

**International Conference
New Perspectives
in Science
Education**

Conference Programme

20 - 21 March 2015

Grand Hotel Mediterraneo
Lungarno del Tempio, 44 – Florence – Italy



Friday 20 March

Room A 9:35 – 11:20	Room B 9:35 – 11:20
Studies on Science Education	Curricula Session Planning

Coffee Break 11:20 – 11:30

Poster Session: 11:30 – 11:50

Room A 11:50 – 13:00	Room B 11:50 – 13:00
Studies on Science Education	Science Teaching Methods

Lunch 13:00 – 14:30

Room A 14:30 – 16:35	Room B 14:30 – 16:35
Science Education Projects and Initiatives	Science Teaching Methods

Coffee Break 16:35 – 16:45

Poster Session: 16:45 – 17:05

Room A 17:05 – 18:45	Room B 17:05 – 18:45
Studies on Science Education	New Technologies for Science Teaching

Saturday 21 March

Room A 9:00 – 10:40	Room B 9:00 – 10:40
New Technologies for Science Teaching	Enhancing Students' Motivation

Coffee Break 10:40 – 10:50

Poster Session: 10:50 – 11:20

Room A 11:20 – 13:00	Room B 11:20 – 13:00
Science Education Projects and Initiatives	Enhancing Students' Motivation

Lunch 13:00 – 14:30

Room A 14:30 – 16:10	Room B 14:30 – 16:10
Science Education Projects and Initiatives	Training of Science Teachers

Coffee Break 16:10 – 16:20

Poster Session: 16:20 – 16:40

Room A 16:40 – 18:20	Room B 16:40 – 18:45
Studies on Science Education	Training of Science Teachers

Friday 20 March 2015

Morning Session: 9:00 – 13:00

Room A 9:00 – 9:10

Introductory Speech and Practicalities

Opening Speech 09:10 – 09:30

Surrounded By Science: Using STEM Learning Ecosystems To Reach All Learners
Bryan Wunar, Museum of Science and Industry (United States)

Room A 9:35 – 11:20

Studies on Science Education

Moderator: Marie Walsh, Limerick Institute of Technology (Ireland)

Some Challenges for Teaching and Learning Third Level (University) Science In 2015

Peter Childs, University of Limerick (Ireland)

How do Years of Teaching Experience Correlate with Beliefs, Confidence and Classroom Practices of Science Teachers Working in Abu Dhabi Government Schools?

Martina Dickson, Emirates College for Advanced Education (United Arab Emirates)

Teaching to Increase University Student Engagement: Is Active Learning always the Answer?

Naomi Rintoul, Canterbury Christ Church University (United Kingdom)

The 'Currency' of Coursework in National Examinations: Sec Physics as a Case Study

Martin Musumeci, University of Malta School of Education (Malta)

Room B 9:35 – 11:20

Curricula Session Planning

Moderator: Luisa Panichi, University of Pisa (Italy)

Migration from the Traditional Apprenticeship model of Phd Education to Development of a Structured Doctorate Postgraduate Research Training Programme, Ed4Life

Siobhán O' Sullivan, Cork Institute of Technology (Ireland)

Cross-level Peer Tutoring of Primary Teachers in Science

Maeve Liston, Mary Immaculate College and the NCE-MSTL (Ireland)

The Benefits of Involving Undergraduate Students in Outreach Programmes: a Case Study In Singapore

Linda Sellou, National University of Singapore (Singapore)

Experiments with Fluorescent Zinc Oxide Nanoparticles: A Teaching Course Design for Upper Secondary Chemistry Class

Timm Wilke - Nicolai ter Horst - Thomas Waitz, Georg-August-University Göttingen (Germany)

Coffee Break 11:20 – 11:30

Poster Session: 11:30 – 11:50

Room A 11:50 – 13:00

Studies on Science Education

Moderator: Peter Childs, University of Limerick (Ireland)

The Cognitive Development of Visual Literacy for Scientific Symbolic Problem Solving

Michael Taber, Colorado College (United States)

Metacognitive Awareness and its Impact on Study Strategies in Online Learning Context

Maria de Fátima Goulão, Universidade Aberta (Portugal)

