



Programme of STE2026

Author underlined → presenting author

Thursday 1 October 2026		
8:30	STE2026 Opening (Room B032)	
	Session 1A – Learning mechanisms I (Chair: C Toregas and T Kauppinen)	Session 1B – Mechanical engineering education (Chair: LFM da Silva and AM Ferreira)
	Room B032	Sala de Atos
8:40	Technology teachers' understanding of educational technologies for creative lesson delivery: Results from pre- and post-training analysis (STE26_3) <u>PB Nkosi</u> (University of Limpopo, South Africa)	Teaching advanced joining processes through interactive digital laboratory tools (STE26_16) <u>EAS Marques</u> (University of Porto, Portugal), <u>RJC Carbas</u> , <u>VCMB Rodrigues</u> , <u>LFM da Silva</u>
9:00	Systems thinking and product assessment: A DSRP-based study of students' artefacts in design, technology and engineering education (STE26_7) <u>B Kurent</u> (University of Ljubljana, Slovenia), <u>S Avsec</u>	Accessible virtual reality tool for mechanical engineering education (STE26_55) <u>J Puig-Ortiz</u> (Universitat Politècnica de Catalunya, Spain), <u>L Jordi Nebot</u> , <u>R Pàmies-Vilà</u>
9:20	Evaluation of a new engineering teaching approach through a quasi-experimental study and student perceptions (STE26_13) <u>MCBV Soares</u> (University of Porto, Portugal), <u>BD Simões</u> , <u>AM Lopes</u> , <u>LFM da Silva</u>	How generative AI is revolutionizing CNC machining education: Teachers' uses of generative AI and acceptance of CNC technology in Slovenian K–12 schools (STE26_20) <u>S Avsec</u> , <u>J Jerina</u> , <u>D Rupnik</u> (University of Ljubljana, Slovenia)
9:40	Apollo Vs Artimus mission control: Technology, CCATS, and UNIVAC 494 systems (STE26_34) <u>S Miller</u> (Eastern New Mexico University – Ruidoso, USA)	Assessing augmented reality as a learning tool in engineering laboratory practice: Effects on student performance and perception (STE26_32) <u>S Llorca-Algarra</u> , <u>MA Ramos-Fernandez</u> , <u>D Gómez-Barquero</u> , <u>O Murcia-Chaparro</u> , <u>L Montuori</u> , <u>M Cañada-Soriano</u> , <u>B Llopis-Mengual</u> , <u>B Velázquez-Martí</u> , <u>R Royo</u> , <u>G Vilariño-Feltrer</u> (Universitat Politècnica de València, Spain), <u>M Sancho</u> , <u>A Ortiz Bas</u>

