



IRMG 2026

Inorganic Reaction Mechanism Group
Symposium

Manchester 1st July – 3rd July

Inorganic Reaction Mechanisms Discussion Group Meeting 2026

at the Manchester Institute of Biotechnology from the 1st to 3rd of July (2026)

Venue: MIB Lecture Theatre, John Garside Building, 131 Princess Street, Manchester, M1 7DN

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Wednesday the 1st of July

12:00 – 13:00 Registration, Lunch / Tea / Coffee (*Atrium, Manchester Institute of Biotechnology*)

13:00 – 13:15 Welcome by the Chair (Sam de Visser) (*MIB Lecture Theatre*)

Session 1: Sam de Visser (University of Manchester) Chair.

13:15 – 14:00 Plenary lecture of Natalie Fey (University of Bristol, Bristol, UK),
Organometallic Reactivity x Data Science. (PL1)

14:00 – 14:20 Elena Rongione (University of Manchester, Manchester, UK),
A Ru-P450 Analogue: Preparation and Strategies for Decarbonylation. (OL1)

14:20 – 14:40 Garima Saini (University of St. Andrews, St. Andrews, UK),
Breaking Ester Bonds with Ruthenium: Efficient Hydrogenation and Mechanistic Insights. (OL2)

14:40 – 15:00 Reece Gardner (University of Manchester, Manchester, UK),
Probing the Mechanism of Metal-hydride Hydrogen Atom Transfer Reactivity in Cobalt-substituted CYP119. (OL3)

15:00 – 15:30 Coffee break (*Atrium*)

Session 2: Laleh Tahsini (University of Oklahoma) Chair.

15:30 – 15:50 Marcello Gennari (University of Grenoble-Alpes, Grenoble, France),
Electrifying Nickel Pincer Complexes for the Dehalogenation of Benzyl Halides. (OL4)

15:50 – 16:10 Henrik P. H. Wong (University of Manchester, Manchester, UK),
Computational Elucidation of the Electronic Structure and Catalytic Mechanism of Nickel-Dependent Sulfonamide Synthase SbzM. (OL5)

16:10 – 16:30 Nicholas C. C. McVeigh (University of Strathclyde, Glasgow, UK),
Oxidative Addition to a Prototypical Nickel(0) Source. (OL6)

16:30 – 16:50 Arindom Bhattacherya (King's College London, London, UK),
Pd/Pt Duality and Photochemical Enhancement in Metal-Ligand-Cooperative Hydrosilylation Catalysis. (OL7)

16:50 – 17:10 Hsiao-Ching Lin (Institute of Biological Chemistry, Taipei, Taiwan),
Heme and Non-Heme Iron Oxygenases in Fungal Natural Product Biosynthesis. (OL8)

17:10 – 18:15 Poster session and drinks reception (*Atrium*)

18:15 – unlimited, socializing

Thursday the 2nd of July

Session 3: Ian Fairlamb (University of York) Chair.

- 09:00 – 09:45 IRMG Award Lecture by Darren Willcox (University of Manchester, Manchester, UK),
Exploring the Mechanism of Iron-Catalyzed Hydroboration. (AL1)
- 09:45 – 09:50 IRMG Award Ceremony.
- 09:50 – 10:10 James Walton (Durham University, Durham, UK),
S_NAr Reactions of $[(\eta^6\text{-arene})\text{RuCp}]^+$ Complexes and Catalysis Via Photoactivated Arene Exchange. (OL9)
- 10:10 – 10:30 O. Raïch Panisello, (University of Barcelona, Barcelona, Spain),
Kinetico–Mechanistic Study of the Dynamic Process of Au(I) Complexes with the Azobenzene CNC₆H₄NNC₆H₅ (iso-Ph) Ligand. (OL10)
- 10:30 – 11:00 Coffee break (*Atrium*)

Session 4: James Walton (Durham University) Chair.

- 11:00 – 11:20 Laleh Tahsini (University of Oklahoma, Oklahoma, USA),
Direct Carboxylation and Esterification of Terminal Alkynes by Cu-CNC Complexes: The Role of Metal Ligand Cooperativity. (OL11)
- 11:20 – 11:40 Rozina Khattak (Durham University, Durham, UK),
Ligand-Controlled Electron Transfer Pathways in Fe(III)–Iodide Systems in DMSO–Water Media. (OL12)
- 11:40 – 12:00 Claire McMullin (University of Bath, Bath, UK),
DFT Mechanistic Investigations of an Al(I) Alumanyl Dimeric Species Supported by Group 1 Alkali Metal Cations. (OL13)
- 12:00 – 12:05 Flash presentation by George Mills of Dixon Science (Sponsor)
- 12:05 – 13:30 Lunch break, Poster Session and Network opportunities (*Atrium*)

Session 5: Anthony Green/Richard Obexer (University of Manchester) Chair.

- 13:30 – 14:20 MIB Sponsored Talk by Bradley Moore (Scripps Institute, San Diego, USA) *Metalloenzyme Discovery from Natural Product Biosynthesis.* (PL2)
- 14:20 – 14:40 Armando Albert-Flores (University of Cambridge, Cambridge, UK),
Ligand Exchange Processes in the Formation of the Active Sites of Artificial Metalloproteins. (OL14)
- 14:40 – 15:00 Alicia M. Kirk (University of Queensland, Brisbane, Australia),
Proposed Mechanism for Aromatic Nitration by the Cytochrome P450 RufO in Rufomycin Biosynthesis based on Multiscale Model. (OL15)
- 15:00 – 15:30 Coffee break (*Atrium*)

Session 6: David Nelson (University of Strathclyde) Chair.

