

Programme

STE 2020

**1st International Conference on Science
and Technology Education**

**Porto – Portugal
15-16 October 2020**



PROGRAMME OF STE2020

Author underlined → presenting author

Thursday 15 October 2020

8:40	STE2020 Opening (Room B032)
	Session 1 – Epistemologies (Chair: LFM da Silva and A Coelho)
	Room B032
9:00	Remarks on 40+ years of mechanical engineering teaching (STE20_29) <u>PMST de Castro</u> (University of Porto, Portugal)
9:40	Relationship between interest, motivation, and achievements in science (STE20_24) <u>C Wang</u> (University of Macau, China), <u>T Cui</u> (University of Macau, China), J Liu
10:00	The teaching of Engineering, a 50 year perspective (STE20_20) <u>RD Adams</u> (University of Oxford, UK)
10:20	Serendipitous Campus (STE20_38) <u>A Coelho</u> (University of Porto, Portugal), T Rocha, L Merz, A Haberman-Lawson, C Keane-Davies
10:40-11:00	COFFEE BREAK (Room under the Auditorium)
	Session 2 – Learning mechanisms I (Chair: AZ Sampaio and M Noll)
	Room B032
11:00	Entrepreneurship competencies for managerial and STE (STE20_55) <u>BE Moscoso</u> (Universidad Central del Ecuador, Ecuador), A Carballosa
11:20	Virtual and actual combined operation teaching in robot engineering innovation training (STE20_8) <u>XD Pan</u> (Harbin Institute of Technology, China), H Huo, Y Jiang
11:40	Introduction of BIM methodology in civil engineering education: Curricular programs adaptation (STE20_12) <u>AZ Sampaio</u> (University of Lisbon, Portugal)
12:00	Moodle-enabled virtual lab for fieldbus process control (STE20_14) <u>V Viegas</u> (CINAV–Escola Naval, Portugal), JM Dias Pereira
12:20	Advanced Joining Processes Unit: Research oriented on objectives (STE20_15) <u>EAS Marques</u> (INEGI, Portugal), RJC Carbas, LFM da Silva
12:40	How are quiz scores related to students' performance in blended-learning? (STE20_53) <u>M Sacré</u> (Université de Liège, Belgium.), D Lafontaine, M-C Toczek
13:00-14:00	LUNCH BREAK (Room under the Auditorium)
	Session 3 – Learning mechanisms II (Chair: PMST de Castro and GJ Dolecek)
	Room B032
14:00	Impact of COVID-19 on the Integrated Master in Mechanical Engineering of FEUP (STE20_21) J Soares, JM Paiva, M Cruz, <u>T Rocha</u> (University of Porto, Portugal), LFM da Silva

