



UNIVERSITY OF
SURREY

IAS

Institute
of Advanced
Studies

Digitally enabled Circular Economy Workshop

In-person | Thursday 2nd May 2024 | University of Surrey

Wates House, University of Surrey, Guildford, GU2 7XH

Programme

9:00 – 9:30	Registration Tea and Coffee	
9:30 – 9:45	Welcome and Introduction	Lei Xing, Regina Frei, David Wagg, Tiancun Xiao
Session 1: Lei Xing (Chair)		
9:45 – 10:15	The Philosophical Foundations of Digital Twins	Prof. David Wagg (Alan Turing Institute)
10:15 – 10:45	Role of Digital Tools in Sustainability Assessment of Early-Stage Chemical and Fuel Technologies	Prof. Benoit Chachuat (Imperial College London)
10:45 – 11:15	Digital R&D, Digital Engineering, and Digital Operations for Circular Economy	Dr. S. Phil Han (Siemens)
11:15 – 11:45	Accelerating Transition Towards a Circular Chemical Economy: A Systems Perspective	Prof. Bing Xu (Heriot-Watt University)
11:45 – 12:00	Break & photographing	
12:00 – 12:45	Panel discussion Prof. Jin Xuan, Prof. David Wagg, Prof. Nik Watson, Prof. Eileen Yu, Prof. Bing Xu, Dr. S. Phil Han, Robert Purchase, Fajli Bibi	
12:45 – 14:00	Lunch and poster	
Session 2: Regina Frei (Chair)		

14:00 – 14:30	Enhancing Agri-Food Transparent Sustainability (EATS)	Prof. Nik Watson (University of Leeds)
14:30 – 15:00	Digitalisation: A path to Resource Efficiency	Prof. John Ahmet Erkoyncu (Cranfield University)
15:00 – 15:30	Using Simulation to Evaluate Circular Supply Chains of Small Medical Devices	Prof. Antouela Tako (Nottingham Trent University)
15:30 – 16:00	Stabilising Systems for Sustainability Equilibrium through Industrial Autonomy	Robert Purchase (Yokogawa)
16:00 – 16:30	Break	
Session 3: Ideation workshop (5 groups)		
16:30 – 17:30	<p>How does digital technology interact with the circular economy to foster mutual development?</p> <p>Topic 1: How digital twin technology can be leveraged to optimise circular economy processes and promote circular economy business?</p> <p>Topic 2: How circular economy approaches can be applied on digital technologies to maintain their sustainable development?</p> <p>Topic 3: How IoT infrastructure and cyber security would be applied to support the digitally enabled circular economy?</p>	<p>Co-chairs: Lei Xing Regina Frei Xiaoxue Shen Oliver Fisher Miao Guo</p>
17:30 – 18:30	Networking reception	
19:00 – 21:00	Dinner	