REACT Conference Programme

Day 1 - 11 November 2025

TIME	DURATION		
12:00	1h 00m	**Registration & Networking Lunch**	
13:00	15m	**Opening**	
13:15	45m	**Keynote**	**Professor Melissa Gregg** "Computing after Carbon" Sustainability Strategy Advisor, *Meta Reality Labs* Professor of Digital Futures, *University of Bristol*
14:00	1h 20m	**Tech Session 1** ***System applications***	1) *Invited Talk:* Manuel Thesen Manager, Green ICT @ FMD; Research Fab Microelectronics Germany (FMD), *Success models from the Competence Center for Resource-Conscious Information and Comm. Technology, Green ICT @ FMD* 2) *Invited Talk:* Kiran Crawford Senior Sustainability Engineer - Electrical/DPP Commodities Lead JLR, *Automotive Sustainability and the Impacts of Electronics* 3) Benjamin King, University of Glasgow, *Component Recycling in* Chipless *Devices for Wireless, Circular Temperature Sensors* 4) University of Oxford, *A Systems Perspective on the Circular Economy for Electrical and Electronic Equipment in the UK* 5) Johanna Zikulnig, Silicon Austria Labs, *Toward Sustainable Printed Electronics: Life Cycle Perspective and End-of-Life Design Strategies*
15:20	45m	**Break & Poster Session**	
16:05	1h 25m	**Tech Session 2** ***Recycling & Recovery***	1) *Invited Talk:* Jayakrishnan Chandrappan Head of Packaging, CSA Catapult; Visiting Professor, University of Bristol and University of Strathclyde, *Redefining Semiconductor Packaging and Integration for Sustainable electronics manufacturing* 2) *Invited Talk:* Panagiota Angeli Professor of Chemical Engineering, University College London (UCL), *Digitally-enabled metals recycling for circular economies* 3) Luis Navarro, Manchester University, *Molecular Recognition TechnologyTM for Selective Metal Separation in Green eWaste Processing* 4) Ryan Conner, ElectraMet, *A Case Study on Enhancing Sustainability Through Onsite Asset Recovery, Reuse, and Offtake (ARRO) for Copper-Laden Wastewater and Acid Cleaning Solutions*

			5) Tristan Caroff, CEA LETI, *Automated E-Waste Disassembly System for Component Recovery and Reuse*
17:30		**Networking Reception & Posters**	Till 19:00

Day 2 - 11 November 2025

Time	Duration		
09:00		**Arrivals**	Morning Refreshments, Pastries, Rolls
09:30	5m	**Opening**	
09:35	45m	**Keynote**	**Professor Matt Boyle** Director of Electrification, NMIS; Chair, North East Automotive Alliance; Visiting Prof., Newcastle Univ., Prof. of Practice, Strathclyde Univ.
10:20	45m	**Panel**	*Product Value Retention* Panel Chair: Jeff Kettle Panelists: Justine Scullion, WEEE Scotland; Diego Bermudez, DICE Network+; David Howe, Jordisk; Rob Ronan, Retronix, Stephen Fitzpatrick, NMIS
11:05	25m	**Break**	
11:30	50m	**Tech Session 3**	*Invited Talk:* Andrew Abbott (20 min) Professor of Physical Chemistry, University of Leicester, *Recovery of technology critical metals from e-waste using ultrasound* Lightning talks from poster presentations (30 min)
12:20	1h 00m	**Networking Lunch**	Exhibition and Poster Presentations
13:20	1h 05m	**Tech Session 4** ***Manufacturing & Materials***	1) *Invited Talk:* Alun Morgan President, European Institute of Printed Circuits; Strategist, JIVA Materials, *Printed Circuit (PCB) Materials, market dynamics and the route to sustainability* 2) Francisco Garcia Ruiz, Universidad de Granada, *Hydrogel-based conductive inks for the additive printing of biodegradable radiofrequency electronic circuits* 3) Jon Harwell, Glasgow University, High Performance but Eco-Friendly Internet-of-Things devices enabled by Packaging Bare Silicon Dies Directly into Paper-Based PCBs 4) Mathilde Billaud, CEA Leti, *Comparative cradle-to-gate life cycle assessment of a ferroelectric capacitor, from planar to 3D integration*
14:25	40m	**Break & Poster Session**	
15:05	1h 05m	**Tech Session 5** ***Life-Cycle Aware Semiconductors***	1) *Invited Talk:* Julia Hess Senior Policy Researcher Global Chip Dynamics, interface (Germany), *Updates on the Global Semiconductor Emission Explorer*

			2) Moupali Chakraborty, Kingston University London, *Beyond FR-4: A Comparative Life Cycle Assessment of Traditional and Green PCB Substrates* 3) Max Mosig, Universität Freiburg, *Life Cycle Assessment on the Epitaxy of GaN-on-SiC High-Electron-Mobility Transistors for advanced Radiofrequency Applications* 4) Enola Fidon, CEA LETI, *Life cycle assessment of an electronic grade silicon wafer: a review and update of data*
16:15	10m	**Closing**	
17:00	1h 30m	**Optional Lab Tours -** University of Glasgow	Sustainable & Green Electronics, Semiconductor Packaging, and Microelectronics labs. Please register - react@glasgow.ac.uk