The Attitude of the Bulgarian Students Towards Intellectual Property in Digital Environment: A National Survey Results

Tereza Trencheva - Stoyan Denchev, State University of Library Studies and Information Technologies (Bulgaria)

Room B 11:50 – 13:00

Science Teaching Methods

Moderator: Bryan Wunar, Museum of Science and Industry (United States)

Introducing Young Children to the Science of Celestial Bodies

Maria Ampartzaki - Michail Kalogiannakis, University of Crete (Greece)

The Nordic Physics Tale: A Travelling Scientific Dissemination Project

Teaching Science to Children with an Artistic Approach

Aline Bruna, Nexans Norway AS (Norway)

Guillaume Dumazer, University Of Oslo (Norway)

Strategies for Teaching Molecular Biology at Grammar School Level: from Theory to Laboratory Practice

Martin Jáč, Palacký University Olomouc (Czech Republic)

Lunch 13:00 - 14:30

Friday 20 March 2015

Afternoon Session: 14:30 – 18:45

Room A 14:30 – 16:35	Room B 14:30 – 16:35
<p align="center">Science Education Projects and Initiatives <i>Moderator: Suzanne Kapelari, University of Vienna (Austria)</i></p>	<p align="center">Science Teaching Methods <i>Moderator: Michail Kalogiannakis, University of Crete (Greece)</i></p>
<p>A Review of STEM Promotional Initiatives and Activities in Ireland <i>Marie Walsh, Limerick Institute of Technology (Ireland)</i></p> <p>Teachers' Views on Quality of Educational Resources Existing in Scientix Repository <i>Gina Mihai, European Schoolnet (Belgium)</i></p> <p>The Summer Knowledge Academy as a Part of the University Research and Educational Environment <i>Stoyan Denchev - Tereza Trencheva, The State University of Library Studies and Information Technologies (Bulgaria)</i></p> <p>Redefining the Role of Museums in Science Education <i>Bryan Wunar - Nicole Kowrach, Museum of Science and Industry (United States)</i></p> <p>Governance by Results in the Québec Educational System: Issues and Challenges <i>Valérie Djédjé, Université du Québec en Abitibi-Témiscamingue (UQAT) (Canada)</i></p>	<p>Styrian Innovation Challenge@school <i>Börge Kummert, Campus02, Fachhochschule der Wirtschaft (Austria)</i></p> <p>A Case Study Of The Formative Use of Assessment Information in Secondary Science Subjects in Greece <i>Maria Vlachou, University of London (United Kingdom)</i></p> <p>Results and Comparison of Different Complementary Assessment Methods of Science Learning Outcome <i>Mikael Lönn - Ann Mutvei - Jan-Eric Mattsson, Södertörn University (Sweden)</i></p> <p>Utilization Of Process Orientedguided Inquiry Learning (POGIL) Towards Achievement In Tertiary Chemistry <i>Jonas Feliciano Domingo, The National Teachers College (Philippines)</i></p> <p>Adults Students with Dyslexia at Work: an Experience from Inclusion with Information Technology (IT) <i>Maria Drossinou Korea, University of Peloponnese (Greece)</i></p>

Coffee Break 16:35 – 16:45

Poster Session: 16:45 – 17:05

Room A 17:05 – 18:45	Room B 17:05 – 18:45
<p align="center">Studies on Science Education <i>Moderator: Tereza Trencheva, The State University of Library Studies and Information Technologies (Bulgaria)</i></p>	<p align="center">New Technologies for Science Teaching <i>Moderator: Nicole Kowrach, Museum of Science and Industry (United States)</i></p>
<p>What are Maltese Undergraduate Students' Views of the Nature of Science and Scientific Inquiry? <i>Josette Farrugia - Rachel Pace, University of Malta (Malta)</i></p> <p>Subject Choice and Performance in Chemistry and the Science Subjects in Malta: Patterns According to Gender and School Type <i>Martin Musumeci, University of Malta (Malta)</i></p> <p>Dispositions towards Science and Science Achievement in TIMSS 2011: A Comparison of Eighth Graders in Hong Kong, Chinese Taipei, Japan, Korea, and Singapore <i>Yoon Fah Lay, Universiti Malaysia Sabah (Malaysia)</i></p>	<p>Teaching the Pedagogical Content Knowledge of Astronomy with a Learning Management System <i>Michail Kalogiannakis - Maria Ampartzaki, University of Crete (Greece)</i></p> <p>Linking Environmental Research Programs and Teaching in a Higher Technological Education Institute <i>Vayos Karayannis, Technological Education Institute of Western Macedonia (Greece)</i></p> <p>The Principles of The Ecological Approach in Education and Health Care <i>Ruta Renigere, Institute of Education and Home Economics, Latvia University of Agriculture Latvia Riga Medical College of the University of Latvia (Latvia)</i></p> <p>Bringing up the Scientists and Engineers of Tomorrow. 3D Printing in Science Education <i>Georgios Mavromanolakis, Ellinogermaniki Agogi, Pallini Athens (Greece)</i></p>

