

Dalton Joint Interest Group Conference
29 June - 1 July, online
Day 1: 29 June

11.00	Welcoming remarks Robert Mulvey and Joseph Wright						
11.15	Lewis acidic boranes in synthesis and catalysis Rebecca Melen University of Cardiff, UK Session chair: George Britovsek						
12.00	Break: online networking and ice breaker session						
Theme	Main Group		Coordination and Organometallic		Inorganic Biochemistry		Reaction Mechanisms
Session chair	David Liptrot		Joseph Wright		Nick Le Brun		Uli Hintermair
12.30	A cyaphide transfer reagent Stephanie Urwin University of Oxford, UK	12.30	Tuning copper coordination for ionising cross coupling catalysis Nicola Bell University of Glasgow, UK	12.30	Nitrite binding to chlorite dismutases - a spectroscopic investigation of substrate analogue complexes to elucidate the enzymatic mechanism Ilenia Serra University of Antwerp, Belgium	12.30	Heterotrimetallic carbon dioxide copolymerization and switchable catalysts: sodium is the key to high activity and unusual selectivity Alex Plajer University of Oxford, UK
12.50	Preparation and reactivity of compounds with Al=P and Ga=P double bonds Ella Rice University of Edinburgh, UK	12.50	Polarised covalent thorium(IV) – and uranium(IV)–silicon bonds Ben Reant University of Manchester, UK	12.50	1,2,4-Triazine metal complexes as luminogenic bioorthogonal reagents Valery Kozhevnikov Northumbria University, UK	12.50	Efficient and selective reduction of dioxygen to water by a novel class of dinuclear Schiff base catalysts Chales James University of East Anglia, UK
13.10	Shining light on radical formation in frustrated lewis pairs Andrew Jupp University of Birmingham, UK	13.10	Selective cleavage of aromatic C-C bonds by iridium: key roles of benzylic C-H activation and metal-metal cooperativity Alexey Sergeev University of Liverpool, UK	13.10	Insight into the role of the His64 residue found in the distal pocket of Physter macrocephalus myoglobin –an Electron Paramagnetic Resonance spectroscopy study Afonso Froes University of East Anglia, UK	13.10	Investigation on catalytic behaviour of small, well-defined Pd3 clusters in suzuki-miyaura reaction Neda Jeedi University of York, UK
13.30	Flash presentations (pre-recorded) and poster session Poster presenters surname A - M to present						
15.00	Break						
Theme	Main Group		Coordination and Organometallic		Inorganic Biochemistry		Reaction Mechanisms
Session chair	Michael Ingleson		John Fielden		Anna Peacock		Rory Waterman
15.30	Harnessing heterometallic cooperativity with s-block metal/zinc catalysts in cyclic ester ring-opening polymerisation Weronika Gruszka University of Edinburgh, UK	15.30	Redox responsive Manganese-based MRI theranostics for cancer therapy Beatriz Brito Kings College London, UK	15.30	NanoSIMS studies of 57-iron reveal how tissue-specific distribution patterns of iron are established in developing wheat grains Sadia Sheraz University of Manchester, UK	15.30	An air-stable, easy to assemble catalyst for selective amine-borane dehydropolymerisation: mechanism, chain control and on-scale polymer production Claire Brodie University of York, UK
15.50	Carbon monoxide activation by a molecular aluminium imide: c-o bond cleavage and c-c bond formation Andreas Heilmann University of Oxford, UK	15.50	A hydrocarbon-soluble Zintl cluster for catalytic olefin hydrogenation Oliver Townrow University of Oxford, UK	15.50	Phosphine glycoconjugates designed for technetium-99m radioimaging Rachel Nuttall University of Bristol, UK	15.50	Preparation of novel group 9 organometallic complexes and their application towards nucleophilic fluorination Patrick Morgan University of Nottingham, UK
16.10	New modes of reactivity for dimetallynes controlled by hemilability Alexa Caise University of Oxford, UK	16.10	Coordination chemistry of WSiCl4 and the development of precursors for WS2 thin film deposition Victoria Greenacre University of Southampton, UK	16.10	Bio-orthogonal catalysts for selective antibiotic activation James Southwell University of York, UK	16.10	Beyond Al: Group 13 Salphen catalysts for efficient CO2 Utilisation. Insight from DFT calculations Ryan Lewis Sheffield Hallam University, UK
16.30	Biosynthesis of the H-cluster of Fe-Fe Hydrogenase David Britt University of California, Davis, USA Session chair: Paul Walton						
17.15	Close of formal sessions – informal networking						