Interactive Poster Presentations

Poster Stand	Paper Title	Authors	Affiliation
1	Biocompatible and Sustainable Flexible RFID Tag Using Screen-Printed PEDOT:PSS	Mikel García-Palomo, Benjamin King, Francisco Pasadas, Francisco J. Garcia-Ruiz, Mahmoud Wagih	Universidad de Granada, University of Glasgow
2	Biodegradable and Bio-Inspired UV Light Recognition via Sustainable Synaptic Transistors for Artificial Intelligence Vision Systems	T. Serghiou, R. Morais, D. Vieira2, N. Alves, R. Parvizi, J. Kettle	University of Glasgow; São Paulo State University (UNESP)
3	Bio-inspired material for mitigating lead leakage towards sustainable perovskite photovoltaics	Gabriel L. Nogueira, João V. Paulin, Carlos F. O. Graeff	São Paulo State University
4	Electrospun PHBV–ZnO Hybrid Microfibers for Sustainable Piezoelectric Devices	Jiaqi Zong, Ali Mokhtarzadeh Bonekhalkhal, Michael McKinlay, Laura Mazon Maldonado, Mahdieh Shojaei Baghini, Oana Dobre, Carlos Garcia Nunez	University of Glasgow
5	From Circuit to Soil: Rapid Testing for Degradable Electronics	Samuel Patterson, Anna Lykkeberg, Trevor Hinchcliffe	Innovations, Impact Solutions, UK
6	Green Substrate for Flexible and Disposable Printed Electronics	Marini L, Dinesh Kumar S, Roop L Mahajan, M.K Padmanabhan, T Devasena, Chithra Lekha	Indian Institute of Technology (IIT) Madras
7	Side chain engineering of a solution-processed non-acidic hole transport material for organic electronics	Joseph Cameron, Jeff Kettle, Peter J. Skabara	University of Glasgow
8	Sustainable RF Soil Moisture Sensing Based on a Fully Recyclable/Biodegradable Liquid Metal Antenna	Xiaochuan. Fang, James. Stephenson, Mahmoud.Wagih	University of Glasgow
9	An Ultrasonic Tube Transducer to enable the Industrial Scale Recovery of Technology Critical Metals from E-waste	S. Li1, P. Daly1, B. Jacobson1, A. Feeney1, P. Prentice1	University of Glasgow,

10	Digital Technologies in Circular Economy: A Systematic Review of Applications and Impacts	Parinaz Pourrahimian1, Saleh Seyedzadeh2, Thi Hoa Nguyen3, Umit Bitici3, Bing Xu3*	NMIS, University of Strathclyde, Heriot-Watt University
11	How Closed-loop Supply Chain Network Reduces Geopolitical Risk: Evidence from Firm-level Data1	Ran Liu1; Bing Xu1*	Heriot-Watt University
12	Transition to the Circular Economy in the Electronic Industry: Can Process Innovation Accelerate Changes?	Thi Hoa Nguyen1; Nuran Acur2; Paul Jarvie3; Carlos Carbajal Pina2; Bing Xu1	Heriot-Watt University, University of Glasgow, CSA Catapult
13	A Data-Driven Framework for Policy-Patent Analysis in the Circular Economy	Yu Zhou1, Junhao Song2, Yingfang Yuan1, Wei Pang1, Jin Xuan3, Bing Xu4*	Heriot-Watt University, Imperial College London, University of Surrey
14	Bridging the Gap: Integrating 9R Strategies for Circularity in Microelectronics	T. Aslan1, L. Adu	Research Fab Microelectronics Germany
15	Electrically-Driven Systems to Remove & Recover Dissolved Metals	L. Cassidy1, J. Landon2	Kelpie Scientific, Scotland; ElectraMet, USA
16	From Lab to Industry, Kinetically Enhanced Recycling Processes by Power Ultrasonics – A Case-Study on Photovoltaic Panels	A. Parsa1, B. Jacobson1, J. Cameron1, A. Feeney1, J. Kettle1, P. Prentice1	University of Glasgow,
17	Investigation on the Status of E-Waste Management Practices Towards Promoting Circularity: A Case Study from Sri Lanka	Themiya S. Kuruppuge1, Asela K. Kulatunga2, Martino Luis3	University of Exeter
18	Material Flow Analysis and Life-Cycle Assessment of WEEE to inform Carbon Reduction Scenarios	Ana Outeirinho Morgado, Lucia Corsini	University of Oxford
19	Comparative cradle-to-gate life cycle assessment of a ferroelectric capacitor, from planar to 3D integration	M. Billaud1, C. Jahan1, Y. Beilliard1, F. Grimaud1, L. Grenouillet1	Univ. Grenoble Alpes; CEA, Leti,
20	Integrating Sustainability into Diabetes Care: Life Cycle Assessment of Non-Invasive Insulin Stripes and Smart Wound Dressings	T.Seeholzer, D. Sánchez, R. Quay	Infineon Technologies AG, Fraunhofer IAF, Fraunhofer IZM, Uni Freiburg
21	Laser-Induced Delamination in Aged Silicon Photovoltaic Modules	Bashayer Nafe Alsulami1, Joseph Cameron1, Andrew Feeney1, Jeff Kettle1	University of Glasgow,
22	Operational efficiency underpinning sustainable nanofabrication	S. Lymperopoulou, V. Kontomitrou, G. Stavrinidis, A. Stavrinidis, A. Kostopoulos G. Konstantinidis1,2, L. Michalas1,2,3	Foundation for Research and Technology - Hellas
23	Product-Based Life Cycle Assessment of Compound Semiconductor and Wide Bandgap Devices in Electric Vehicles: A Comparative Study of GaAs VCSELs and SiC MOSFETs	L.McKenzie1, C.Tinari2, S.Alacacayir3, J.Kettle4, A.Feeney5	University of Glasgow, Minviro

