

# PROGRAMME

## Directing Biosynthesis 2010: Discovery, Evolution, Function 15 - 17 September 2010, Durham University, UK

### Wednesday 15 September

11:00	Registration
12:30	Lunch
13:45	Welcome and Introduction Scientific Committee Chair: Russell Cox, <i>University of Bristol, UK</i>
Session 1A	<b>Discovery of New Natural Products and Pathways</b> Session Chair: Mervyn Bibb, <i>John Innes Centre, UK</i>
14:00	<b>The chemistry underlying bacterial symbioses</b> Jon Clardy* <i>Harvard Medical School, USA</i>
14:45	<b>Oscillatoria PCC 6506 secondary metabolism: from genome sequencing to cyanotoxin biosynthesis</b> Annick Méjean, Stéphane Mann, Rabbia Mazmouz, Olivier Ploux*, Florence Hugon and Valérie Pichon <i>ENSCP, France</i>
15:10	<b>Biosynthesis of the polyketide antibiotic thiomarinol by marine bacteria</b> Daisuke Fukuda, Anthony Haines, Annabel Murphy, Zhongshu Song, Joanne Hothersall, Carl Ward, Elton Stephens, Russell Cox, John Crosby, Chris Willis, Thomas J. Simpson and Christopher M. Thomas* <i>University of Birmingham, UK</i>
15:35	Afternoon Tea
Session 1B	<b>Discovery of New Natural Products and Pathways</b> Session Chair: Greg Challis, <i>University of Warwick, UK</i>
16:00	<b>Genome mining of secondary metabolites and their biosynthesis pathways in <i>Aspergillus nidulans</i></b> Clay C. C. Wang*, Nancy Keller and Berl Oakley <i>University of Southern California, USA</i>
16:25	<b>The rapamycin/FK506 biosynthetic enzymes RapK/FkbO are chorismatases required for starter unit synthesis</b> Steven Moss* <i>Biotica, UK</i>
16:50	<b>Genome mining towards a comprehensive accounting of triterpenoid biosynthesis in <i>Arabidopsis thaliana</i></b> Seiichi Matsuda* <i>Rice University, USA</i>
17:35	Poster Session
19:30	Free Evening Dinner is not provided

**Thursday 16 September**

Session 2A	<b>Pathway Engineering</b> Session Chair: Jason Micklefield, <i>University of Manchester, UK</i>
09:00	<b>Engineering the Biosynthesis of Novel Lipopeptide Antibiotics Related to Daptomycin</b> Richard Baltz* <i>Cubist, USA</i>
09:45	Title and speaker TBC
10:10	Title and speaker TBC
10:35	Morning Coffee
Session 2B	<b>Pathway Engineering</b> Session Chair: Dominic Campopiano, <i>University of Edinburgh, UK</i>
11:00	<b>Challenges and Opportunities in Natural Product Glycosylation</b> Jon Thorson* <i>University of Wisconsin-Madison, USA</i>
11:45	<b>Modular Thinking – Explorations in Activity and Function</b> Michael Burkart* <i>University of California, San Diego, USA</i> Winner of the 2010 OBC Lecture Award
12:30	Lunch
Session 3A	<b>Structural Biology and Directed Evolution</b> Session Chair: Anne Osbourn, <i>John Innes Centre, UK</i>
14:15	<b>Peeling Back the Layers of Time: Reconstructing the Evolutionary History of Nature's Biosynthetic Toolbox</b> Joseph Noel* <i>The Jack H. Skirball Center for Chemical Biology and Proteomics, USA</i>
15:00	<b>Deciphering interdomain communication in modular PKS</b> Kira Weissman* <i>University of Saarland, Germany</i>
15:25	<b>Engineering Plant Polyketide Synthases</b> Ikuro Abe* <i>The University of Tokyo, Japan</i>
15:50	Afternoon Tea
Session 3B	<b>Structural Biology and Directed Evolution</b> Session Chair: Peter Leadlay, <i>University of Cambridge, UK</i>
16:15	<b>Convergent evolution of oxygen activation mechanisms in three different enzyme families of polyketide biosynthesis</b> Gunter Schneider* <i>Karolinska Institutet, Sweden</i>

16:40	<b>Reengineering the Nonribosomal Peptide Andrimid</b> Bradley S. Evans*, Yunqiu Chenc, Huimin Zhaod and Neil L. Kelleherc <i>University of Illinois, Urbana, USA</i>
17:05	<b>Molecular Origami in Nature: The Cyclization Specificity of Polyketide Synthase</b> Sheryl Tsai* <i>University of California, Irvine, USA</i>
17:50	Close of Session
19:30	Pre-dinner Drinks – Grey College
20:00	Conference Banquet – Grey College

## Friday 17 September

Session 4A	<b>Biosynthesis and Enzymology</b> Session Chair: Barrie Wilkinson, <i>Biotica, UK</i>
09:00	<b>Natural product biosynthesis - Inspiration for novel chemistry and enzymology</b> Ben Shen* <i>University of Wisconsin-Madison, USA</i>
09:45	<b>The genetic and biochemical basis for napyradiomycin biosynthesis via V-dependent chloroperoxidases</b> Bradley Moore* <i>University of California, San Diego, USA</i>
10:10	<b>Cytochrome P450-Catalysed Regiospecific Nitration of L-Tryptophan in thaxtomin biosynthesis</b> S. M. Barry* and G. L. Challis <i>University of Warwick, UK</i>
10:35	Morning Coffee
Session 4B	<b>Biosynthesis and Enzymology</b> Session Chair: Chris Willis, <i>University of Bristol, UK</i>
11:00	<b>Highly unusual iterative use of NRPS involved in the biosynthesis of saframycin</b> Kento Koketsu, Kenji Watanabe, Hiroki Oguri and Hideaki Oikawa* <i>Hokkaido University, Japan</i>
11:25	<b>Mechanistic studies of sesquiterpene synthases for an expansion of the terpene</b> Juan A. Faraldos, Veronica Gonzalez-Gonzalez, Amang Li, David J. Miller, Fanglei Yu and Rudolf K. Allemann* <i>Cardiff University, UK</i>
11:50	<b>Leader Peptide Directed Biosynthesis: Engineering of Lantibiotics</b> Wilfred van der Donk* <i>University of Illinois-Urbana/Champaign, USA</i>
12:35	Close of Session Lunch is not provided

\* Denotes presenting author to whom affiliation applies