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Day 2: 30 June

10:00	Developing the chemistry of the aluminyl anion, [Al(NONDDipp)] ⁻ Martyn Coles Victoria University of Wellington, New Zealand Session chair: Jose Goicoechea						
Theme	Main Group		Coordination and Organometallic		Inorganic Biochemistry		Reaction Mechanisms
Session chair	Eva Hevia		George Britovsek		Claudia Blindauer		Jon Rourke
10.45	Chemoselective C–C σ -Bond activation of the most stable ring in biphenylene Richard Kong Imperial College London, UK	10.45	Bis-vanadyl coordination complexes as two-qubit quantum gates Ivana Borilovic University of Manchester, UK	10.45	cis, fac-[Ru(bqp)2]2+: A Molecular Light Switch for Detection of i-Motif DNA John Fielden University of East Anglia, UK	10.45	Uncovering the Synthesis and Photoredox Reaction Mechanisms of Ti-oxo Cluster Molecules Sebastian Pike University of Warwick, UK
11.05	Reversible reductive elimination in aluminium(II) dihydrides Rosalyn Falconer University of Edinburgh, UK	11.05	Bimetallic Ti-O-Ti complexes: visible light-activated, homogeneous alternatives to TiO2 photosensitisers Kira Behm Heriot-Watt University, UK	11.05	Chelator-Porphyrin conjugates for gallium-68 PET/PDT theranostics Thomas Price Kings College London, UK	11.05	Understanding complex Pd-catalysed reaction systems through automated chemistry, data analysis and mechanistic studies George Clarke University of York, UK
11.25	Nucleophilic reactivity of coinage metals Caitilin McManus University of Oxford, UK	11.25	Migratory insertion of CO into a Au–C bond Jamie Cadge University of Bristol, UK	11.25	FRET based ratiometric switch for selective sensing of Al3+ with bio-imaging in human peripheral blood mononuclear cells PBMCs Sangita Das Durham University, UK	11.25	Exploring Substrate Effects in Homogeneous Catalysis by Cationic Rhodium Complexes Derek Durand University of Bristol, UK
11.45	Break						
12.15	An elementary chemical tour Sir Martyn Poliakoff, University of Nottingham, UK Session chair: Joseph Wright						
13.15	Poster session Poster presenters surname N - Z to present						
14.00	Break						
Theme	Main Group		Coordination and Organometallic		Inorganic Biochemistry		Reaction Mechanisms
Session chair	Michael Cowley		Rachel Platel		Luisa Ciano		Alvin Holder
14.30	Synthesis and structure of pyramidal pnictine stabilised Ge(II) dications Rhys King University of Southampton, UK	14.30	Design and development of hemilabile NHC gold complex for redox catalysis Samuel Scott University of Bristol, UK	14.30	Luminescent Europium(III) Complexes for Real-Time Monitoring of Kinase Activity Stephen Butler Loughborough University, UK	14.30	Aromatic Transformations Promoted by η^6 -Coordination to Ruthenium(II) Luke Williams University of Durham, UK
14.50	Alkali metal (Li, Na, K, Rb, Cs) mediation in magnesium hexamethyldisilazide [Mg(HMDS)2] catalysed transfer hydrogenation of alkenes Thomas Gentner University of Strathclyde, UK	14.50	Understanding the chemical shift changes in anagostic motifs; comparison of a series of bulkier, Rh-DPEphos-R pre-catalysts and their interesting reactivity James Race University of York, UK	14.50	Shining a light on biomolecular heme wires Jessica van Wonderen University of East Anglia, UK	14.50	Activation of a Mn(II)/Mn(III)-Peroxide with relevance to the catalytic cycle of Ib RNRs Lorna Doyle Trinity College Dublin, Ireland
15.10	Applications of triarylfuoroboranes in organic synthesis Katarina Stefkova Cardiff University, UK	15.10	Bis(pyridyl)allenes: versatile ligands for novel metal complexes with diverse applications Maria Munoz-Herranz University of East Anglia, UK	15.10	Adsorption of Cu(II) ions from aqueous solution using pyridine-2,6-dicarboxylic acid crosslinked chitosan as a green biopolymer adsorbent Ibraheem Bisiriyu, University of Johannesburg, South Africa	15.10	The Structurally Diverse Anionic Pathway in the Nickel-Catalysed Cross Coupling of Aryl Ethers Andrzej Borys Universität Bern, Switzerland
15.30	Siderophores in Stereo: Microbial formation of chiral ligands and iron complexes Alison Butler, University of California, Santa Barbara, USA Session chair: John Slattery						
16.15	Close of sessions						