End of the 1st Conference Day

Saturday 21 March 2015

Morning Session: 9:00 – 13:00

Room A 9:00 – 10:40	Room B 9:00 – 10:40
<p>New Technologies for Science Teaching Moderator: <i>Siobhán O' Sullivan, Cork Institute of Technology (Ireland)</i></p>	<p>Enhancing Students' Motivation Moderator: <i>Maeve Liston, Mary Immaculate College and the NCE-MSTL (Ireland)</i></p>
<p>Enhancing Learning with Digital Ink: Graphical Real-Time Formative Assessment via Mobile Devices <i>Susan Kowalski - Frank Kowalski, Colorado School of Mines and Red Rocks Community College (United States)</i></p> <p>Tablets in Science Education: Experience from Implementation in the Czech Republic <i>Petr Mareš - Petr Šmejkal, Scientica Agency Ltd. (Czech Republic)</i></p> <p>Sciences Education: Mobile Resources for Holistic Learners <i>Maria José Rodrigues, Polytechnic Institute Bragança (Portugal)</i></p> <p>Media Educative Bricolage? <i>Lorenzo Denicolai, Università degli Studi di Torino (Italy)</i></p>	<p>Science Buddies – Engaging Students and Parents in Science Education at Primary and Post Primary Level <i>Sharon Lawton, Cork Institute of Technology (Ireland)</i></p> <p>How Motivated are Irish Secondary Students to Study Science? <i>Beulah McManus - Peter Childs, University of Limerick (Ireland)</i></p> <p>Students Motivation in Monitoring Butterflies <i>Suzanne Kapelari, University of Vienna (Austria)</i></p> <p>What Matters in Science Teaching <i>Alton Biggs, Biggs Educational Consulting (United States)</i></p>

Coffee Break 10:40 – 10:50

Poster Session: 10:50 – 11:20

Room A 11:20 – 13:00	Room B 11:20 – 13:00
<p>Science Education Projects and Initiatives Moderator: <i>Adelina Sporea, National Institute for Laser, Plasma and Radiation Physics (Romania)</i></p>	<p>Enhancing Students' Motivation Moderator: <i>Thomas Waitz, Georg-August-University Göttingen (Germany)</i></p>
<p>A Pedagogical Model for Nurturing Curiosity <i>Frank Kowalski - Susan Kowalski Colorado School of Mines (United States)</i></p> <p>Enhancing Students' Learning Skills by Enriching the Lecture "Mechanics 1 / Statics" in Various Interactive Ways <i>Michael Canz - Evgenia Sikorski, Offenburg University (Germany)</i></p> <p>Evolution, Teaching and Assessment of Students in Pre-service Primary School Teacher Education <i>Ann Mutvei - Jan-Eric Mattsson, Södertörn University (Sweden)</i></p> <p>European Cooperation Opportunities and Funds in the Field of Science <i>Elisabetta Delle Donne, Pixel (Italy)</i></p>	<p>There Is no App for that - Adjusting Science Education to Engage and Motivate Generation z. <i>Ania Harlick, Memorial University of Newfoundland (Canada)</i></p> <p>Keys to Advancing Informal Mint Learning: Preparation and Novelty at a Mobile Laboratory <i>Rebecca Cors- Nicolas Robin, University of Teacher Education, (Switzerland)</i></p> <p>ISE – Inspiring Science Education Large Scale Experimentation Scenarios to Mainstream eLearning in Science, Mathematics and Technology in Primary and Secondary Schools <i>Monica Turrini, Sophia R&I (Italy)</i></p> <p>A Workable Mechanism to Support Students who Are at Risk <i>Mohamed Chabi, Qatar University (Qatar)</i></p>