14:20	Virtual education in times of COVID-19: An opportunity for entrepreneurship education for engineering majors in Latin America (STE20_54) BE Moscoso, A Carballosa, MA Guerra (Universidad Cienfuegos Carlos Rafael Rodríguez, Cuba)
14:40	Teaching random variables: Demo program for product of m independent uniform variables (STE20_22) GJ Dolecek (National Institute INAOE, Mexico)
15:00	Epistemology of energy for engineering students (STE20_34) SM Lord (University of San Diego, USA), JA Mejia, GD Hoople, DA Chen
15:20	Inquiry-based environments for signal processing training in bio-engineering education (STE20_39) D Persano Adorno (University of Palermo, Italy)
15:40	The global context of entrepreneurship to strengthen the training of entrepreneurial engineers in Latin America – Case Ecuador (STE20_56) BE Moscoso, SS Izurieta, A Carballosa, MA Guerra (Universidad Cienfuegos Carlos Rafael Rodríguez, Cuba)
16:00-16:20	COFFEE BREAK (Room under the Auditorium)
	Session 4 – Learning mechanisms III (Chair: NMM Ramos and A Vassilopoulos)
	Room B032
16:20	Professional courses requested by the construction industry: BIM concept and practice (STE20_13) AZ Sampaio (University of Lisbon, Portugal)
16:40	Inclusive education strategies: Teaching human anatomy to students with intellectual disabilities (STE20_10) CR Mendonça, M Noll (Instituto Federal Goiano, Brazil), EA Silveira, NN Guimarães, PC Moreira
17:00	Fiber reinforced polymer composite skateboards – design, fabrication and experimental investigation (STE20_44) NF Montanarella (EPFL, Switzerland), A Vassilopoulos
17:20	Assessing the impact of laboratorial activities on core curricular units of the Integrated Master in Mechanical Engineering (MIEM) at FEUP (STE20_27) AM Lopes (University of Porto, Portugal), LFM da Silva, J Seabra
17:40	Similarities, differences and origin to connect entrepreneurial, managerial and engineering education (STE20_57) BE Moscoso (Universidad Central del Ecuador, Ecuador), A Carballosa
18:00	Teaching and learning factories for empowering people in added-value manufacturing systems and technologies (STE20_58) M Machado (INEGI, Portugal), C Santos, A Simões, A Almeida, R Pinto, G Gonçalves
19:00	Poster session and RECEPTION
	Learning mechanisms
Poster 1	Nanotechnology learning: A lab activity study of a thin film module (STE20_7) MD Jean (FuJian University of Technology, China), CW Liu, QD Chen, MT Sheen
Poster 2	The experience of anatomic dissection of the abdominal wall and learning in human anatomy (STE20_11) CR Mendonça, M Noll (Instituto Federal Goiano, Brazil), NN Guimarães, ACML Moreira, SOL Moreira, JT Arruda, PC Moreira
Poster 3	A chat about sedentarism in adolescence: An educational practice (STE20_60) RMF Silva, CM Felício, JC Ferreira, M Noll (Instituto Federal Goiano, Brazil)
Poster 4	The association between immersion experiences and visual attention distributions in a learning game context (STE20_50) M-T Cheng (National Changhua University of Education, Taiwan), Y-Y Teng, W-C Chou
	Learning systems
Poster 5	European Adhesive Bonding - A targeted training for Portuguese professionals harmonized with European directives (STE20_5) AQ Barbosa (INEGI, Portugal), LFM da Silva, A Loureiro, EAS Marques, RJCCarbas, S de Barros
Poster 6	Advanced Joining Processes Unit: A fully independent research group (STE20_25) RJC Carbas (INEGI, Portugal), EAS Marques, LFM da Silva
	Diversity and inclusiveness
Poster 7	Correlating entrance data and first year academic performance of students enrolled in the Integrated Master in Mechanical Engineering (MIEM) at FEUP (STE20_36) TMGP Duarte (University of Porto, Portugal), AM Lopes, LFM da Silva

Friday 16 October 2020

Session 5 – Learning systems

(Chair: X Pan and AQ Barbosa)

Room B032

- 9:00 AdTech project - European harmonized training system focus on adhesive bonding technologies **(STE20_4)**
AQ Barbosa (INEGI, Portugal), A Loureiro, LFM da Silva, A Almeida, T Rosado, A Casero, E Meiß, H Balaska, M Uran, R Almeida
- 9:20 Reformulation of the Integrated Master in Mechanical Engineering (MIEM) at FEUP in two cycles of study (Bachelor and Master) **(STE20_18)**
LFM da Silva (University of Porto, Portugal), AM Lopes, J Seabra
- 9:40 Grasp the challenge of digital transformation in SMEs - A training course geared towards decision-makers **(STE20_48)**
A Azevedo (INESC TEC, Portugal), A Almeida
- 10:00 FEUP Mentoring: Promoting integration through support and experience sharing **(STE20_37)**
IM Ribeiro (University of Porto, Portugal), TP Duarte, MMSM Bastos, AA Sousa
- 10:20 Reformulation challenge for Projeto FEUP: doing better with less! **(STE20_40)**
M Torres (University of Porto, Portugal), S Ferreira