24	Toward Sustainable Photonics: A Low-Gold Ohmic Contact Architecture for GaAs-Based Devices	Ayesumon Kyaw1, Steward Reid1, Jeff Kettle1	University of Glasgow,
25	A Hybrid Analytical and Machine Learning Model for Peptide Detection using BioFETs	N. Smoliak, N. Kumar, P.M. Parreira, C. Macdonald, V. Georgiev	University of Glasgow
26	A Hybrid Chitosan-Parylene C Composite Based Piezoelectric Pressure Sensor for Biomedical Applications	Z. Wang, B.P. Yalagala, H. Heidari, A. Feeney	University of Glasgow,
27	Biodegradable multi-sensor system for agricultural pollutant sensing	Joseph Cameron, Andrew Rollo, Jeff Kettle	University of Glasgow
28	Contactless Respiratory Monitoring using Acoustic Convolutional Neural Network Classification	Kirill Kurskiy, Yuanying Qu, Minzhang Liu, Jiafeng Zhou	University of Liverpool
29	Digital Twin-Driven Health Solutions for Empowering Independent Living	Muhammad Irfan, David Flynn, Ahmad Taha	James Watt School of Engineering University of Glasgow
30	Impedance Sensor Combined with Diffusive Gradient Thinfilm for Heavy Metal Detection in Water.	J.V. Mendes[1], R.S.Andre[2], L.F.Santos[1]	Physics Department, IGCE/UNESP, Brazil; Biomedical Engineering, Universidade Brasil
31	Zno/Ag Hybrid-Based SERS And Water-Gated Transistor Platforms for Dye Pollutant Detection	Rogério M. Morais1, T. Serghiou2, Neri Alves1, Carlos J. L. Constantino1 and Jeff Kettle2	São Paulo State University – UNESP; University of Glasgow
32	3D Printed Antenna Arrays and Interconnects for Millimetre-Wave Application	S. David Joseph, E. A. Ball, B. Davies, M. Davies, J.R. Willmott, J. Kettle, J. Harwell	University of Sheffield, University of Glasgow
33	Balancing Carbon Emissions and Performance on Edge Devices with Heterogeneous Processors	Shengyang Huang1, Chandrajit Pal1, Sangeet Saha1, Amit Kumar Singh1, Xiaojun Zhai1, Klaus D. McDonald-Maier1	University of Essex,
34	Carbon-Aware Design Space Exploration for Reliable LLM Inference Systems	Nelson Kimaro1, Amit Singh1, Chandrajit Pal1, Xiaojun Zhai1, Sangeet Saha1, Klaus D. McDonald-Maier1	University of Essex
35	Cryo-PMOS Hardware towards Energy Efficient Neuromorphic Systems	Bhavani Prasad Yalagala, Fiheon Imroze, Meraj Ahmad, Mostafa Elsayed, Robert Graham, Martin Weides, Hadi Heidari*	University of Glasgow,
36	Development of Dielectrophoresis Electrodes for Nanowires Alignment	Jungang Zhang1, Venkatarao Selamneni1, Bhavani Prasad Yalagala1, Morteza Amjadi1* and Hadi Heidari1*	University of Glasgow,
37	Mechanical Tuning of Battery-less Huygen's Scatterers for Small Insect Pollinator Tracking	R. F. Ball, L. Ford, S. D. Henthorn	University of Sheffield
39	Digital Twin-Driven Sustainability in Semiconductor Packaging	A Ali, R. Gharehbaghi, P. Jarvie, J. Chandrappan	CSA Catapult
40	Scalable Digital Twin for Energy Efficiency in Built-environment	Shilong Yan, Alejandro Moreno-Rangel, Muhammad Imran,	University of Glasgow; University of Strathclyde