Programme	Thursday, 8 May 2025

08:00-09:00	Conference Registration - Central Hall

09:00-09:30

Welcome & Opening

Maria Evagorou, Conference Chair, University of Nicosia, Cyprus

Oliver Strasers, Conference Chair, ICSE, University of Education, Freiburg, Germany

Laura Wanckel, ICSE, University of Education, Freiburg, Germany

Room: Panorama

09:30-10:30

Scientific Literacy in the 21st Century

Jonathan Osborne, Stanford University, USA

Room: Panorama

10:30-11:00	Coffee Break

11:00-12:00	**Paper Session 1** Chair: *Mourad El Karkri*	**Paper Session 2** Chair: *Metin Sardag*	**Paper Session 3** Chair: *Stephanie Bismuth*	**Workshop 1**	**Teachers' Day**	**Workshop 2** **(ICSE Academy)**
	Room: Megaron Alpha	Room: Megaron Beta	Room: Megaron Gamma	Room: Atrium B	Room: Panorama	Room: Atrium C
	Geology and Seismology in our local area: Breaking the encapsulated classroom and promoting life-long learning *Demetris Lazarou, Irene Christou, Nicos Lazarou* Understanding the One Heath approach through animation videos *Beatriz Robredo Valgañón* Green and blue projects: leading the way for environmental sustainability in STEM education in Europe *Agueda Gras Velazquez, Ivelina Ivanova, Miriam Molina* Integrating STEM Activi-ties into the Curriculum: A Bridge from Poverty to Prosperity *Mourad EL Karkri, Antonio Quesada, Marta Romro-Ariza*	Personalized and group learning – A learning ana-lytic tool for division of students into groups based on their learning per-formance *Yael Shwartz, Orna Falik, Giora Aleandron* A Holistic Approach for Fostering Cl-mate Literacy: De-veloping Cognitive and Socio-Emotion-al Skills *Oshra Aloni, Anat Yarden, Yael Shwartz, Orit Ben-Zvi Assaraf, Ornit Spektor-Levy* Developing Experi-mentation Compe-tencies and Their Interdisciplinary Nature in Digital STEM Education *Elena Meister, Oliver Straser, Katja Scharenberg, Nadine Tramowsky, Silke Mikelskis-Seif-ert, Wolfram Rollett* A Case Study on Profes-sional De-velopment Training of Pre-Service and In-Service STEM Teachers *Metin Sardag, Gokhan Kaya, Meh-met Sogut, Gultekin Cakmakci*	Insight into how to pro-mote girls' entrepre-neurial mindset within a STEM context *María Martín-Peciña, Marta Romero-Ariza, Antonio Quesada, Ana M Abril* Enhancing STEM educa-tion through digital re-sources: the OER Spanish case *Marta R. Ariza, Antonio Quesada, Ana Maria Abril Gallego, Pilar Gema Rodriguez, Maria Martin Pecina* From Creativity to Sus-tainability: Empowering STEM Education through Scientific Creativity and the Innovative FOCUS Program *Kurt Haim* Evaluating Teach-ers' Pedagogical Design Capacities for Differentiated Instruction in Digi-tal STEM Environment *Stephanie Bismuth, Yael Shwartz, Anat Yarden*	Planning tool for teaching critical thinking in a sus-tainability context *Ragnhild Lyngved Staberg, Maren Skjelstad Fred-agsvik*	**How to Open Up Schools? – Lessons from Practice** This interactive session explores how schools can become more open and connected through real-world learning. Teachers, students, research-ers, and an industry partner share practical insights and lessons learned from European Open Schooling projects, followed by a live Q&A.	Fostering Teacher Collaboration Across Europe: Insights, Challeng-es, and Future Directions *Martin Bilek, Janka Medova, Despina Potari, Stefan Zehetmeier* ICSE Academy

