>Resty Collado</b>	0072: Assessing inquiry skills of grade 5-8 students through performance assessments <b>Ed van den Berg</b>	
15:20 - 15:40	0084: University students' causal reasoning dealing with electric field in resistive DC circuits <b>Zuzana Kristina</b>		0299: Project Juno in Ireland: Developments and impacts <b>Miriam Byrne</b>			0038: Student teacher's conceptions of elementary education and those of pupils: force, movement, and gravity <b>Abdeljalil Métioui</b>	0081: Flipped classroom in secondary school physics education <b>Frank Finkenber</b>	
15:40 - 16:00	0131: A teaching idea for advanced RC circuits: Rationalising mathematical and physics interpretations. <b>Thomas Kelly</b>		0300: Latin America perspectives on women in physics <b>Silvina Ponce Dawson</b>			0083: Three stories, three toolkits: Magnetize attention, light up coloured ideas and gas fantasy into science <b>Sara Roberta Barbieri</b>	0153: Critical thinking in electricity and magnetism: An assessment tool for secondary school students <b>Jan Sermeus</b>	
16:00 - 16:20	0227: The transition towards critique: Discussing capillary ascension with future teachers <b>Laurence Viennot</b>		0301: Improving gender balance: Rethinking school interventions <b>Charles Tracy</b>			0093: Astronomy laboratory for 13-15 years old students <b>Marta Rinaudo</b>	0180: Development of a novel qualitative analysis method for concept maps to assess students' knowledge structures <b>Serkan Ekincl</b>	
16:20 - 16:30	Discussion	Discussion	Discussion	Discussion	Discussion	Discussion	Discussion	
<b>Chairperson:</b>								
16:30 - 17:30	<b>Plenary 0026:</b> Design-based research: Bridging research and practice in teaching and learning optics <b>Claudia Haagen-Schützenhofer</b>							
17:30 - 18:00	Refreshments							
<b>Session Title:</b>								<b>Symposium 0023:</b> Special AAPT Invited Symposium: Flipping the physics classroom
<b>Chairperson:</b>								<b>Eric Mazur</b>
<b>Discussant:</b>								<b>David Sokoloff</b>
18:00 - 20:00								0107: Flipping the classroom and never-looking back <b>Eric Mazur</b>
								0108: The half-flipped classroom: Just-in-Time Teaching <b>Andrew Gawin</b>
								0109: Flipping very large classes <b>Mats Selen</b>
								0110: Engaging pre-health students in a flipped course by using authentic medical applications and expert pre-lectures <b>Ralf Widenhorn</b>