- 15:30 – 15:50 Egor Kokin (University of Oxford, Oxford, UK),
Electronic Structure and Bonding Contributions to Bond Activation in Mono and Multinuclear 3d metal Complexes. (OL16)
- 15:50 – 16:10 Jack Rowbotham (University of Manchester, Manchester, UK),
Rewiring Electron Transfer in Heme Enzymes for Improved C-H Activation. (OL17)
- 16:10 – 17:00 Keynote Lecture by Liam Ball (University of Bristol, Bristol UK),
Arylation of Weak Nucleophiles: Mechanisms, Methodology, and Applications. (PL3)
- 17:00 – 18:15 Poster session and drinks reception (*Atrium*)
- 18:15 – unlimited, socializing

Friday the 3rd of July

Session 7: Jack Rowbotham (University of Manchester) Chair.

- 09:00 – 09:45 Plenary Lecture by Takayoshi Awakawa (RIKEN, Tokyo, Japan),
Structure and Functional Analyses of Unique α -Ketoglutarate Dependent Oxygenases in Natural Product Synthesis. (PL4)
- 09:45 – 10:05 Mandalena Mendy (University of York, York, UK),
Is There a Role for Bimetallic Species in Oxidative Indole Cross-Coupling Reactions? (OL18)
- 10:05 – 10:25 Hafiz Saqib Ali (University of Strathclyde, Strathclyde, UK),
Mechanistic Modelling of Oligonucleotide Synthesis: Insights into Reaction Pathways. (OL19)
- 10:25 – 11:00 Coffee break (*Atrium*)

Session 8: Henrik Wong (University of Manchester) Chair.

- 11:00 – 11:20 Reza Latifi (University of Oklahoma, Oklahoma, USA),
Synthesis, Characterization, and Reactivity of Heteroleptic BIAN-Based N-Heterocyclic Carbene Cu(I) Complexes. (OL20)
- 11:20 – 11:40 Chung Doan (University of Manchester, Manchester, UK),
Biomimetic Cobalt Porphyrins Towards Enzymatic C-H Fluorination. (OL21)
- 11:40 – 12:00 Andrew Buller (University of Manchester, Manchester, UK),
Mechanisms of Cobalt-Hydrogen Atom Transfer Catalysis. (OL22)
- 12:00 – 12:10 Presentation of Oral Presentation and Poster Awards
- 12:10 Closing ceremony and final comments by the Chairs.

Poster presentations:

- P1 Pinky Ncomela Mjwara (University of KwaZulu-Natal, Pietermaritzburg, South Africa), *Tuning The Reactivity of N,N'-Pyridyl Palladium(II) Complexes: A Substitution Kinetics and DNA/BSA Binding Study.*
- P2 Abigayle L. Boyce (University of Edinburgh, Edinburgh, UK), *Iron-Mediated C–C Cleavage of C–CN Bonds.*
- P3 Jacob T. Guntley (University of Bath, Bath, UK), *Reduction of Na⁺ within a {Mg₂Na₂} Assembly: A DFT Study.*
- P4 Rozina Khattak (Durham University, Durham, UK), *Solvent-Induced Parallel Kinetics in Dicyanobis(bipyridyl)iron(III)–Iodide Electron Transfer in Quaternary Media.*
- P5 Luming Guo (University of St. Andrews, St. Andrews, UK), *Mechanistic Investigation of Atmospheric-Pressure Water–Gas Shift Reaction Catalysed by a Ru–MACHO Pincer Complex.*
- P6 Dilhara Manawadu (University of Manchester, Manchester, UK), *Environmental C-F Remediation by Oxidative Heme Enzymes: A Combined Computational and Experimental Study.*
- P7 Samuel Oultram (University of Strathclyde, Glasgow, UK), *Towards the Mechanistic Understanding of Deleterious Pathways in Nickel(II)-Catalysed Cross Coupling Reactions.*
- P8 Ted Brumsen (University of St. Andrews, St. Andrews, UK), *Intramolecular C-H Activation in Fe(PMe₃)₄.*
- P9 Jay Johnson (University of Manchester, Manchester, UK), *Making Cells into Factories: Can the Radicals in Cobalt Myoglobin Catalysis Be Seen by EPR In Vivo?*
- P10 Jason He (University of Manchester, Manchester, UK), *Longer Arms, Higher Reactivity: Equatorial Coordination Ring Expansion Boosts Iron–Oxo Activity.*
- P11 Kevin Hamdani (University of Manchester, Manchester, UK), *Characterisation of Isolated Reductase Domains from a Panel of Self-Sufficient Thermostable Cytochromes P450.*
- P12 Henrik P. H. Wong (University of Manchester, Manchester, UK), *A Comparative Computational Study of Substrate Activation by Ergothioneine Dioxygenase and Cysteine Dioxygenase.*
- P13 Hrithik Manojkumar (University of St. Andrews, St. Andrews, UK), *Computational Study of Cu-Catalysed Fluorodeboronation of Arylboronic Acids.*
- P14 Theo S. C. Hatcher (University of St. Andrews St. Andrews, UK), *Modelling the Movement of Small Molecules in SMOM Crystals.*
- P15 Nikeel Cull (University of Manchester, Manchester, UK), *Developing a Theoretical Receptor Method to Probe Drug Metabolism by CYP1A2.*
- P16 Hannah Knight (University of Manchester, Manchester, UK), *Synthesis, Structure and Reactivity of Iron Carbonyl Complexes.*