

# POSTERS – Science Concourse

## Master of Science by Research

- Damini Bakrania**  
Supervisor: Remzi Becer  
Design and Evaluation of Polymeric Binder Systems for Lithium-Ion Battery Cathodes
- Benjamin Colledge**  
Supervisor: Paul Wilson  
Electrochemical Modification and Degradation of Polyacrylamides and Polyurethanes
- Alex Costello**  
Supervisor: Richard Walton  
New Ruthenium-Based Pyrochlores for Supercapacitors
- Taha El-Kadry**  
Supervisor: Mark Greenhalgh  
Catalytic Enantioselective Synthesis of Diazirine-Containing  $\alpha$ -Amino Acids for Photoaffinity Labelling
- Aleena Kombanal**  
Supervisor: Alex Baker  
The Synthesis of Glycans for the Sensing of Snake Venom
- Taeyeon Park**  
Supervisor: Claudia Blindauer  
Zinc, Copper and Disease: A Metalloproteomic Approach to Pre-eclampsia and Metabolic Disorders
- Nisita Jadavji Patel**  
Supervisor: Mark Greenhalgh  
Chalcogen Bond Enhanced Hydrogen Bonding
- Neil Prabhakar**  
Supervisors: Alex Baker and Gabriele Sosso  
Machine Learning Guided Design of Antibody Biomimetics Against Snake Venom
- Maciej Ratajczyk**  
Supervisors: Evelina Liarou and Paul Wilson  
Controlled Synthesis and Electron Microscopy of Complex Polymer Architectures
- Alexander Smith**  
Supervisor: Manuela Tosin  
Investigation of Cryptic Steps Leading to Chlorinated Antibiotic Biosynthesis

## Doctor of Philosophy

- Shuhrah Allami**  
Supervisor: Ross Hatton  
Nanostructured Electrodes for High-Performance Organic Photovoltaics
- Elizabeth Arnold**  
Supervisor: Mark Senn  
Jahn-Teller  $e_g$  and  $t_{2g}$  Degeneracies in Perovskite Functional Materials

- Alexander J. Cantor**  
Supervisors: Alex Baker and Sébastien Perrier  
Going Protein-Free: Next-Generation Snake Venom Diagnostics
- Angie Cheung**  
Supervisor: Remzi Becer  
Macromolecular Design for Enhanced Lubricant Performance in Polymer Additives
- William Douglas Findlay Cleeve**  
Supervisors: Evgeny Rebrov  
Towards Silicon Photonics Based Gas Sensors
- Sanugi Dassanayake**  
Supervisor: Mark Barrow  
Exploring the Effects of Ion Source Parameters on the Relative Intensities of the Detected Odd- and Even-Electron Ions Using Atmospheric Pressure Photoionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry (FTICR)
- Ishwarjeet Udham Singh Dhillon**  
Supervisors: Saskia Bakker (AB RTP) and Jake Brooks (Engineering)  
Effects of Pollution-Relevant Magnetite Nanoparticles on Mammalian Brain Cells
- Zhaofei Ge**  
Supervisor: Julie Macpherson  
Effects of Nanoparticle Size and Structure on Electrochemical Activity and Stability
- Fiona Gibson**  
Supervisor: Mark Greenhalgh  
A Dual Approach to Understanding the Contrasting Effects of Triazole Substituents Used in Hydrogen, Halogen and Chalcogen Bonding
- Dennis Haggart**  
Supervisor: Dave Haddleton  
HTPB in Flow: Controlled Living Anionic Polymerisation Using Automated Flow Chemistry Techniques
- Gareth Hart**  
Supervisor: Richard Walton  
Synthesis, Testing and Industrial Realisation of Iridate Pyrochlore Electrocatalysts
- Tom Hellyar**  
Supervisors: Livia Bartók-Pártay and Scott Habershon  
Pb Phase Diagram from Nested Sampling Aided by Machine Learning
- Xiaoqi Ji**  
Supervisors: Lona Alkhalaf, Greg Challis and Alex Mullins  
Investigation of C-Methyltransferase Domain from Trans-AT Polyketide Synthases Responsible for Gladiostatin Biosynthesis

