

Polymerisation and depolymerisation chemistry: the second century

8–10 September 2025 | Oxford, UK



Faraday Discussions

Monday 8 September

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| 11:30 | Registration with lunch served from 11:45 |
| 12:45 | Welcome and introductions <i>Chair of Scientific Committee</i> |
| 12:55 | Outline of Discussion format <i>Royal Society of Chemistry Publishing Editors</i> |
| 13:00 | Introductory Lecture – Spiers Memorial Lecture (Session chair: Charlotte Williams) Marc Hillmyer <i>University of Minnesota, USA</i> |
| | Session 1: Novel feedstocks (Session chair: Antoine Buchard) |
| 14:00 | Efficient room-temperature synthesis of crosslinked polyhydroxyurethanes from 5-membered cyclic carbonates without solvent or catalyst Henri Cramail <i>Laboratoire de Chimie des Polymères Organiques, France</i> |
| 14:05 | Blending PHBV with P(3HB-co-4HB) for superior thermal stability, mechanical strength, and environmental degradation Katja Loos <i>University of Groningen, The Netherlands</i> |
| 14:10 | Synthesis and ring-opening (co)polymerization of lactones derived from the cotelomerization of isoprene, butadiene, and CO₂ Ian Tonks <i>University of Minnesota, USA</i> |
| 14:15 | Discussion |
| 15:30 | Refreshments |
| | Session 1: Novel feedstocks (Session chair: Steve Howdle) |
| 16:00 | Ocean biomass-derived feedstocks for non-isocyanate polyurethane synthesis Christopher Kozak <i>Memorial University of Newfoundland, Canada</i> |
| 16:05 | Polyglycerol resin towards sustainable 3D-Printing Vincenzo Taresco <i>University of Nottingham, UK</i> |
| 16:10 | Chemical recycling of polylactide by microwave-assisted processes Mina Mazzeo <i>Università di Salerno, Italy</i> |
| 16:15 | An old tool to obtain new polymers from renewable resources: [OSSO]-type titanium-catalysed ethylene copolymerisation with copolymers Carmine Cappichione <i>Università degli Studi di Salerno, Italy</i> |
| 16:20 | Discussion |
| 18:00 | Lightning presentations – (by invitation of the Scientific Committee) |
| 18:15 | Poster session (odd numbers) and drinks reception |
| 19:15 | Close |

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Tuesday 9 September

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| | Session 2: Catalysis (Session chair: Antoine Buchard) |
| 09:00 | Efficient and controlled ring-opening copolymerization of cyclohexene oxide with cyclic anhydrides catalyzed by proline-based chiral alkyl Al(III) compounds <i>Debashis Chakraborty</i> Indian Institute of Technology Madras, India |
| 09:05 | Dual-selective polymerization: achieving chemoselectivity and stereoselectivity in a single catalytic system <i>Yunqing Zhu</i> <i>Tongji University, China</i> |
| 09:10 | Tailoring the physical properties of macromolecules via stereocontrolled polymerizations using olefin metathesis <i>Quentin Michaudel</i> <i>Texas A&M University, USA</i> |
| 09:15 | Discussion |
| 10:30 | Refreshments |
| | Session 2 continued: Catalysis (Session chair: Charlotte Williams) |
| 11:00 | Synthesis and characterization of stable nickel(II) complexes bearing long alkyl chains <i>Kyoko Nozaki</i> <i>The University of Tokyo, Japan</i> |
| 11:05 | Unleashing the power of non-toxic zn-guanidine catalysts for sustainable lactide polymerization through smart modeling <i>Sonja Heeres-Pawlis</i> <i>RWTH Aachen University, Germany</i> |
| 11:10 | Selective transesterification mediated by lanthanum complexes in the copolymerization of lactide and delta-valerolactone <i>Rachel Platel</i> <i>Lancaster University, UK</i> |
| 11:15 | Discussion |
| 12:30 | Lunch |
| | Session 3: Closing the loop – the chemistry of depolymerisation, polymer recycling and environmental degradation (Session chair: Andrew Dove) |
| 13:45 | More than ring-strain: revisiting the definition of enthalpy in ring-opening polymerization <i>Karin Odellius</i> <i>KTH Royal Institute of Technology, Sweden</i> |
| 13:50 | Improved 2PP additive manufacturing build/process quality via the use of hyperbranched pre-polymer <i>Derek Irvine</i> <i>University of Nottingham, UK</i> |
| 13:55 | Post-polymerisation oxyfunctionalisation of styrene and butadiene-based (Co-)polymers using a homogeneous manganese catalyst <i>Arnaud Thevenon</i> <i>Utrecht University, The Netherlands</i> |
| 14:00 | Discussion |

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| 15:15 | Refreshments |
| | Session 3 cont: Closing the loop – the chemistry of depolymerisation, polymer recycling and environmental degradation (Session chair: Matthew Becker) |
| 15:45 | Is solvent based dissolution and precipitation an effective pretreatment for enzymatic depolymerisation of poly(ethylene terephthalate)? Victoria Bemmer <i>University of Portsmouth, UK</i> |
| 15:50 | On-demand manufacture of circular 3D printing resins Arianna Brandolese <i>University of Birmingham, UK</i> |
| 15:55 | Borane-catalyzed cyclodepolymerization of CO₂ derived polycarbonates Francesca Kerton <i>Memorial University of Newfoundland, Canada</i> |
| 16:00 | Developing novel biodegradable biopolymers with superior barrier properties for use within the drinks industry Katrina Entwistle <i>University of Bath, UK</i> |
| 16:05 | Discussion |
| 17:45 | Lightning presentations – (by invitation of the Scientific Committee) |
| 18:00 | Poster session (even numbers) and refreshments |
| 19:00 | Conference dinner |

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Wednesday 10 September

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| | Session 4: Polymerisation processes and computational methods to control structure (Session chair: Theoni Georgiou) |
| 09:00 | Thermodynamics of Ring-Opening Polymerisation Informatics Collection (TROPIC): A database to enable polymer chemical recycling Charles Romain <i>Imperial College London, UK</i> |
| 09:05 | AI/ML optimization workflows in polymer synthesis: Towards autonomous laboratories Rigoberto Advincula <i>University of Tennessee, USA</i> |
| 09:10 | Understanding depolymerization kinetics of Poly (butyl methacrylate) using flow chemistry Tanja Junkers <i>Monash University, Australia</i> |
| 09:15 | Discussion |
| 10:30 | Refreshments |
| | Session 4 cont: Polymerisation processes and computational methods to control structure (Session chair: Antoine Buchard) |
| 11:00 | Thermally and base-triggered 'debond-on-demand' crosslinked polyurethane adhesives Wayne Hayes <i>University of Reading, UK</i> |
| 11:05 | Self-assembled poly(L-lactide)-based platelets prepared via seeded growth Rachel O'Reilly <i>University of Birmingham, UK</i> |
| 11:10 | Discussion |
| 12:00 | Concluding remarks lecture (Session chair: Charlotte Williams) Stefan Mecking <i>University of Konstanz, Germany</i> |
| 12:30 | Acknowledgements and presentation of poster prizes |
| 12:45 | Close of meeting and lunch |

All timings are in BST

Please note that this is a draft programme and timings may change.