International Symposium of Engineering Education 2022

The conference programme will be delivered in highlighted spaces of the Technology Innovation Centre (TIC) within the University of Strathclyde Campus. The address is 99 George Street, Glasgow G1 1RD, and a map is provided here
https://www.strath.ac.uk/maps/?building=technologyinnovationcentre

Presentations should be prepared to last no more than 10 minutes. This provides up to 5 minutes of Q&A for each presenter and change over. Please upload presentations by 5 pm 30th August https://stratheng.eu.qualtrics.com/jfe/form/SV_9uGNB8SflfJhlUG At the latest, presentation material should be brought to the session no later than 15 minutes before the session starts.

Thursday 1st September

Time	Activity	Location
8:30-9:00	Registration/Coffee	Level 3 Mezzanine (foyer)
9:00-9:15	Welcome (Professor Scott MacGregor, Vice-Principal)	Level 1 Auditorium
9:15-10:00	Keynote EDUCATION 4.0: Shifting the Engineering Mindset from System to Human Value. *Aldert Kamp, Aldert Kamp Advies*	Level 1 Auditorium
10:00-10:30	Networking Break	Level 3 Mezzanine (foyer)
10:30-12:15	*Parallel session: Graduate Degree Apprenticeship*	Level 1 Auditorium
	Development and Delivery of Innovative Engineering Degree Apprenticeship Programmes in Collaboration with Industry *Goudarz Poursharif and Tamer Panagiotis Doss*	
	Examining required flexibility in delivery of Graduate Apprenticeship to best meet stakeholder needs at a Scottish University *Christopher Smith, James Paterson, Andrew Cowell and Colin Milligan*	
	Apprenticeship Mobility in Europe *Dominique Deneux, Christian Goetz, Klaus Homann, Markku Leino, Lisa Raab, Jorma Säteri and Robin Westacott*	
	Deep learning: a case for Graduate Apprenticeships *Alan Faulkner-Jones, Odin du Plessis Love, Adnan Ilyas, Adnan Zahid and Robin Westacott*	
	Civil Engineering Graduate Apprenticeships: A feasibility study of developing the current framework to Masters level. *Kenneth Leitch, Juan Bernal Sanchez and Robbie Macfarlane*	
	Parallel Session: Sustainable Development	Conference Room 1 (Level 3)

	Teaching, assessing and operational sustainability in UCL's chemical engineering capstone design project *Richard Nayak-Luke, Ademola Odunsi, Sakiru Badmos and Michaela Pollock*	
	Pedagogical approaches to project based learning: Meeting the education needs for the globally responsible engineering workforce *Jonathan Truslove, Emma Crichton, Robyn Clark and Tom Whitehead*	
	Embedding climate change goals in engineering curricula *Vladimir Stankovic and Lina Stankovic*	
	When Life Gives You Lemons…: A Creative Approach to Teach Sustainability to a Large and Diverse Postgraduate Engineering Cohort *Gobind Pillai, Samantha Gooneratne, Seibu Mary Jacob and Michael Knowles*	
	Decisions, judgements and agency: preparing engineering graduates to think their own way through the climate crisis *Mark Haw, Steven Pisani, Hasini Dosapati and Sara Alqattan*	
	Embedding Interdisciplinary Research-Based Education for Sustainable Development in Higher Education through Vertically Integrated Projects *Scott Strachan, Louise Logan and Stephen Marshall*	
	Embedding Education for Sustainable Development in the Engineering Curriculum through Challenge-Based Education *Elizabeth Robertson and Scott Strachan*	
12:15-13:00	Lunch & Exhibition	Level 3 Mezzanine (foyer)
13:00-14:00	*Parallel Session: Laboratories*	Level 1 Auditorium
	Additive Manufacturing Virtual Reality Lab for Training Industry Employees and Engineering Students *Muhannad Ahmed Obeidi, Inam Ul Ahad, David Culliton, Dermot Brabazon, Shadi Karazi and David Kinahan*	
	Building the Engineer - Not Just the Structure (using experiential learning to develop engineers' transversal skills and employability *Dale Lyon and Julia Huisman*	
	Lab at Home: an innovative approach for online delivery of a practical civil engineering laboratory during the Covid-19 pandemic *Alessia Amabile*	
	Promoting independent learning in UG laboratory programmes: running sessions without GTA demonstrators *Mark Heslop, Chris Jones, Ian Airdrie, Liam Kirkwood and Cameron Gemmell*	
	Parallel Session: Skills	Conference Room 1 (Level 3)
	Engineering Capital: A theoretical and empirical model of engineering learning, diversity and participation *Rory McDonald*	
	Nurturing future engineering skills through self-determined innovation and entrepreneurship project work: a case study of a Scottish University *Alan Nesbitt and Christopher Smith*	
	A proposal to develop the writing skills of 1st year engineers with flash fiction *Jay Millington*	
	Analysis of Evolving Graduate/Transferable Skills in Aircraft Engineering Education *Bassam Rakhshani, Tony Leslie and Joyce Leslie*	
14:00-14:30	Networking Break	Level 3 Mezzanine (foyer)
14:30-16:00	*Parallel Session: Global perspectives*	Level 1 Auditorium

