

SEFI 2023 Plenary Panel Event 01

Plenary 1 **RECENT TRENDS IN ENGINEERING EDUCATION RESEARCH - HOW TO SUPPORT CHANGE AND INCLUSIVE FUTURES IN ENGINEERING EDUCATION?** 11/Sept/2023 (Mon)
9:30am - 10:30am

Convened and Moderated by **Professor Aditya Johri** and **Dr Diana Martin** with Panel Members; **Professor Kristina Edström**, **Professor John Mitchell** and **Professor Bill Williams**

Summary The panel aims to bring to the attention of the SEFI community recent trends in engineering education research (EER) and discuss their role in supporting change. Prompted by the launch of the *International Handbook of Engineering Education Research*, panelists will discuss ways to document the teaching and implementation of engineering education via research and how research can contribute to strengthening engineering education and promoting sustainable change. The panelists will discuss issues such as:

- What constitutes a contribution to the field of engineering education research? What counts as knowledge? Who gets to create and disseminate new ideas and knowledge?
- How does the community translate new knowledge based on EER to actual practice of improving education?
- What is the status of EER in engineering programs in Europe? How can EER gain legitimacy and improve its visibility or status in engineering programs?
- What can we say about where the field needs to go next? What is missing?

Professor Aditya Johri



Aditya Johri is Professor of Information Sciences & Technology and Director of Technocritical Research in AI, Learning & Society Lab (trailsLAB) at the College of Engineering and Computing at George Mason University, USA. He studies how technology shapes learning across formal and informal settings and the ethical implications of using technology. He publishes broadly in the fields of engineering and computing education, educational technology, and computer-supported collaborative work and learning and is the editor of *International Handbook of Engineering Education Research (IHEER)* (Routledge/ 2023). His research has been recognized with several best paper awards and his co-edited volume, the *Cambridge Handbook of Engineering Education Research (CHEER)*, received the 2015 Best Book Publication Award from Division I of AERA. He served as a Fulbright-Nokia Distinguished Chair in ICT at Aalto University, Finland (2021) and is a past recipient of the NSF Early Career Award (2009). He received the University Teaching Excellence Award (2002) and Mentoring Excellence Award (2022) for undergraduate research at George Mason University. He was awarded a Ph.D. in Learning Sciences & Technology Design (2007) from Stanford University, Palo Alto, CA. More information is available at: <http://mason.gmu.edu/~johri>

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Dr Diana Martin



Diana Adela Martin has a PhD in Engineering Education (TU Dublin) and is currently an educational researcher at TU Eindhoven. Her research examines how ethics, sustainability, and societal responsibility are taught and implemented in the engineering curricula, with a focus on real-life educational settings. In Romania, Diana founded an educational NGO (2008-2015) which fostered cooperation between academia and the private sector, and in 2015 was selected by the European Forum Alpbach as one of Europe's innovators in tackling inequality in education. Diana is the co-chair of the Ethics Special Interest Group of SEFI – The European Society for Engineering Education (2022-25) and the Europe board representative in REEN – The Research Network in Engineering Education (2022-26). Diana serves also as an Associate Editor for the *European Journal of Engineering Education, Science and Engineering Ethics* and the *International Handbook of Engineering Education Research*.

Professor Kristina Edström



Kristina Edström is Associate Professor in *Engineering Education Development* at KTH Royal Institute of Technology, and Editor-in-Chief of the *European Journal of Engineering Education*. She is active in educational development and research at KTH, in Sweden and internationally. Her research takes a critical perspective on the *why, what* and *how* of engineering education development.

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Professor John Mitchell



John E. Mitchell is Professor of Communications Systems Engineering in the UCL Department of Electronic and Electrical Engineering and Co-director of the UCL Centre for Engineering Education. Between 2012 and 2016 he was on secondment to the UCL Engineering Sciences Faculty office, where he led the introduction of the Integrated Engineering Programme, a major revision of the curriculum across the engineering faculty. In 2018 he was part of the team that was awarded the HEA Collaborative Award for Teaching Excellence (CATE). He has published widely on curriculum development, active learning and issues of diversity within engineering education. From 2015 to 2022 he was Vice-Dean Education of the UCL Faculty of Engineering Sciences. Professor Mitchell is a Chartered Engineer, Fellow of the Institution of Engineering and Technology (IET), Senior Member of the Institute of Electrical and Electronics Engineers (IEEE), Principal Fellow of the Higher Education Academy, President of the UK's Engineering Professors' Council, Vice-President Publications of the IEEE Education Society and was until recently a Member of the Board of Directors of the European Society for Engineering Education and Editor-in-Chief of the IEEE Transactions on Education.

Professor Bill Williams



Bill Williams is a researcher at CEGIST, the Centre for Management Studies of Instituto Superior Técnico, University of Lisbon, is *Professor Jubilado* of Setúbal Polytechnic Institute, Portugal, and Adjunct Senior Research Fellow at TUDublin, Ireland. He originally trained as a chemist at UCC, National University of Ireland and went on to work in education in Ireland, UK, Eritrea, Kenya, Mozambique, and Portugal. He serves as an associate editor of the European Journal of Engineering Education (EJEE) published by the European Society for Engineering Education (SEFI) and senior associate editor for the Journal of Engineering Education (JEE) published by the American Society for Engineering Education (ASEE). He was lead editor of "Engineering Practice in a Global Context, Understanding the Technical and the Social" an edited volume published by Routledge in 2014. He is a founder member of the Portuguese Society for Engineering Education (SPEE) and is active in SEFI special interest groups on Engineering Education Research and on Diversity and Inclusion.

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