Lunch 13:00 – 14:30

Saturday 21 March 2015

Afternoon Session: 14:30 – 18:50

Room A 14:30 – 16:10	Room B 14:30 – 16:10
<p align="center">Science Education Projects and Initiatives <i>Michael Taber, Colorado College (United States)</i></p>	<p align="center">Training of Science Teachers <i>Moderator: Martina Dickson, Emirates College for Advanced Education (United Arab Emirates)</i></p>
<p>Involving Pre-Service Science Teachers in the TEMI Project in Ireland <i>Anne O' Dwyer - Peter Childs - Beulah McManus, University of Limerick (Ireland)</i></p> <p>Strategies for the Assessment of Inquiry Learning in Science (SAILS) - A European Project in Science Teacher Education <i>Odilla Finlayson, CASTeL, Dublin City University (Ireland)</i></p> <p>The Interactive "HYPATIA" Tool as a Good Practice Science Education Resource of the "Go-Lab" FP7 European Project <i>Stylianos Vourakis, University of Athens (Greece)</i></p> <p>The Follow up of the Fibonacci Project, a Case Study <i>Adelina Sporea, National Institute for Laser, Plasma and Radiation Physics (Romania)</i></p>	<p>Targeted Teacher Training: Developing Bilingual Science Teachers through a Residency-Based Teacher Preparation Program. <i>Tracy Hogan - Corinne Donovan, Adelphi University (United States)</i></p> <p>Flipped Learning at University Level <i>Ingibjorg B. Frimansdottir, University of Iceland (Iceland)</i></p> <p>A Teacher Training on Geosciences in Virtual Worlds <i>Annalisa Boniello, University of Camerino (Italy)</i></p> <p>Students' Different Strategies in their Development of Knowledge, Understanding, and Skills in Science Education <i>Jan-Eric Mattsson - Ann Mutvei - Mikael Lönn, Södertörn University (Sweden)</i></p>

Coffee Break 16:10 – 16:20

Poster Session: 16:20 – 16:40

Room A 16:40 – 18:45	Room B 16:40 – 18:45
<p align="center">Studies on Science Education <i>Moderator: Andreas Mueller, Universite de Geneve/Institut Universitaire de Formation des Enseignants (IUFÉ) (Switzerland)</i></p>	<p align="center">Training of Science Teachers <i>Moderator: Børge Kummert, Campus02, Fachhochschule der Wirtschaft (Austria)</i></p>
<p>Making Meaningfulness in the Classroom: Inter-Disciplinary Science in Liberal Education <i>Alex Kizuk, University of Lethbridge (Canada)</i></p> <p>Can Classroom Talk Support Student-centred Teaching?' - A Study of Maltese Physics Classrooms <i>Charles Bonello - Yanica Farrugia - Claudine Muscat, University of Malta (Malta)</i></p> <p>Structuring of Reasoning Process in Scientific Explanation through a Multimodal Classroom Discourse <i>Jeslyn Lee Jie Yee, National Institute of Education, Nanyang Technological University (Singapore)</i></p> <p>Molecular Modeling: A Tool to Understand Reactivity of Heterocyclic Compounds Effectively <i>Rupa Madyal, S.I.W.S. College, Wadala (India)</i></p> <p>Goerudio: Innovative Teaching Methodologies in Science Education <i>Lorenzo Martellini, Pixel (Italy)</i></p>	<p>Enhancing Elementary Teachers' STEM Self-Efficacy and Teaching Practice through a NGSS-Focused Professional Development Program <i>Corinne Donovan - Emily Kang - Mary Jean McCarthy, Adelphi University (United States)</i></p> <p>"A Racing Car Locked in A Garage": Education and Training of Science Teachers in Singapore <i>Yew-Jin Lee, National Institute of Education (Singapore)</i></p> <p>Reminder Effect and Data Usability on Web Questionnaire Survey for University Students <i>Tetsuya Oishi, Kyushu University (Japan)</i></p> <p>A Development of Lesson Analysis System for Student-centered Science Teaching toward International Cooperation <i>Kenji Matsubara, National Institute for Educational Policy Research (Japan)</i></p> <p>Intercultural Education - Objectives, Values and Perspectives <i>Argentina Chiriac, State University of Medicine and Pharmacy "Nicolae Testemitanu" (Republic of Moldova)</i></p>