10:00	A BIM-based computational design tool for teaching parametric urban design and optimization in construction engineering (STE26_23) <u>B Abdelshahid</u> (American University in Cairo, Egypt), K Nassar	Design and pilot evaluation of a hybrid AI model for machine elements education (STE26_26) <u>R Gabrovšek</u> (University of Ljubljana, Slovenia), <u>S Avsec</u> , D Rihtaršič
10:20	How should buildings of architecture schools be designed to function as a teaching tool? (STE26_28) <u>DCCCK Kowaltowski</u> (University of Campinas -UNICAMP, Brazil), CHB Pereira, VG da Silva, DC Moreira	AI literacy in engineering education: Integrating artificial intelligence into didactic materials development (STE26_63) <u>H Abdalla Júnior</u> (University of Brasília, Brazil), PHP Carvalho, LFR Molinaro, CES Papa
10:40-11:00	COFFEE BREAK (Room under the Auditorium)	
	Session 2A – Learning mechanisms II (Chair: S Avsec and A Macalalag)	Session 2B – Engineering education (Chair: D Persano Adorno and C Della)
	Room B032	Sala de Atos
11:00	What ten years of data about a cyber competition reveal about workforce development (STE26_31) <u>D Zeichick</u> (California State University, CA, USA)	Project-based learning in an undergraduate manufacturing engineering course (STE26_48) <u>JPG Magrinho</u> (University of Lisbon, Portugal), MB Silva
11:20	Assessing the impact of technology exposure on educational outcomes: A structural equation modelling (STE26_33) <u>HR Ghulami</u> (University of Bologna, Italy), S Capacci, A Montanari	International project-based learning in engineering: The Unite! manufacturing project as a model for cross-institutional collaboration (STE26_49) R Jerez-Mesa, JPG Magrinho, P Schumann, JA Travieso-Rodriguez, P Groche, <u>MB Silva</u> (University of Lisbon, Portugal)
11:40	Didactic model of high-tech applications in education (STE26_36) <u>B Urankar</u> (University of Ljubljana, Slovenia), D Rihtaršič, M Čepič	Beyond equations: Engaging future engineers through active learning pathways in electromagnetism (STE26_50) <u>D Persano Adorno</u> (Università di Palermo, Italy), N Pizzolato
12:00	Beyond memorization: Cultivating creative thinking in introductory biology (STE26_40) <u>LA Mauger</u> (Delaware Valley University, PA, USA)	Epistemology-focused learning in an AI-supported engineering environment: The PAL framework as a response to the generative AI shift (STE26_65) <u>S Bhaduri</u> (University of Glasgow, UK), C Della, S Das
12:20	Cognitive and motivational effects of optional scaffolds in phylogenetic tree reading (STE26_41) <u>J Großschedl</u> (University of Cologne, Germany), N Großmann, R Gutowski	Blended learning and student engagement in engineering mechanics: A self-determination theory perspective (STE26_52) <u>C Della</u> (University of Glasgow, UK), K Kok, J Shah

12:40	Apprenticeship as pedagogy: Rethinking how technical knowledge is learned, with cybersecurity as a case study (STE26_42) <u>T Coulson</u> (California State University, USA), <u>A Hysell</u>	AI-supported micro-scaffolding in experiential robotics education: A classroom-based study (STE26_37) <u>D Rihtaršič</u> (University of Ljubljana, Slovenia), <u>R Gabrovšek</u>
13:00-14:00	LUNCH BREAK (Room under the Auditorium)	
	Special session - How to teach with AI? (Chair: LFM da Silva and AM Ferreira)	
	Room B032	
14:00	Theory-grounded opportunities for AI support in science education (STE26_1) <u>CP Rosé</u> (Carnegie Mellon University, USA)	
14:40	Teaching in the age of AI: Strategic challenges for higher education (STE26_4) <u>AM Camanho</u> (University of Porto, Portugal)	
15:20	Empowering competence: Case studies on AI-enhanced learning without compromising student mastery (STE26_2) <u>IT Sanusi</u> (University of Eastern Finland, Finland)	
16:00-16:20	COFFEE BREAK (Room under the Auditorium)	
16:20	Debate / Question time on ‘How to teach with AI’ (Chair: Costis Torgas and Nigel A Jones) <u>Carolyn Penstein Rose</u> (Carnegie Mellon University, USA) <u>Ismaila Temitayo Sanusi</u> (University of Eastern Finland, Finland) <u>Ana Maria Camanho</u> (University of Porto, Portugal) <u>Beatriz Simões</u> (University of Porto, Portugal) <u>Ana Rita Serra</u> (Education Lead at Microsoft Portugal, Portugal)	
	Room B032	
18:30	Poster session and RECEPTION (Room under the Auditorium)	
Learning mechanisms		
Poster 1	A manga book for adhesive bonding education: development and planned evaluation (STE26_12)	<u>MCBV Soares</u> (University of Porto, Portugal), <u>BD Simões</u> , <u>CMC Ferreira</u> , <u>VCMB Rodrigues</u> , <u>EAS Marques</u> , <u>RJC Carbas</u> , <u>LFM da Silva</u>
Poster 2	Teaching differential equations through system dynamics: First-order, second-order, and partial differential equation applications in AnyLogic (STE26_30)	<u>K Nassar</u> (The American University in Cairo, Egypt), <u>M Hagag</u>
Poster 3	Immersive STEM learning through augmented reality: Insights from the BioS4You AR 2.0 project (STE26_53)	<u>D Persano Adorno</u> (University of Palermo, Italy), <u>T Mallahnia</u> , <u>V Koch</u> , <u>A-L Antsma</u> , <u>S Konstanti</u> , <u>N Pizzolato</u>
Mechanical engineering education		
Poster 4	A video-guided web platform for specimen preparation in postgraduate mechanical engineering education (STE26_19)	<u>RJC Carbas</u> (University of Porto, Portugal), <u>EAS Marques</u> , <u>LFM da Silva</u>