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Day 3: 1 July

11:15	Solid solutions to modelling C-H activation chemistry Stuart Macgregor, Heriot-Watt University, UK Session chair: Andrew Weller							
Theme	Main Group		Coordination and Organometallic		Inorganic Biochemistry		Reaction Mechanisms	
Session chair	Sophie Benjamin		Steve Archibald		Paul Walton		Ruth Webster	
12.00	Colorimetric metal-free detection of carbon monoxide: reversible CO uptake by a BNB frustrated Lewis pair Xiongfei Zheng University of Oxford, UK	12.00	Arylated dihydropentalenes as precursors for bimetallic complexes Ulrich Hintermair University of Bath, UK	12.00	Deciphering the mechanistic subtleties of Fe(IV)=O formation in bacterial dye-decolourising peroxidases Jonathan Worrall University of Essex, UK	12.00	Highly Active Lithium Half-Salen Catalysts for rac-Lactide Ring-Opening Polymerisation Yali Zhou University of Edinburgh, UK	
12.20	Zinc catalysed electrophilic C-H borylation of heteroarenes Matthew Grundy University of Edinburgh, UK	12.20	Basicity enhancement with alkali metal alkoxides by formation of mixed aggregates Jan Klett Universität Mainz, Germany	12.20	Bioinspired Copper-Non-Steroidal Anti-Inflammatory Drug Complexes as Anti-Cancer Stem Cell Agents Alice Johnson University of Leicester, UK	12.20	External electric fields and electrostatic perturbations affect the selectivity of chemical reaction mechanisms in enzymes Sam de Visser University of Manchester, UK	
12.40	Alkali-metal catalyzed hydrophosphination reactions of alkenes and alkynes Michael Whitelaw University of Strathclyde, UK	12.40	Molecular Fe species on N-doped few-layer graphene: a characterization study by temperature programmed transmission electron microscopy and X-ray spectroscopy Rosa Arrigo University of Salford, UK	12.40	Reversible dissociation of a bacterioferritin protein cage as a route to small molecule encapsulation Justin Bradley University of East Anglia, UK	12.40	Illuminating the Chemistry of Zinc with X-rays Chris Smith University of Reading, UK	
13.00	Break							
13.30	Prebiotic synthesis of redox-active iron-sulfur clusters Claudia Bonfio, University of Cambridge, UK Session chair: Nick Le Brun							
14.15	Break Break Session: How to publish with impact Andrew Shore, Executive Editor, Dalton Transactions at Royal Society of Chemistry							
Theme	Main Group		Coordination and Organometallic		Inorganic Biochemistry		Reaction Mechanisms	
Session chair	Mark Crimmin		Simon Aldridge		Jonathan Worrall		Rory Waterman	
15.00	Synthesis, structure and reactivity of triazidosilane Peter Portius University of Sheffield, UK	15.00	Catalysis with highly reactive organometallic reagents in deep eutectic solvents John Slattery University of York, UK	15.00	Vanadium metal compounds for the treatment of lung cancer Rianne Lord University of East Anglia, UK	15.00	Using LED-NMR to Shed Light on the Mechanism of Dual Photoredox/Ni Catalysis Yael Ben-Tal University of Edinburgh, UK	
15.20	Understanding the structures of TM-encapsulating Group 14 Zintl clusters by fragment assembly Harry Morgan University of Oxford, UK	15.20	The importance of the solid-state microenvironment on the stability and binding mode of a series of σ-alkane complexes Arron Burnage Heriot-Watt University, UK	15.20	Iron-siderophores as anchors in artificial metalloenzymes Anne Duhme-Klair University of York, UK	15.20	First principles study of reactions in hybrid film growth: the role of the organic precursor Arbresha Muriqi Tyndall National Institute, Ireland	
15.40	How big is the pinacol boronic ester as a substituent? Valerio Fasano University of Bristol, UK	15.40	Towards sterically stabilised redox-switchable polyoxometalate hybrid photonic material Bethany Hood University of East Anglia, UK	15.40	A coumarin-porphyrin FRET break-apart probe for Heme Oxygenase-1 (HO-1) Edward Walter Imperial College London, UK	15.40	Unravelling the role of phosphonium adducts in phosphonium-catalysed hydrosilylation of ketones: A DFT study Samuel Neale University of Bath, UK	
16.00	Diverse roles of low-valent phosphorus ligands in catalysis Lisa Rosenberg, University of Victoria, Canada Session chair: Joseph Wright							
16.45	Closing remarks, poster prize presentation and acknowledgments Robert Mulvey and Joseph Wright							
17.00	Close of meeting							

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