24. **Zhebin Jiang**  
Supervisor: Stefan Bon  
Injection Moulding of Functionalised Crosslinked Colloidal Particles
25. **Ranya M Jizani**  
Supervisor: Dave Haddleton  
Development of Acrylamide-Based Monomers and Crosslinkers for Aqueous 3D Hydrogel Resins in Biomedical Applications
26. **Rhys Jones**  
Supervisor: Peng Wang (Physics)  
Hollow Ptychography for Low-Dose Phase Imaging of Metal-Organic Frameworks (MOFs)
27. **Matt Larkin**  
Supervisor: Scott Habershon  
The Effect of Hot Electrons in Light-Driven Desorption Dynamics
28. **Vincent Lau**  
Supervisor: Mark Greenhalgh  
The Decomposition of Phosphonium Selenite Catalyst in Catalytic Reactions
29. **Liming Li**  
Supervisors: Stefan Bon and Gabriele Sosso  
Study of Eutectic Systems and Their Molecular Dynamics (MD) Simulations
30. **Helena Loan**  
Supervisor: Michael Hope  
Using  $^{119}\text{Sn}$  Solid-State NMR and DFT Calculations to Investigate the Large Anisotropies in Sn(II) MOFs
31. **Jaskaran S Mangat**  
Supervisor: Mark Senn  
Stoichiometry-Shear Coupling and Hysteretic Domains in an Archetypal Strongly Correlated Nickelate
32. **Luke Marlow**  
Supervisors: Ann Dixon and Rebecca Notman  
Phase Separation in Lipid Bilayers: Implications for the Formation of the Immunological Synapse
33. **Ross Milverton**  
Supervisor: Raj Pandya  
From Pulse Shaping to Batteries: New Approaches and Applications in 2D Raman Spectroscopy
34. **Bowen Qian**  
Supervisor: Stefan Bon  
Sustainable Armoured Particles and Capsules Made Using Pickering Stabilizers
35. **Yuqing Qin**  
Supervisor: Dave Haddleton  
RAFT-Mediated Copolymerization of Styrene and Maleic Anhydride / Polymerisation Using Real-Time Monitoring
36. **Indra K Saputra**  
Supervisor: Tim Bugg  
Lignin Biomass Valorisation via Novel Styrene Pathways
37. **Katie Sharrock**  
Supervisor: Sebastian Pike  
Investigating the Photoactivatability and Onward Reducing Ability of Titanium-oxo Clusters.
38. **Henry Thake**  
Supervisors: Scott Habershon and Reinhard Maurer  
Ooh, Kinky: The Bumps in the Adsorption of Small Molecules
39. **Alex Watkins**  
Supervisor: Bora Karasulu  
Utilising Machine Learning to Predict New Structures of In-Ga-Zn-O for Semiconductor Applications
40. **Alex Webster-Hirst**  
Supervisor: Sebastian Pike  
Towards Controlled MOF Formation - Ligand Exchange Studies at Metal-Oxo Clusters to Model Modulation
41. **Samuel Weekes**  
Supervisor: Peter O'Connor  
Dissecting Nitrosamine Dissociation Using Tandem Mass Spectrometry Techniques
42. **Caitlin Williams**  
Supervisors: Mark Greenhalgh and Matt Jenner  
Photoactivatable Diazirines: Novel Chemical Tools to Trap Elusive Protein-Protein Interactions
43. **Xiangting Xiao**  
Supervisors: Richard Walton and Melanie Loveridge (WMG)  
Sn(II) Carboxylate Metal-Organic Frameworks for Lithium-Ion Battery Applications
44. **Weicheng Xu**  
Supervisor: Ross Hatton  
Development of a Hybrid Transparent Electrode for Organic Photovoltaics Based on a Fine Copper Grid and Poly(3,4-ethylenedioxythiophene): Polystyrene Sulfonate Conducting Polymer
45. **Jingxin Zhang**  
Supervisor: Sébastien Perrier  
Solid-Phase Synthesis-Based Cyclic Peptide-Polymer Conjugated Nanotubes for Delivery of SN-38 in Colorectal Cancer Therapy
46. **Jingyu Zhang**  
Supervisors: Lona Alkhalaf, Greg Challis and Alex Mullins  
Evolution-Guided Discovery and Biosynthesis of Polyynes in Actinobacteria