Poster 5	A modular virtual learning environment for interactive engineering education: design and implementation of a multi-system platform (STE26_57)	<u>M Matin</u> (INEGI, Portugal), RJC Carbas, EAS Marques, MM Kasaei, A Akhavan-Safar, LFM da Silva
Poster 6	Traditional, Video-based, or AI-assisted learning? A comparative study in engineering education (STE26_19)	<u>MM Kasaei</u> (INEGI, Portugal), A Akhavan-Safar, EAS Marques, MCBV Soares, RJC Carbas, LFM da Silva
Poster 7	An integrated student-centered approach to teaching welding and materials science using flipped classroom, CDIO, low-cost experiments, and continuous assessment (STE26_64)	<u>R Beygi</u> (Arak University, Iran), S Mahmoudi, EAS Marques, RJC Carbas, LFM da Silva
Diversity and inclusiveness		
Poster 8	From content to civic action? Examining the impact of SSI workshops on Brazilian science teachers (STE26_6)	<u>AZ Macalalag</u> (Arcadia University, PA, USA), AL de Oliveira, ALR Lima, MDA Aguilera
Poster 9	Visual narratives for development of steam identity before stereotypes set in young children (STE26_15)	<u>BD Simões</u> (INEGI, Portugal), LFM da Silva
Assessment		
Poster 10	A chain-based approach to automated evaluation of argumentative writing (STE26_22)	N Takahashi, J Oyler, M Flammia, A Sykes, <u>A Reznitskaya</u> (Montclair State University, New Jersey, USA), E Chukharev
AI in teaching		
Poster 11	Measuring synergy in human–AI collaboration (STE26_45)	L Chenyu, <u>T Kauppinen</u> (Aalto University, Finland)
Poster 12	Universal design and artificial intelligence as a creative symbiosis to teach architectural design (STE26_59)	<u>CAC Junior</u> (UNICAMP, Brazil), N Bernardi, DCK Kowaltowski
Poster 13	Controlled by the AI platform: How physical and digital workspaces shape worker autonomy and the implications for higher education (STE26_61)	<u>TO Mavhunga</u> (University of the Witwatersrand, South Africa)
Poster 14	Teaching in the age of AI: Practical strategies for learning, assessment, and student success (STE26_66)	<u>D Cranford-Wesley</u> (North Carolina Central University, USA)

