

PROGRAMME

9:00-9:30	Morning tea and coffee - Welcome by Director of Graduate Studies Claudia Blindauer		
VENUE	Lecture Theatre 3 (L3)	Lecture Theatre 4 (L4)	Lecture Theatre 5 (L5)
	Polymers	Measurement and Analytical Science	Synthesis and Catalysis
CHAIR	Hannes Houck	Michael Hope	Rianne Lord
09:30	Yiping Chen Supervisor: Dave Haddleton RAFT in Flow with End Group Removal	Angus Currie Supervisor: James Lloyd-Hughes (Physics) Vibrational Energy Traps in Organic Semiconductors Revealed by Infrared Pump–Infrared Probe Spectroscopy	Jack Beall Supervisor: Sebastian Pike Tuning the Electronic Structure and Photochemical Properties of Iron(III)-oxo Clusters
09:50	Joel Heming Supervisor: Dave Haddleton Curing of Hydroxy-Terminated Polybutadienes (HTPBs) for Formulations of Propellant Binders	Todd Davey Supervisor: Józef Lewandowski Designing an Algorithm for Deciphering the Secondary Structure of Lyophilised Peptides Using Solid-State NMR	Sreshtha Nayek Supervisor: Peter Sadler Light-Activated Ruthenium and Osmium Metallodrugs for Targeted Cancer Therapy
10:10	Yixuan Chen Supervisor: Sébastien Perrier RAFT-Controlled Polymeric Surfactants for Anhydrous Phase Change Material Emulsions (PCMEs) for Cooling Applications	Sam Trouton Supervisor: Nikola Chmel Enhancing Student Engagement in Undergraduate Physical Chemistry Labs	Matt Taylor Supervisor: David Fox Generative AI for Drug Design
10:30-10:50	Refreshment Break (Science Concourse)		
	Polymers	Measurement and Analytical Science	Chemical, Structural and Synthetic Biology
CHAIR	David Haddleton	Mark Barrow	Alex Mullins
10:50	Esther Udobang Supervisor: Sébastien Perrier From Lipids to Polymers: Developing Alternative Nanoparticle Systems for Gene Delivery	Calum Davies Supervisor: Julie MacPherson Print or Swim: Low-Cost Sensors for River Water Monitoring	Emma Coker Supervisors: Lona Alkhalaf, Greg Challis and Józef Lewandowski Characterisation of Protein-Protein Interactions Governing Chlorination in the Biosynthesis of Aeruginosin
11:10	Jiuli Xu Supervisor: Sébastien Perrier Exploring the Mechanism and Application of Mixed Cyclic Peptide Polymer Conjugates and Small Molecule Conjugated Systems	Georgina Rhodes Supervisor: Julie MacPherson Electrochemical Insights from Microscale Electrical Conductivity and Electrochemical Activity Mapping of 3D Printed Carbon Black – Polylactic Acid Composite Electrodes	Duong Nguyen Supervisors: Lona Alkhalaf and Greg Challis Genomics-Driven Identification of Novel Macrolide Compounds
11:30	Ola Alkosti Supervisors: Sébastien Perrier and Santhosh Rajendrakumar Metabolic Oligosaccharide Engineering and Drug-Conjugated RAFT Polymers for Targeted Drug Delivery	Fengping Tang Supervisor: Julie MacPherson Assessment of Freestanding Boron-Doped Diamond for the Removal of Perfluorobutanoic Acid (PFBA) Electrochemically	Joseph Newman Supervisors: Fabrizio Alberti (SLS) and Matt Jenner Structural and Biochemical Characterisation of Fungal Siderophore Biosynthesis

11:50	Mars Poxon Supervisors: Stefan Bon and Soroush Abolfathi (Engineering) MDO or MDON't? Copolymerisation of 2-Methylene-1,3-Dioxepane in Aqueous Systems	Ahmad Hamadi Supervisor: Richard Walton Acid-Resilient Iridium Oxide Electrocatalyst Materials for Water Electrolysis	Vanessa Asante Supervisors: Gary Bending (SLS) and Lijiang Song Environmental Pollution in Ghana and How it Contributes to Antimicrobial Resistance
12:10-14:10	Lunch and Posters (Science Concourse)		
VENUE	Lecture Theatre 3 (L3)	Lecture Theatre 4 (L4)	Lecture Theatre 5 (L5)
	Polymers, Chemical, Structural and Synthetic Biology	Measurement and Analytical, Energy Materials	Computational and Theoretical
CHAIR	Seb Perrier	Julie MacPherson	Gabriele Sosso
14:10	Zhengsi Cao Supervisor: Hannes Houck A Novel Thermally Depolymerisable Polymer Based on Photo-[2+2]-Cycloaddition of Bifunctional Monothiomaleimide	Gla Sinted Supervisor: Richard Walton Functional Fluoride Materials: A Safer Synthesis Design and their Properties	Dev Patel Supervisor: Scott Habershon Automated Discovery of New Quantum Dynamics Algorithms
14:30	Abeer Aljubailah Supervisor: Remzi Becer Designed Strategies for Degradable Poly(2-oxazoline)s	Haokai Wang Supervisor: Mark Barrow Comparative Molecular Characterisation of Bio-Oils from Different Feedstocks Using Different Ionisation Methods in FT-ICR MS	Xuexun Lu Supervisors: Scott Habershon and Reinhard Maurer A Simple Model of Nonadiabatic Energy Loss During Hydrogen Scattering from a Semiconductor
14:50	Zhaoyue Li Supervisor: Tim Bugg Enzymatic Degradation of Man-Made Plastics	Samuel Mutto Supervisor: Mark Barrow Petroleum Past: Advanced Multi-Analytical Approaches To Understanding the Practice and Economics of Bitumen Use in Ancient Iraq	Zahra Bhatti Supervisors: Albert Bartók-Pártay (Physics), Scott Habershon and Nicholas Hine (Physics) Using Machine Learning to Predict UV/Vis Spectra in Explicitly Solvated Environments
15:10			Thanawitch (Bright) Chatbipho Supervisor: Livia Bartók-Pártay Nested Sampling for Material Surfaces
15:30-16:00	Refreshment Break (Science Concourse)		
15:30-16:00	Voting window (Science Concourse)		
16:00-17:00	<p style="text-align: center;">PLENARY: Decarboxylation for Polymer Deconstruction and Materials Design – Professor Brent Summerlin, University of Florida</p> <p>Our group has explored decarboxylation as a versatile strategy for polymer deconstruction, using carbon dioxide extrusion to generate reactive intermediates that promote chain cleavage, depolymerisation, or architectural remodeling. By installing redox-active carboxylate derivatives at chain ends or as pendent groups, we can trigger carbon-centered radical formation through electrochemical or thermal activation. This approach provides a programmable handle for initiating unzipping reactions in vinyl polymers under comparatively mild conditions, moving beyond strategies that rely on weak end groups, high temperatures, or harsh reagents.</p> <p>Building on this foundation, we show that depolymerisation to volatile monomer can be repurposed as a constructive design strategy rather than only a recycling tool. By embedding depolymerisable domains within polymerisation-induced microphase-separated block copolymers, we developed depolymerisation etching of PIMS materials, or DEPIMS. In this platform, decarboxylation-triggered radical formation removes selected domains through monomer release while retaining the surrounding matrix, producing mesoporous materials with high surface areas and tunable adsorption properties. This solvent-free process circumvents diffusion limits of solution-based etching, yields recoverable monomer, and connects fundamental deconstructive reactivity to the scalable fabrication of functional nanostructured polymers.</p>		
17:00-18:00	Prizes and Drinks (Science Concourse)		