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Name	Jin Xuan	
Affiliation	University of Surrey	
<h2 style="color: red;">Invited Keynote Speaker</h2>		
Presentation Title	Building a circular economy for net zero manufacturing of chemicals and materials	
Abstract	<p>According to a United Nations report, chemicals production and consumption are to be doubled in the next 10 years to fulfil our essential needs. It's simply not going to happen unless we adopt a circular economy approach. The UKRI Interdisciplinary Centre for Circular Chemical Economy was established in January 2021 to kick start the timely transition of the UK's £32bn chemical industry into a circular system. In this talk, I will outline the vision and remit of the Centre, and discuss why we need a whole system approach and an interdisciplinary team to address the challenge. I will then give some examples of the on-going research in our lab to tackle the challenges in the development of the circular chemical economy. I will show how we combine classic electrochemical engineering with cutting-edge enabling tools such as deep learning and digital twin technologies to deliver novel sustainable chemicals and materials and recover chemical feedstocks from end-of-life materials and captured CO₂ emissions.</p>	
Biographical Sketch	<p>Professor Jin Xuan graduated with a PhD in energy engineering from The University of Hong Kong in 2012. His academic career in the UK started in 2014, when he took up a Lectureship in the School of Engineering and Physical Sciences at Heriot-Watt University. Professor Xuan joined Loughborough University in 2018 as a Senior Lecturer, was promoted to Professor and awarded a Personal Chair in Low Carbon Processes in 2019 and became Head of the Department of Chemical Engineering in 2020. In 2022, Prof Xuan joined the University of Surrey as the Associate Dean (Research and Innovation) for the Faculty of Engineering and Physical Sciences. He is the Editor of Energy and AI (Elsevier), and the founding Editor-in-Chief of the new journal Digital Chemical Engineering (ICHEM). Professor Xuan is currently leading the £4.5 million UKRI Interdisciplinary Centre for Circular Chemical Economy. Professor Xuan is the recipient of the Philip Leverhulme Prize in 2022, the Beilby Medal and Prize in 2020, Highly Commended Prizes for the IChemE Global Awards (Research Project, 2019) and IET Innovation Award in Energy and Power (2018) and Scottish Energy News Researcher of the Year Award in Energy and Materials in 2015.</p>	