

Directing Biosynthesis VIII

29 June - 1 July 2026 | Manchester, UK



Monday 29 June 2026

11:30	Registration with lunch from 12:00	
12:50	Welcome and introduction Conference Chair: Kira Weissman	
Session 1: Genome mining, computational approaches, chemical ecology Session Chair: Joleen Masschelein		
13:00	Biosynthesis of selenium-containing natural products Mohammad Seyedsayamdost <i>Princeton University, USA</i>	K01
13:35	Tailoring enzyme-guided expansion of natural product Eric Helfrich <i>Goethe Universität Frankfurt, Germany</i>	C01
13:55	PARAS: High-accuracy machine learning of substrate specificities in nonribosomal peptide synthetases Barbara Terlouw <i>Wageningen University and Research, The Netherlands</i>	C02
14:15	The biosynthesis of chemical mimics in plant-animal interactions Ryan Nett <i>Harvard University, USA</i>	C03
14:35	Refreshments	
Session 2: Genetics, enzymology and structural biology of natural product synthesis I Session Chair: Matthew Crump		
15:05	Vectorial biosynthesis on assembly-line polyketide synthases Chaitan Khosla <i>Stanford University, USA</i>	K02
15:40	Structural basis for [1,3]-phosphate shift in bacterial hormone biosynthesis Lona Alkhalaf <i>University of Warwick, UK</i>	C04
16:00	2026 Natural Product Reports Emerging Investigator Lectureship Stereochemical adventures in plant natural product biosynthesis Jakob Franke <i>Leibniz University Hannover, Germany</i>	K03
16:35	Flash poster presentations (odd numbers) - by invitation of the scientific committee	
17:00	Poster session (odd numbers) and refreshments	
18:30	Close of Sessions	

Tuesday 30 June 2026

Session 3: Biocatalysis		
Session Chair: Martin Hayes		
9.00	Making natural products with tailored enzymes Rebecca Buller <i>University of Bern, Switzerland</i>	K04
9.35	Sustainable biocatalytic upcycling of biomass via immobilised carbohydrate processing enzymes Bethan Winterson <i>University College London, UK</i>	C05
09:55	SAM-dependent enzymes in cycles and cascades Jennifer Andexer <i>Freiburg University, Germany</i>	K05
10:30	Refreshments	
Session 4: Genome mining, computational approaches, chemical ecology		
Session Chair: Andrew Truman		
11:00	Natural products from interacting microorganisms and ancient microbiomes Pierre Stallforth <i>Leibniz Institute for Natural Product Research and Infection Biology, Germany</i>	C06
11:20	Genome mining-driven discovery of bioactive fungal natural products Yudai Matsuda <i>City University of Hong Kong, Hong Kong</i>	C07
11:40	Discovery and characterisation of new pathways to improved polyene antifungal agents Saadia Nasr Mirza <i>Imperial College London, UK</i>	C08
12.00	Genome mining for natural products – engineering nature’s chemical factories Tilmann Weber <i>Technical University of Denmark, Denmark</i>	K06
12:35	Lunch	
Session 5: Industry/academic collaborations in the natural products space		
Session Chair: Helen Hailes		
13:35	Medinamycin, first member of a new structural class within the phosphoglycolipid antibiotics Ignacio Pérez-Victoria <i>CSIC, Spain</i>	I01
13:55	EvoSelect®: A zero-shot In silico platform for generating optimised enzymes Lauren Turner <i>Isomerase, UK</i>	I02
14:15	Driving collaboration in biocatalysis Martin Hayes <i>AstraZeneca, Sweden</i>	I03
14:35	From biosynthesis to deployment: lessons from terpenoid pathways for engineering biology and translation Claudia Vickers <i>Queensland University of Technology (QUT), Australia</i>	I04
14:55	Flash poster presentations (even numbers) - by invitation of the scientific committee	
15:20	Poster session (even numbers) with refreshments	
Session 6: Synthetic biology, metabolic and microbiome engineering		
Session Chair: Benjamin Lichman		
16:50	Unusual biosynthesis of the triculamin-like lasso peptides Thomas Tørring <i>Aarhus University, Denmark</i>	K07

17:25	Plug-and-play engineering of modular polyketide synthases Lihan Zhang <i>Westlake University, China</i>	C09
17:45	Defining tolerant nonribosomal peptide synthetase recombination boundaries to generate epoxomicin-derived peptide aldehydes Sarah Messenger <i>Eawag, Switzerland</i>	C10
18:05	Biosynthesis and biotechnological production of paclitaxel Sotirios Kampranis <i>University of Copenhagen, Denmark</i>	K08
18:40	Close of sessions	
19:30	Pre dinner drinks & Conference Dinner – Midland Hotel, Manchester (ticket holders only)	

Wednesday 1 July 2026

9:00	Careers presentation Robert Bowles <i>Royal Society of Chemistry, UK</i>	
Session 7: Genetics, enzymology and structural biology of natural product synthesis II Session Chair: Matthew Jenner		
9.30	Programmed biosynthesis of ocean life Brad Moore <i>Scripps Institution of Oceanography, USA</i>	K09
10:05	Communication mechanisms in the peptide-bond condensation reaction in the Tomaymycin producing non-ribosomal peptide synthetases Megha Karanth <i>University of Birmingham, UK</i>	C11
10.25	Enzymatic skeletal editing reaction to form 1,3,5-triazine core in the biosynthesis of 5-azacytidine, a valuable medicine discovered 60 years ago Yasushi Ogasawara <i>Hokkaido University, Japan</i>	C12
10:45	Directing RiPP Bbiosynthesis: Structural basis of nif11-like leader peptide recognition Dmitry Ghilarov <i>University of Oxford, UK</i>	C13
11:05	Refreshments	
Session 8: Genetics, enzymology and structural biology of natural product synthesis III Session Chair: Barrie Wilkinson		
11:35	Enigmatic bacterial sphingolipids; elucidating their biosynthesis, transport and function within the host Dominic Campopiano <i>University of Edinburgh, UK</i>	K10
12:10	Biosynthesis of the α-D-mannosidase inhibitor (-)-swainsonine Yang Hai <i>University of California Santa Barbara, USA</i>	C14
12.30	Enzyme-catalyzed cyclization in natural product biosynthesis Hui-Ming Ge <i>Nanjing University, China</i>	C15
12:50	Harnessing natural product biosynthesis Sarah O'Connor <i>Max Planck Institute for Chemical Ecology, Germany</i>	K11
13:25	Closing remarks & presentation of poster prizes Conference Chair: Kira Weissman	
13:35	Close and lunch	

Please note that the programme is subject to change.