Friday 2 October 2026	
	Session 3 – AI in teaching I (Chair: R Lopes Coelho and P Shekhar)
	Room B032
8:40	Integrating generative artificial intelligence into planar mechanism simulation for engineering education (STE26_5) M Mulero-Gironella, L Jordi Nebot, J Puig-Ortiz, <u>R Pàmies-Vilà</u> (Universitat Politècnica de Catalunya, Spain)
9:00	From users to creators: Fostering AI literacy through experiential learning with embedded AI (STE26_8) <u>R Gabrovšek</u> (University of Ljubljana, Slovenia), D Rihtaršič
9:20	Financial literacy in digital and AI-supported education: A PRISMA systematic review (STE26_10) <u>N Drnovšek</u> (University of Ljubljana, Slovenia), S Avsec, F Lovšin Kozina
9:40	District transformation through science teacher leadership (STE26_14) <u>A Eisenkraft</u> (University of Massachusetts Boston, USA)
10:00	AI agent research companion (STE26_43) <u>T Kauppinen</u> (Aalto University, Finland), M Zechner, I Tittonen, K Laszczyk, T Watanabe, W Chuda, F Narita, H Kurita, L Rova, Y Jia
10:20	Artificial intelligence in primary STEAM education: A scoping review of STEAM pedagogies and teacher roles (STE26_38) <u>S Rantanen</u> (University of Turku, Finland), M Veermans
10:40-11:00	COFFEE BREAK (Room under the Auditorium)
	Session 4 – AI in teaching II (Chair: D Zeichick and JP Pêgo)
	Room B032
11:00	A topic modelling approach for uncovering research themes in artificial intelligence applications for engineering and sciences education (STE26_24) K Abdelhady, <u>M Haggag</u> (The American University in Cairo, Egypt)
11:20	AI-generated microlearning podcasts in civil engineering: a two-cohort pilot (STE26_25) <u>A González</u> (University College Dublin, Ireland)
11:40	Multi-agent generative AI for self-directed learning (STE26_44) Y Xiao, T Kauppinen, <u>A Prata</u> (University of Lisbon, Portugal)
12:00	Developing a python-focused AI coding agent for numerical methods and machine learning education in engineering programs (STE26_29) <u>K Nassar</u> (The American University in Cairo, Egypt), M Hagag
12:20	AI, education, and understanding physics (STE26_34) <u>R Lopes Coelho</u> (University of Lisbon, Portugal)
12:40	Transitioning to AI-powered science teacher education: What counts for securing epistemic access? (STE26_60) <u>E Mavhunga</u> (University of Witwatersrand, South Africa)
13:00-14:00	LUNCH BREAK (Room under the Auditorium)
	Session 5 – Diversity and inclusiveness (Chair: BD Simões and LA Mauger)
	Room B032
14:00	Learning, exchange and co-creation in an international community of educational practice (STE26_46) <u>C Toregas</u> (The George Washington University, USA), <u>N Jones</u> (King's College London, UK)

14:20	Self-selection in entrepreneurship education courses: An examination of engineering students' enrollment data (STE26_27) <u>P Shekhar</u> (New Jersey Institute of Technology, USA), A Bhatnagar, VR Gazula
14:40	Beyond the doctorate: is engineering career progression gender bias? (STE26_9) <u>CMC Ferreira</u> (INEGI, Portugal), M Ribas, BD Simões, EAS Marques, RJC Carbas, LFM da Silva
15:00	Inclusive by design: Universal design for learning as a framework for expanding access for all learners in science and technology education (STE26_54) <u>KD Dean</u> (Arcadia University, PA, USA)
15:20	Inclusion made practical: How full-cycle AI solutions transform SEND support at scale (STE26_62) <u>M Kalitkinc</u> (UNOWA Sp. z o.o., Poland)
15:40	TAMAGO: designing an interactive, unplugged experience based on embodied learning to support computational thinking education in early childhood (STE26_56) <u>S Abreu</u> (Universidade da Madeira, Portugal), M Barreto
16:00-16:20	COFFEE BREAK (Room under the Auditorium)
	Session 6 – Assessment (Chair: LFM da Silva and AM Ferreira)
	Room B032
16:20	Peer observation and communities of practice as institutional strategies for faculty development in science and technology education (STE26_47) <u>JP Pêgo</u> (University of Porto, Portugal), AS Conde
16:40	Preparing teachers to facilitate argumentation through theory-driven simulation (STE26_21) <u>A Reznitskaya</u> (Montclair State University, New Jersey, USA), A Sykes, J Oyler, M Flammia, E Chukharev
17:00	Integrating technology and education readiness to support user story mapping-based training design (STE26_39) <u>A Huusko</u> (University of Turku, Finland), H Piili
17:20	Scientific publication indices at FEUP and mechanical engineering departments in Portugal (STE26_11) <u>VCMB Rodrigues</u> (INEGI, Portugal), AM Lopes, LFM da Silva
17:40	Mentoring as a tool for inclusion and belonging in engineering education: The FEUP experience (STE26_58) <u>J Bispo</u> (University of Porto, Portugal), B Lima, J Peres, IM Ribeiro, MMSM Bastos, TMGP Duarte
18:00	The future of engineering pedagogy: Traditional vs. AI learning (STE26_17) <u>A Akhavan-Safar</u> (INEGI, Portugal), MM Kasaei, EAS Marques, VCMB Rodrigues, RJC Carbas, LFM da Silva
20:00	STE 2026 BANQUET (Porto Caves Calém)