	A New Curriculum Model for Widening Access to Engineering *Gordon Flockhart, Kathleen McCormick, Steven Hewitt, Kenny Anderson and Alan Roseweir*	
	Innovate or Standardize? The challenges of creating educational diversity in a system of homogeneous practice *Esther Ventura-Medina and Flor Siperstein*	
	"I read and read, and glowered; then read and read again" (Thomas Telford): Reading for a Degree in Civil Engineering 2009-2022 *Mike Murray*	
	The Poor Relations of Online Engineering Education *Stuart Tennant*	
	Effective teaching methods for engaging engineering students in geology course *Sudeshna Basugupta*	
	Collaborative Approach Highlighting the Benefits of Diversity in Future Engineering *Bob Gilmour and Dale Lyon*	
	Parallel Session: Online learning and Covid times	Conference Room 1 (Level 3)
	An investigation of academic performance and attitudes of engineering students impacted by COVID-19 information *Yuwei Deng and Wei Liu*	
	Industry engagement projects for engineering undergraduate students during lockdown: what worked and what failed? *Chris Lambert*	
	The use of student numbers to randomise remote quantitative and qualitative assessment in response to the Covid-19 pandemic. *Alexander Norori-McCormac, Isobel Mackay and Eva Sorensen*	
	Apprasing the use of ubuntu philosophy for the enhancement of disruptive pedagogy adoption *Nolwazi Qumbisa and Bankole Awuzie*	
	Assessing students' perspectives on the influence of instructional immediacy behaviour in engendering participation in online learning environments *Nthabiseng Diba and Bankole Awuzie*	
	A Review of COVID-19's Digitalisation of Built Environment Education Ayesha Mall and Theodore C. Haupt	
16:00-16:45	Keynote The Dyson Institute of Engineering & Technology – insights from a new provider *Mary Curnock Cook*	Level 1 Auditorium
16:45-17:00	Day 1 Plenary Discussion	Level 1 Auditorium
17:00-18:30	Break	
18:30-21:30	Conference Dinner	Glasgow City Chambers: George Square; G2 1DU

Friday 2nd September

Time	Activity	Location
8:45-9:15	Registration/Coffee	Level 3 Mezzanine (foyer)
9:15-10:00	Keynote Choose your job. Love your choice. *Greet Langie, KU Leuven*	Level 1 Auditorium
10:00-10:30	Networking Break	Level 3 Mezzanine (foyer)
10:30-12:00	*Parallel Session: Skills*	Level 1 Auditorium
	Preparing future (chemical) engineers through work-based experiences *Eleni Routoula and Mohammad Zandi*	
	Future-Proofing Engineering Education: Pedagogical Reform for Engineering Resilience and Mastery *Rory McDonald*	
	A new approach in the making: reinvigorating engineering education in UK schools *Richard Davies and Jo Trowsdale*	
	Using the Transnational Setting to Develop the Intercultural Communication Skills of Electronic and Electrical Engineering Students *Andrew Hollins, Matthew Ketteringham, Lakshita Pursnani, Yixin Shen, Joanne Shiel, Alexander Valavanis and Shengxian Zhuang*	
	Innovative teaching methods for transformative skills in higher education engineering programmes *Inam Ul Ahad, Muhannad Ahmed Obeidi, David Culliton and Dermot Brabazon*	
	Fusion Skills for Engineers working in industry 5.0 *John Mitchell and David Guile*	
	Parallel session: Design	Conference Room 1 (Level 3)
	SIGNALS: A design tool to encourage future thinking in problem identification Ross Brisco and Ann Davidson	
	Impact of Immersive Extended Reality for Online Engineering Training David Culliton, Inam Ul Ahad, Dermot Brabazon and Muhannad Obeidi	
	Scaffolding Project-based Learning (PBL) at Scale with Model-based Design (MBD) & Systems Engineering (MBSE) Francesco Ciriello	
	The Design and Development of a Production Studio for Engineering Students *Chenyang Wu and Wei Liu*	
	Embedding environmental sustainability and sustainable development goals in mechanical engineering design projects *Akin Atas and Robert Heinemann*	
12:00-12:45	Lunch and Exhibition	Level 3 Mezzanine (foyer)
12:45-13:30	Keynote Impact of student led collaboration to facilitate extracurricular cross-university discussions on global responsibility in engineering *Brandon Calder, Toni McLaughlin, Jonathan Truslove and Milly Dyer, Engineers without Borders*	Level 1 Auditorium
13:30-14:45	*Session: Learning and Assessment in STEM*	Auditorium
	Developing Institutional readiness for in-work, degree-level work-based learning in the Kingdom of Eswatini. *Christopher Fowler, Christopher Smith, Patience Dlamini and John Mahlalela*	

	Investigating Inclusivity of Digital Learning & Teaching for Overseas Students enrolled in the UK STEM Programmes *Ya He and Mohammad Zandi*	
	Inspiring the bridge engineers of the future: a STEAM day collaboration between the University of Sheffield and Churcher's College *Richard Harpin and Richard Whittle*	
	Professional Skills Development in a Virtual learning Environment for Over 1,200 Postgraduate Students. *Lauren Schrock, Ninna Makrinov, Asima Iqbal, Maryam Masood*	
	Different types of assessments and their effect on students' learning and workload in remote learning *Ali Abolfathi, Tasha Tahir and Khaled Ahmed*	
14:45-15.15	Networking Break	Level 3 Mezzanine (foyer)
15.15-15:45	Day 2 Plenary Discussion	Level 1 Auditorium
15:45-16:00	Closing	Level 1 Auditorium