12:00-13:00	**Paper Session 1** Chair: *James Calleja*	**Workshop 1**	**Workshop 2**	**Workshop 3**	**Teachers' Day Workshop**	**Workshop 4 (ICSE Academy)**
	Room: Megaron Alpha	Room: Megaron Beta	Room: Megaron Gamma	Room: Atrium B	Room: Panorama	Room: Atrium C
	Exploring the STEAM Education landscape in Cyprus through a focus group with educators and university students *Vasiliki Panagi, Olia Tsivitanidou, Agni Stylianou Georgiou, Maria Evagorou*	Developing a STEM local lesson plan: Departing from the socioscientific issue of water stress and the role of sustainable tourism in St Raphael's Resort in Cyprus *Fabio Ribeiro, Joao Fernandes*	GEOBSERVE - an online platform to develop Teacher's Green, Digital and Spatial Skills for Edu-cation for Sustainable Devel-opment *Eleni Papageorgiou, Loucas Louca*	The INFINITE project: Utilising Ar-tificial Intelli-gence to Change and In-novate Higher Educational Practices *Eleni Shaili, Eleni Trichina, Charalam-bos Vrasidas, Efi Nisiforou, Michaela Protopapa*	**From Criteria to Practice: Co-Cre-ating Sustainable STEAM Learning** Participatory workshop led by *Stephanos Cherou-vis*, PhD (Ecsite – European Network of Science Centres and Museums). Explore six evi-dence-informed cri-teria for high-quali-ty STEAM practices, developed through the EU-funded Road-STEAMer project. Engage in a gallery walk, reflect on your own practices, and take part in a hands-on activity distinguish-ing sustainability from exploitation.	Transversal topics or transversal skills? *Matija Basic, Martin Bilek, Michiel Doorman, Josette Farrugia* ICSE Academy
	Teacher profession-al development for increasing self-efficacy in diverse STEM class-rooms *Ana M Abril, María Martín-Peciña, Antonio Quesada, Marta R Ariza*					
	Modelling transdis-ciplinary sustaina-bility education in a project for preser-vice teachers *Maren Fredagsvik, Ragnhild Lyngved Staberg, Floor Kamphorst, Hilde Ervik, Trine Elis-abeth Unander, Anne Rakstad Pettersen, Vibeke Gilje Sanne, J.rund Aasetre, Maria I. M. Febri*					
	A lesson study ap-proach to support pri-mary school mathematics teaching through problem-solving *James Calleja, Melanie Casha Sammut*					
13:00-14:00	Lunch Break					
14:00-15:00	**Using learning products to align pedagogical design, implementation, and assessment in STE(A)M** *Anastasios Hovardas*, Research in Science and Technology Education Group, University of Cyprus Room: Panorama				ICSE Academy	

Programme **Thursday, 8 May 2025**

15:00-16:00	Workshop 1	Workshop 2	Workshop 3	Workshop 4	Teachers' Day	Workshop 5 (ICSE Academy)
	Room: Megaron Alpha	Room: Megaron Beta	Room: Megaron Gamma	Room: Atrium B	Room: Panorama	Room: Atrium C
	Transformational Pedagogical Structure that Empowers Entire Classroom Community; Let's Design Together' *Desirée Daring*	Interdisciplinary trails related to measurement *Janka Medova, Silvia Haringov*	"Cook this or the other?" Engaging Educators in Interdisciplinary STEM Education through Practical Food Dilemmas and controversies *Eftychia Parla, Chrystalla Lymbou-ridou*	Topological optimization and bionic design *Dr. Regina Gente, Nicole Mahlke Harms*	**Teaching in the Age of AI** Panel discussion on opportunities and challenges of AI in education, followed by a closing keynote input by Scientix, *Agueda Gras Velazquez* on "A European Perspective on STEM Education."	Connecting Critical Thinking to STEM content *Michiel Doorman, Matija Basic* **ICSE Academy**

16:00-16:45 · Coffee Break & **Poster Session** · Room: Panorama · **ICSE Academy**

1. Developing a Course on Nature-Based Solutions for Teacher Education: A Living Lab Case Study, *Irene Drymiotou*
2. Fostering Diversity and Inclusion in STEM learning: Insights from an Educational Makeathon for In-Service Teacher, *Yuval Segev*
3. Lighthouse Activities: Insights from the ICSE Science Factory Project, *Mónica Baptista*
4. A pizza restaurant at 5th Primary School level, *María Antonia López-Luengo*
5. Geotechnologies and map-story storytelling into educational practices: A teachers' professional development course, *Eleni Papageorgiou*
6. Construction of polygons with Scratch and Computational Thinking, *Hannes Stoppel*
7. Piloting a questionnaire to analyse the impact of 3D printing on students' self-efficacy, *Oliver Straser*
8. RoboAquaria: Robotics in aquatic environments to promote STEM and environmental awareness, *Michaela Protopapa*
9. From Creative Thinking to Sustainable Solutions: Transforming STEM Classrooms through the Innovative FOCUS program, *Angela Hummer*
10. Teaching objectives in primary school STEAM projects in Spain, *Ainhoa Berciano*
11. Preliminary results from a systematic literature review on open schooling in science education, *Isabel María Cruz-Lorite*
12. PD Facilitators: Roles And Challenges, *Ralf Erens*
13. How to Improve Public Health in Mangualde?, *Fábio Ribeiro*
14. Attitudes, self-efficacy and interest in science: preliminary results from an international project, *Maria Nikolaou*
15. "Little cardiologists": A proposal for inclusive science teaching using embodied learning activities, *Georgia Michael*
16. 'The TINKER Framework: Revolutionizing Informatics Education with Authentic and Gender-Inclusive Pedagogy',*Michaela Protopapa*
17. Science in School: Find inspiration, share your ideas, *Tamaryin Godinho*
18. A 4C/ID Based Professional Development Program for German Technology Education Teachers, *Adrian Boheim*
19. The 15-Minute Cities, *Jesús Girón Gambero*
20. Exploring Pre Service Techers Digital Competence In Science Technology Engineering And Mathematics In Early Childhood Teaching And Learning, *Henry Katniyon*
21. Integrating Sustainable Living Into ICT Education: Robots With Recycled Materials, *Mustafa Kemal Ambar*
22. The STEAME Decathlon: a formative assessment technique, *George Tsalakos*
23. Detective of bell Simantron, *Kyriaki Evripidou*