Closing Speech: 18:45 – 19:10

Where now? Future Perspectives on Science Education
Peter Childs, University of Limerick (Ireland)

Cocktail 19:10 – 19:40

Posters

<p>A Guided Learning Introductory Course on Nanotechnology for Secondary Schools <i>Nicolai ter Horst - Timm Wilke - Thomas Waitz, Georg-August-University Göttingen (Germany)</i></p>	<p>Non-Formal Science Education Supports Schools in Poland <i>Urszula Poziomek - Barbara Ostrowska, Educational Research Institute, (Poland)</i></p>
<p>Analysis of Factors Involved in the Teaching of Technical Subjects in Higher Education <i>María Isabel Prieto, Polytechnic University of Madrid (Spain)</i></p>	<p>School Experiments on the Biototoxicity of Metal and Metal Oxide Nanoparticles <i>Isabel Bösel - Timm Wilke - Thomas Waitz, Georg-August-University Göttingen (Germany)</i></p>
<p>ASLTo3 in Palliative Care MOOC: the New European Project in Erasmus + Program <i>Sabrina Grigolo, ASLTO3 (Italy)</i></p>	<p>Silica Aerogels: Synthesis and Experiments of a Fascinating Material for Upper Secondary School Level <i>Janina Dege - Timm Wilke - Thomas Waitz, Georg-August-University Göttingen (Germany)</i></p>
<p>Bilingual Modules in Chemistry Classes <i>Jana Pfefferle - Thomas Waitz, Georg-August-University Göttingen (Germany)</i></p>	<p>Stay IN: Drop out recognition and prevention training programme for VET teachers and trainers with special focus on dual VET systems <i>Giovanni Caruso, Pixel (Italy)</i></p>
<p>Design of e-Portfolio System for Supporting PBL Activities <i>Kazuya Takemata - Akiyuki Minamide, Kanazawa Technical College (Japan)</i></p>	<p>Survey on Teachers Attitude Towards Science Teaching <i>Adelina Sporea, National Institute for Laser, Plasma and Radiation Physics (Romania)</i></p>
<p>Design of Idenation Support System for Project Based Learning - Fabrication of Mobile 3D Projection System – <i>Akiyuki Minamide - Kazuya Takemata, Kanazawa Technical College (Japan)</i></p>	<p>Tablets in Science Education: Experience from Implementation in the Czech Republic <i>Petr Šmejkal - Petr Mareš, Charles University in Prague (Czech Republic)</i></p>
<p>In-VET: Preventing initial VET dropouts and fostering trainees' inclusion <i>Giovanni Caruso, Pixel (Italy)</i></p>	<p>Teamwork Development in Heat Engines Sciences by Means of a Rubric-Based Method <i>Fernando Aguilar, Universidad de Burgos (Spain)</i></p>
<p>From Silica to Silicones: A Course Design Introducing Basic Concepts of Material Science into High School Chemistry Class <i>Elena von Hoff - Timm Wilke - Thomas Waitz, Georg-August-University Göttingen (Germany)</i></p>	<p>The European INSTEM Network <i>Suzanne Kapelari, University of Vienna (Austria)</i></p>
<p>Integrated Science Teacher Training at the University Level Using a Student-Student-Interaction Concept <i>Thomas Waitz - Jana Pfefferle, Georg-August-University Göttingen (Germany)</i></p>	<p>The Key Role of Parents-Teachers Relationship and its Effects on Teachers' Self-Efficacy. <i>Arianna Motteran, University of Verona (Italy)</i></p>
<p>Learning Strategies in a Blended Learning Environment <i>Sina Bachsmann - Thomas Waitz, Georg-August-University Göttingen (Germany)</i></p>	<p>To Be or not to Be a Mentor: Assessment of the Efficacy of a Peer Mentoring Program in the University of Castilla-La Mancha <i>Carlos Alonso Moreno - María del Mar Arroyo Jiménez, University of Castilla-La Mancha (Spain)</i></p>
<p>Learning through Tasks: A Better World Is Possible <i>Raúl Ruiz-Cecilia, University of Granada (Spain)</i></p>	<p>University Support Activities towards Teachers of STEM <i>Hana Bartkova, Institute of Chemical Technology Prague (Czech Republic)</i></p>

