

ASIIN-FIGURE-EASPA Global Conference 2021 in Paris

Digitalisation – Innovation – Competitiveness in the Post-Covid Era: European and Global Higher (STEM) Education reinventing itself

Higher education and especially STEM education around the world is facing massive challenges from different directions. While the Industry 4.0 development requires HEIs to review their traditional curricula in order to prepare students for an increasingly digitalized economy, IT engineering is trying to deal with its contents sprawling into all other disciplines, technical as well as non-technical. If this was not enough, COVID-19 has clearly demonstrated that higher engineering education has serious deficiencies when it comes to digital learning, online assessments, and virtual practical training.

The European Union has over the past decades been a hotbed of global engineering and manufacturing, setting quality standards and creating expertise highly valued around the world. Following the disruptions of 2020 and 2021, can Europe still serve as a role model or have other regions of the world taken over the lead, educating the engineer of tomorrow?

The traditional engineer is disappearing step-by-step, being replaced by supposedly all-rounders, trained as profoundly in mathematics as in communication skills, IT and creative design thinking, who work in intercultural and multilingual environments. What are successful and competitive profiles for higher education graduates in the future? How can STEM curricula take into account the new requirements and adapt to the changing needs of markets and employers? How can practical work in the laboratories be maintained and successful approaches with regard to e-assessment implemented?

These and related questions and challenges will be raised and tackled during the ASIIN-FIGURE Global Conference 2021. It is dedicated to all stakeholders trying to ensure the future viability of (STEM) higher education and facing the difficult task to determine quality standards in a more and more heterogeneous and complex composition of degree programmes. The invited speakers (to be confirmed) are leading representatives and renowned speakers from the field of politics, higher education, quality assurance and industry.

Day 1 (04.11.2021): Challenges for Teaching and Learning in STEM education in a changing world

Time	Presentation	Speaker
10.00 – 10.30	Registration and networking	
10:30	Welcome	Hosts: Marie Céline Daniel , Vice-President of the University of Sorbonne Professor Felix Huber , Chair of Board of Directors of ASIIN, University of Wuppertal Professor Lamine Boubakar , President of FIGURE Professor Dr. Hans-Joachim Bargstädt , President of the

		European Alliance of Professional Accreditation and Chair of the German Accreditation Council
11:00	Introduction into the conference structure and moderation	Dr. Iring Wasser , Managing Director of ASIIN
11:10	Challenges for Teaching and Learning in STEM education in a changing world: The perspective of the EU The perspective of France	Peter van der Hijden , Policy Consultant, previously European Commission Thierry Coulhon , President of Hcéres
11.50	Keynote: How COVID-19 has triggered a long-needed reform process in Higher Education	Professor Johann Kranz , Head of the Master Programme “Management and Digital Technologies” at LMU Munich
12.20	Lunch Break	
Teaching and learning in a virtualized world: Is the University of today still the adequate place?		
13.30	An online degree in Engineering – contradiction or a living reality?	Dr. Tomi Kauppinen , Head, Aalto Online Learning, University Network for Innovation, Technology and Engineering, UNITE! Dr. Neil Cooke , Member of the Board of Directors for the European Society of Engineering Educators (SEFI) and Senior Lecturer at the University of Birmingham
14.10	A Web-based platform for building Problem Based Learning competences (PBL) among students	Professor Thomas Ryberg , Aalborg Centre for Problem Based Learning in Engineering Science and Sustainability
14.50	Lab work without a lab? Hybrid approaches to Engineering Education Are virtual labs a viable alternative to traditional forms of education?	Professor Jerome Randon , University Claude Bernard Lyon I Professor Dr. Andreas Terfort , Speaker of the German MatNat-Fakultätentag

15.30	Coffee Break
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New digital approaches in the assessment of STEM education

16.00	eAssessment in STEM education – Safety, standards, potential, and new strategies	Professor Jean-François Rees , Louvain Learning Lab, Université Catholique de Louvain
16.20	End of Conference Day	
19:30	Social Dinner at La Coupole, 75014 Paris	

Day 2 (05.11.2021): Challenges for the Quality of STEM education in a changing world

09.00	Keynote: How to save European competitiveness? The EU's e-Skills Strategy and the future of European engineering	Vanessa Debais-Sainton , Head of Unit, European Commission
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New qualification profiles on level 6-8 of the European Qualification Framework

09.30	What key skills and competencies are needed by 21 st -Century Engineers?	Ralph Appel , President of the European Federation of National Engineering Associations FEANI
09:50	World Café and Photo Session	
10.40	Coffee Break	
11.00	Challenges for the quality at the education at Bachelor and Master level: digitalization, professionalization, competencies	Professor Jean-Michel Joilon , Adviser to the Minister for Higher Education and Research in France
11.30	The contribution of research in the quality improvement of STEM education: What are the issues doctoral education is facing in Europe?	Professor Barbara Dooley , Trinity College Dublin
12.00	STEM disciplines in further education: New approaches to professional training and life-long-learning	Jean-Roch Houllier , Head of Learning and Digital, SAFRAN University Professor Joachim Schachtner , President of Clausthal University of Technology
12.45	Lunch Break on the 24 th floor of the Zamansky Tower (also 4 Pl. Jussieu)	

New approaches in Quality Assurance of Higher Education in Europe

14.00	<p>The European contribution for quality assurance in higher education:</p> <p>European standards and developments for QA</p> <p>The specific case of STEM education</p>	<p>Professor Dr. Hans-Joachim Bargstädt</p> <p>Damian Owens, President of the European Network for Accreditation of Engineering Education (ENAE)</p>
15.00	<p>Concluding Questions and discussions</p>	<p>Farid Ouabdeslam, President of FIGURE QA +</p> <p>Dr. Iring Wasser</p>
15.30	<p>End of the Conference</p>	