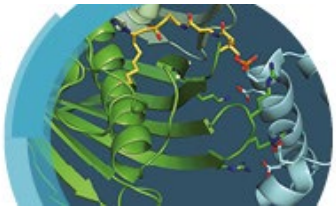
Directing Biosynthesis VI



27–29 June 2022
Edinburgh, UK
and Online

Monday 27 June 2022 (all timings are BST)

11:00	Registration and refreshments Lunch available from 12:00 (JMCC)	
12:50	**Welcome and introduction** Greg Challis *University of Warwick*	
Session 1: Fungal natural products Session chair: Kira Weissman		
13:00	**Genome Mining for Unknown Unknowns in Fungi** Yi Tang *UC Los Angeles, USA*	K01
13:40	**Structural studies of transient and higher-order interactions in polyketide synthases** Timm Maier *University of Basel, Switzerland*	K02
14:20	**Identification and characterization of bifunctional fungal terpene synthases** Jaclyn Winter *University of Utah, USA*	C01
14:40	**Flash poster presentations (even numbers)**	
15:10	**Poster session (even numbers) and refreshments (South Hall)**	
Session 2: Peptide Biosynthesis Session chair: Hajo Kries		
16:20	**Structures and functions of nonribosomal and non-nonribosomal peptide synthetases** Martin Schmeing *McGill University, Canada*	K03
17:00	**Structure and function of a peptide crosslinking P450 from biarylitide biosynthesis** Max Cryle *Monash University, Australia*	C02
17:20	**Iterative peptide backbone N-Methylation in borosin RiPP biosynthesis** Michael Freeman** *University of Minnesota, USA*	C03
17:40	**Investigating the mechanisms of lanthipeptide biosynthesis using structural mass spectrometry** Chris Thibodeaux *McGill University, Canada*	C04
18:00	**Poster session (all posters) and wine reception (South Hall)**	
19:00	Close of sessions	

** presenting online

Tuesday 28 June (all timings are BST)

08:45	Refreshments (JMCC)	
Session 3: Biosynthetic engineering I Session chair: Sacha Pidot		
09.00	**Discovery and biosynthetic origin of cyclopropanol substituted toxins in human pathogenic bacteria** Felix Trottmann *Leibniz Institute for Natural Product Research and Infection Biology (HKI), Germany*	K04
09.40	**Engineering of polyketide Synthase Leads to 'low-fat' stambomycins** Su Li** *Max-Planck-Institute for Terrestrial Microbiology, Germany*	C05
10.00	**CRISPR-Cas9 in vivo editing enables rapid engineering of a complex antibiotic assembly line** Wei Li Thong *University of Manchester, UK*	C06
10.20	**Towards new more efficient and clinically relevant lincosamide antibiotics** Zdenek Kamenik *Institute of Microbiology Czech Acad Sci, Czech Republic*	C07
10.40	Refreshments (South Hall) *Kindly sponsored by:*	
Session 4: Unusual C-C bond forming enzymes Session chair: Sarah Barry		
11.10	**New insights into cobalamin-dependent methyltransferase reactions** Squire Booker** *Pennsylvania State University, USA*	K05
11.50	**Biosynthesis of the unusual carbon skeleton of nocuolin A** Teresa Patricia Martins *CIIMAR, Portugal*	C08
12.10	**Enzymatic assembly of the salinosporamide gamma-lactam-beta-lactone anticancer warhead** Katherine Bauman *University of San Diego, USA*	C09
12.30	**Flash poster presentations (odd numbers)**	
13:00	Lunch (South Hall) **Poster session (odd numbers) from 14:00** Session to include any online-only posters in addition to in-person	
Session 5: Polyketide biosynthesis in Gram-negative bacteria Session chair: Jeroen Dickschat		
15.00	**Combining organic synthesis and synthetic biology to explore and exploit polyketide biosynthesis** Chris Willis *University of Bristol, UK*	K06
15:40	**Unveiling the iterative programming of the zeamine II enzymatic assembly line** Sophie Dekimpe *KU Leuven, Belgium*	C10
16:00	**Modular α-hydroxylation in trans-AT PKSs** Franziska Hemmerling *ETH Zürich, Switzerland*	C11
16.20	Refreshments (South Hall)	

Session 6: Plant natural products Session chair: Stefan Schulz		
16:50	**Biosynthetic pathways of cyclotides- ultrastable cyclic peptides from plants with applications in agriculture and medicine** David Craik *University of Queensland, Australia*	K07
17:30	**Deciphering quassinoid biosynthesis in the invasive tree of heaven (Ailanthus altissima)** Jakob Franke *Leibniz University Hannover, Germany*	C13
17:50	**Omics approaches to harness daphniphyllum alkaloid diversity** Benjamin Lichman *University of York, UK*	C14
18:10	Close of sessions	
18:30	Coaches leave for Conference Dinner	
19:00	Conference dinner – Royal Botanic Garden Edinburgh	

** presenting online

Wednesday 29 June (all timings are BST)

08:45	Refreshments (JMCC)	
Session 7: Discovery and biosynthesis of nitrogenous metabolites Session chair: Hai Deng		
9:00	**NAD as a building block in natural product biosynthesis** Ikuro Abe *University of Tokyo, Japan*	K08
9:40	**TBC** Ren Xiang Tan** *Nanjing University, China*	K09
10:20	**Exploring new biocatalysts for the sphingolipid synthesis in Actinobacteria** Gustavo Perez-Ortiz *The University of Edinburgh, UK*	C15
10:40	**Pseudomonas pan-genomic analysis informs the discovery of plant pathogen inhibitors** Andrew Truman *John Innes Centre, UK*	C16
11:00	Refreshments (South Hall)	
Session 8: Biosynthetic engineering II Session chair: Dominic Campopiano		
11:30	**Enzymatic routes to the next generation therapeutics** Anna Fryszkowska *Merck Sharp & Dohme, USA*	K10
12:10	**Simulation-guided redesign of terpene synthase product outcome** Marc Van der Kamp *University of Bristol, UK*	C17
12:30	**Enzymatic methylation in engineered biosynthetic pathways as a tool for product diversification** Kristina Haslinger *Rijksuniversiteit Groningen, Netherlands*	C18
12.50	**Fatty acid synthases (FASs) enable access to new-to-nature compounds** Martin Grininger *Goethe University Frankfurt, Germany*	C19
13.10	Lunch (South Hall)	
13:40	**Round table discussions for early-career researchers** Informal discussions over lunch focusing on career directions, different systems, challenges and skills, with advice from scientists in academia and industry	
Session 9: New frontiers Session chair: Greg Challis		
14:40	**Biosynthesis of unusual functionalities in natural products** Wenjun Zhang *UC Berkeley, USA*	K11
15:20	**Closing remarks and presentation of poster prizes** Greg Challis *University of Warwick* *Kindly sponsored by:* Chemical Science · MarinLit (Dedicated to marine natural products research) · Organic & Biomolecular Chemistry · Natural Product Reports	
15:30	Close	

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