Open Schooling Posters from Students

**5th International Conference on STEM Teacher Education:
21st Century Challenges**

Programme · **Thursday, 8 May 2025**

ETE 2025
Educating the Educators

May 8 - 9, 2025, St Raphael Hotel Limassol, Cyprus

16:45-17:45	**Paper Session 1** Chair: *Oliver Straser*	**Workshop 1**	**Workshop 2**	**Paper Session 2** Chair: *Natalia Spyropoulou*	**Workshop 3** (ICSE Academy)
	Room: Panorama	Room: Megaron Beta	Room: Atrium B	Room: Megaron Alpha	Room: Atrium C
	STEM Education in Europe: Insights into Trends, Best Practices, and Missed Opportunities *Oliver Straser, Natalia Spyropoulou, Agueda Gras Velazquez* Teacher Motivation in CPD and ITE Sessions: The Role of Relevance, Accessibility, and Pedagogical Approach' *Josette Farrugia, Doreen Mizzi, James Calleja* Exploring ChatGPT's Mathematical Modeling Capabilities: A Case Study *Oliver Straser, Stefan Zehetmeier, Carina Spreitzer*	STEAM disciplines in harmony: opening possibilities for viewing and experiencing an ecology problem through a design thinking approach. *Agni Stylianou Georgiou, Olia Tsivitanidou, Vasiliki Panayi, Maria Evagorou*	An Interdisciplinary European Workshop Series for STEM teachers: Experiences and recommendations *Monica Wijers, Vincent Jonker, Sanne Korte, Michiel Doorman* ICSE Academy	STEAME-ACADEMY: STEAME Teacher Facilitators Certification through European STEAME Regional Academies *Gregoris Makrides, Tomasz Szemberg, Justine Szpond* Empowering Educators for Inclusive and Interdisciplinary STEAM Education: Competence Frameworks and Practical Applications *Natalia Spyropoulou, Georgia Sakellaropoulou, Achilles Kameas*	STEM out-of-school activities to learn, to observe and to protect *Vincent Jonker, Gultekin Cakmakci, Martin Bilek, Lucas Weinberg* ICSE Academy
18:00	Trip and Dinner				

5th International Conference on STEM Teacher Education:
21st Century Challenges

Programme — **Friday, 9 May 2025**

ETE 2025
Educating the Educators

May 8 - 9, 2025, St Raphael Hotel Limassol, Cyprus

08:00-09:00	Conference Registration - Central Hall

| 09:00-10:00 | **The Learning to Facilitate**
Framework: Preparing and Supporting Professional Development
Leaders: The Learning to Facilitate Framework and Problem-Solving Cycle PD Model

Hilda Borko, Professor of Education, Center to Support Excellence in Teaching, Stanford University

Room: Panorama

ICSE Academy |

10:00-11:00	**Paper Session 1** Chair: *Maria Antonia Lopez-Luengo*	**Paper Session 2** Chair: *Ralf Erens*	**Workshop 1**	**Workshop 2**	**ICSE Academy Policy Round Table**
	Room: Megaron Alpha	Room: Megaron Beta	Room: Megaron Gamma	Room: Atrium B	Room: Panomara
	A systematic review of empirical studies: outcomes from programs informed by STEM reforms and policies *Evi Konstantinidou, Maria Evagorou* Obstacles and achievements of a STEM Fair in a Primary Education University Degree *María Antonia López-Luengo, Nuria Bautista Puente* Using micro:bit for programming in school *Torunn Smevik, Ellen Andersson, Elisabeth Romijn* Transdisciplinary Implementation in STEAM Teacher Education *Eljishi Ziad*	Sustainable Professional Development for Technology Teachers in Primary and Lower Secondary Education: Building Networks and Competence through Peer Collaboration *Eva-Lena Jonsson, Ulrika Franke, Jesper Boesen* Development of a Sustainable PBL Curriculum for Junior High School Science: Recovering Traditional Salt Production Activities After Large-Scale Natural Disaster *Minoru Ohtani* Educational leaders' perceptions of STEM education *Ralf Erens*	Scientific Creativity in Practice: Empowering Sustainability Education in STEM *Wolfgang Aschauer, Kurt Haim*	The Innovative FOCUS Program: Empowering Sustainability in STEM Education through Creativity & Innovation *Bogdan Pammer, Angela Hummer, Kurt Haim*	Moderators: *Maria Evagorou & Maria Nicolaou* Empowering STEM Teachers for Mobility: Crafting Effective Policies for Future Success *Presentation by Marta Romero Ariza & Maria Evagorou* Panelists: *Agueda Gras-Velazquez,* European Schoolnet EUN, Belgium *Verena Bodenbender,* International Office Pädagogische Hochschule Freiburg, Germany *Maria Podlasek-Ziegler,-* from DG EAC – European Commission, Brussels, Belgium *Gregory Makrides,* STEAME Teacher Academy Coordinator - University of National Education Commision, Krakow, Poland ICSE Academy