10:40-11:00 COFFEE BREAK (Room under the Auditorium)

Session 6 – Diversity and inclusiveness I

(Chair: JL Jensen and AM Ferreira)

Room B032

- 11:00 Religious audiences and evolution: A road to reconciliation **(STE20_2)**
SM Bybee, AM Corero, DG Ferguson, M Mann, JL Jensen (Brigham Young University, USA)
- 11:20 Who are the students of scientific initiation in the Brazilian federal institutes? **(STE20_9)**
T Galvão, AF Mmelo, M Noll (Federal Institute of Education, Science and Technology of Goiás, Brazil)
- 11:40 Pilot experience for raising awareness of computer engineering students about the diversity lack in the technological sector **(STE20_52)**
A García-Holgado, A Vázquez-Ingelmo, EJ García-Peñalvo (University of Salamanca, Spain), CS González-González
- 12:00 Suubi (Hope) for STEM: The potential of strengthening STEM education in Uganda **(STE20_21)**
R Kasumba (International Center for Child Health and Development, Uganda), J Muwanga, P Nabunya, V May, R Rugirrello, PA Laker, FM Ssewamala
- 12:20 Increasing of Brazilian students at FEUP: causes and educational challenges **(STE20_35)**
MQ dos Reis (INEGI, Portugal), TMGP Duarte, LFM da Silva

13:00-14:00 LUNCH BREAK (Room under the Auditorium)

Session 7 – Diversity and inclusiveness II

(Chair: CF Castro and A Lindell)

Room B032

- 14:00 COVID-19 offers a case study in global crisis management: How will we pivot to the future and address the climate emergency? **(STE20_59)**
WC Kyle, Jr (University of Missouri, USA)
- 14:20 Sustainable development goals as a premise of student teachers' STEAM learning project **(STE20_31)**
A Lindell (University of Jyväskylä, Finland), K Fenyvesi
- 14:40 Diversity in Canadian, Brazilian and Portuguese science and technology textbooks **(STE20_43)**
T Zanon (Concordia University Montreal, Canada), T Tajmel
- 15:00 International student mobility: An empirical study based on FEUP mechanical engineering data **(STE20_26)**
CF Castro (University of Porto, Portugal), MR Barbosa
- 15:20 Comparison of 1st year student conceptions of their future roles as engineers between Belgium, Ireland and the Netherlands **(STE20_47)**
GN Saunders-Smiths (Delft University of Technology, The Netherlands), S Craps, D Carthy, G Langie

16:00-16:20 COFFEE BREAK (Room under the Auditorium)

Session 8 – Assessment

(Chair: EAS Marques and GN Saunders-Smits)

Room B032

16:20	Developing a research topic based on a systematic review by bibliometrics indexes (STE20_3) <u>AR Souza</u> (University of Porto, Portugal), ASMSG Teixeira, NMM Ramos
16:40	The effectiveness of a simple tool to practice communication skills: A case study across five European Engineering Universities (STE20_32) <u>M Leandro Cruz</u> (Delft University of Technology, The Netherlands), S Sá, D Mesquita, RM Lima, GN Saunders-Smits
17:00	Affordances of 3D VR technologies in teaching science to neurodivergent learners: A case study of five middle grade students with ADD/ADHD (STE20_41) <u>RL Hite</u> (Texas Tech University, USA), <u>GM Childers</u> (Texas Tech University, USA), MG Jones
17:20	Simulation and plotting are fully mediated by prediction making to promote conceptual gain in high school chemistry (STE20_46) <u>C Chen</u> (Harvard University, USA), G Sonnert, P Sadler, S Sunbury
17:40	Evolution of a civil engineering course unit's assessment: from old-fashioned to XXI century digital (STE20_51) <u>JP Pêgo</u> (University Porto, Portugal), A Freitas
20:00	STE 2020 BANQUET (Porto caves)