Virtual Presentations

(Available on the Conference Website)

<p>“Science is Beautiful.” Students at Risk Develop Science and Technology Integrated Projects <i>Ligia Sarivan, Institute for Educational Sciences, Bucharest (Romania)</i></p>	<p>More Heads Are Better than One: Making Teaching/ Learning Science More Appealing to Students <i>Anca Colibaba, Universitatea Gr.T.Popa / EuroED Foundation, Iasi (Romania)</i></p>
<p>Crowdlearning, Applying Social Collaboration in Higher Education Studies <i>Maria Morant, Roberto Llorente, Universitat Politècnica de València (Spain)</i></p>	<p>Multiliteracies, Digital Narratives and Storytelling <i>Antonio Causarano, University of Mary Washington (United States)</i></p>
<p>Education for Citizens Participation in Governance <i>Blendi Dibra, Young Intellectuals, Hope association (Albania)</i></p>	<p>Options for Reflective Learning on the Characteristics of Scientific Inquiry within a Students’ Participation Project in Authentic Scientific Research. <i>Erika Keller, University of Graz, University of Vienna (Austria)</i></p>
<p>Emotions Emerging in the Process Analysis of the Development of Pedagogical Content Knowledge in the Case of Electric Field Teaching <i>Lina Viviana Melo Niño, University of Extremadura (Spain)</i></p>	<p>People with Disabilities at Work: an Italian Experience <i>Emanuela Zappella, University of Bergamo (Italy)</i></p>
<p>Enhancing Students' Motivation with On-line Teaching Practices: Putting Theory into Practice <i>Trisevgeni Liontou, Greek Ministry of Education (Greece)</i></p>	<p>Potential Applications of Neuroscience to Management <i>Carmine Gibaldi, Harvard & St. John's University (United States)</i></p>
<p>Experimental Activities-Integrated Problem-Based Learning in Biology Classes Promoting SSI and STSE Discussion <i>Cristina Sousa, University of Porto (Portugal)</i></p>	<p>Scientific Innovation to the Institutional Development: A Study of Case at Federal Institute of Education, Science and Technology of Acre (IFAC), Brazil <i>João Artur Avelino Leão, Federal University of Rondônia (Brazil)</i></p>
<p>HIPON Project: Acquiring Medical Experience through an E-learning Platform. A New Perspective in Pathology Education <i>Olga Riccioni, Sapienza University of Rome (Italy)</i></p>	<p>Starting The Self-Learning Through Hybrid-Pbl Design in a General Chemistry Course <i>Patricia Morales Bueno, Pontificia Universidad Católica del Perú PUCP (Peru)</i></p>
<p>Influence of “Relation with Learning” on a Situation of Communication Teaching-Learning for Different Scholar Pupils <i>Emmanuella Di Scala-Fouchereau, CIMEOS laboratory - University of Burgundy/ESPE Dijon (France)</i></p>	<p>Teaching Philosophy with the Help of Games <i>Lucio Bontempelli, University of Pisa (Italy)</i></p>
<p>Learning about Probability through Game Strategies <i>Tanja Van Hecke, Ghent University (Belgium)</i></p>	<p>Tracking the Comprehension of Model Centered Instruction through Preservice Teachers’ Science Notebooks <i>Isabel Jiménez Bargalló, Universitat de Vic (Spain)</i></p>
<p>Medical Education through Experiential and Peer Learning <i>Stefan Colibaba, Al.I. Cuza University Iasi (Romania)</i></p>	<p>Quality Practical Teaching New Perspective: A Panacea for Science Education in Cross River State, Nigeria <i>Henrietta Henshaw, College of Education Akamkpa (Nigeria)</i></p>