11:00-11:30	Coffee Break

11:30-12:30

Paper Session 1	Paper Session 2	Paper Session 3	Workshop 1	ICSE Academy Policy Round Table
Chair: *Chrystalla Lymbouridou*	Chair: *Chrissavgi Triantafillou*	Chair: *Monica Baptista*		
Room: Megaron Alpha	Room: Megaron Beta	Room: Megaron Gamma	Room: Atrium B	Room: Panomara
Building Trust in Science Through Science Education: A Systematic Literature Review *Maura de Vos, Kalypso Iordanou* Epistemic Explanations and Corrections in the Online Dissemination of Scientific Information *Maura de Vos, Kalypso Iordanou, Clark Chinn* Exploring Students' Frames on an Environmental SSI: Ethical, Social-Cultural and Environmental-Scientific parts of an inter-disciplinary task *Chrystalla Lymbouridou* Exploring Facilitators' Noticing Perspectives in Fictional Professional Development Sessions *Marcus Nührenberger, Janina Lenhart*	Teachers' profiles of ICT use: A Cross-Cultural Analysis *Evi Konstantinidou* Supporting sustainability awareness in designing green mathematical tasks *Chrissavgi Triantafillou, Elena Nikolaidou, Despina Potari, Giorgos Psycharis* Integrating mathematics and biology teaching: An inter-disciplinary STEM approach *Katerina Bogiatzi Ilenia Chatziandreou, Valandes Verykios* STEM interdisciplinary actions in a carpentry laboratory *Chrissavgi Triantafillou, Christos Gosdis*	STE(A)M and CITIZENSHIP. Development with process-es of inquiry and argumenta-tion in science teacher training and teach-ing. Identity, environments and gender study (EduCA-STE(A)M) *Teresa Lupión-Cobos* Innovating STEM Learning with Open-Access Virtual Laboratories for Biology in the Health Sciences – The VHEalthLab Project *Stella A. Nicolaou, Per-soulla Nicolaou, Maria Evagorou, Efi Nisiforou, Mary Halebian, Eleni Dafli, Panagiotis D. Bamidis, Blanca Puig, Aurea Cadarso Rodriguez, Gabriel Lazar* What makes a STEAM teacher? Modelling interdiscipli-narity for future teachers *Juan Fraile González Belen Palop* Engineering Design in STEM Education: Analysing Students Trajectories and Explanations *Mónica Baptista, Iva Martins, Gultekin Cakmakci*	Engaging STEM Education Through Educational Video-games: Present and Future Possibilities *Sabine Kienzl, Riccardo Brancaleon*	Policy Round Table World Café on Empowering STEM Teachers for Mobility: Crafting Effective Policies for Future Success **ICSE Academy**

12:30-13:30

Workshop 1	Workshop 2	Workshop 3	Workshop 4	ICSE Academy Policy Round Table
Room: Megaron Alpha	Room: Megaron Beta	Room: Megaron Gamma	Room: Atrium B	Room: Panomara
Lighthouse Activities: Innovative Approaches for Lifelong Science Learning *Monica Baptista, Iva Martins, Oliver Straser, Matija Basic, Gultekin Cakmakci, Maria Evagorou, Katja Maass*	Environment for Developing Computational Thinking with the Use of Augmented Reality *Martin Cápay, Michal Fojtík*	Case-Based Learning for STEM Education: A Workshop on Case Writing *Persoulla Nicolaou, Stella Nicolaou*	Using micro:bit in science education *Torunn Smevik, Ellen Andersson, Elisabeth Romijn, Arne Stormo, Camilla Berge Vik*	Moderators: *Maria Evagorou, Efi Nisiforou & Isabel Maria Cruz Lorite* Best Practices from teacher mobilities: ICSE Academy: *Michiel Doorman* STEAME Academy: *Gregory Makrides* SPICE Academy: *Natalia Spyropoulou* NBS4S: *Mirjam Holtkemper* Summary of flashlights **ICSE Academy**

13:30-15:00

Lunch Break & Closing Ceremony