

# UK Cyanobacteria Networking Meeting: CyanoNet2018

13-14 September 2018

University of Glasgow, Glasgow G12 8QQ

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## Day 1: 13 September 2018

### James Watt South Building, Room 355

11.00 – 12.00 *Registration*

12.00 – 13.00 *Lunch and posters*

#### Session 1: Biology of cyanobacteria. Chair: Anna Amtmann.

13.00 – 13.10 Welcome  
Anna Amtmann, University of Glasgow

13.10 – 13.25 “Cell biology of cyanobacteria – multicellularity and motility”  
Conrad Mullineau, Queen Mary University of London

13.25 – 13.40 “The surprising photosynthetic function of a novel ferredoxin protein in cyanobacteria”  
Guy Hanke, Queen Mary University of London

13.40 – 13.55 “Peculiarities of cyanobacterial transcription”  
Yulia Yuzenkova, Newcastle University

13.55 – 14.10 “Mapping the cyanobacterial proteome”  
David Lea-Smith, University of East Anglia

14.10 – 14.25 “Cyanobacterial photoreceptors”  
Aleksandar Mihnev, University of Glasgow

14.25 – 15.15 *Tea/Coffee*

#### Session 2: Methods and tools for cyanobacterial biotechnology. Chair: Alistair McCormick.

15.15 – 15.30 “Algal treasure”  
Christine Edwards, Robert Gordon University

15.30 – 15.45 “Engineering cyanobacteria for improved production of high value chemicals”  
Samantha Bryan, University of Nottingham

15.45 – 16.00 “Two stage production in cyanobacteria”  
Mary Ann Madsen, University of Glasgow

16.00 – 16.15 “New tools and design principles for rapid development of effective synthetic metabolic pathways for cyanobacteria”  
John Heap, Imperial College London

16.15 – 16.30 “CyanoGate: A Golden Gate modular cloning suite for engineering cyanobacteria based on the plant MoClo syntax”  
Ravendran Vasudevan, University of Edinburgh

16.30 – 16.45 “Poly-omics modelling, optimization and machine learning of metabolism”  
Claudio Angione, Teesside University

17.00 – 18.00 *Posters with drinks*

## **Bower Building (West Entrance)**

18.15 – 20.00 *Conference Buffet*

## **Day 2: 14 September 2018**

### **James Watt South Building, Room 355**

#### Session 3: Production systems. Chair: Saul Purton

- 09.30 – 09.45 “Algae photobioreactors in urban design”  
Seyedeh Fatemeh Mohsenpour, Heriot-Watt University
- 09.45 – 10.00 “Use of narrow waveband LEDs to influence cyanobacterial metabolism”  
Douglas McKenzie, Xanthella Ltd.
- 10.00 – 10.15 “Platform technologies for phenotyping of algal metabolites”  
Nathan Hawkins, Anatune Ltd.

10.15 – 10.30 *Tea/Coffee*

### **PI Breakout Session, James Watt South Building, Room 261**

#### Session 4A: The future of UK CyanoNet. Chair: Anna Amtmann

10.30 – 12.30 Discuss funding strategies

### **ECR Breakout Session, James Watt Building, Room 355**

#### Session 4B: Working with cyanobacteria. Chair: Mary Ann Madsen

- 10.30 – 10.35 Introduction  
Mary Ann Madsen, University of Glasgow
- 10.35 – 10.55 “Transformation of cyanobacteria”  
Stefan Semerdzhiev, University of Glasgow
- 10.55 – 11.15 “CyanoGate: A Golden Gate modular cloning suite for engineering cyanobacteria”  
Grant Gale and Alejandra Schiavon, University of Edinburgh
- 11.15 – 11.35 “Single-cell analysis of carotenoids using Raman spectroscopy”  
Jordan Twigg, University of Glasgow
- 11.35 – 12.30 General discussion: Challenges, tips and future networking
- 12.30 – 14.00 *Lunch and close*

## Posters

1. "Novel metal containing enzymes: missing links in the marine P cycle?"  
Linda Westermann, University of Warwick
2. "Circadian regulation of gene expression and its application to synthetic biology"  
Giorgio Lai, Newcastle University
3. "Synechocystis current output and physiological effect of harvesting extracellular electrons in a biophotovoltaic device"  
Laura Wey, University of Cambridge
4. "The surprising photosynthetic function of a novel ferredoxin protein in cyanobacteria"  
Guy Hanke, Queen Mary University of London
5. "Towards photosynthetic hydrogen production"  
Sean Craig, University of Nottingham
6. "Tapping the unused potential of photosynthesis"  
Annika Rottig, University of Southampton
7. "A new DXCF-type cyanobacteriochrome"  
Aleksandar Mihnev, University of Glasgow
8. "Cyanobacterial biodiversity in the CCAP"  
Christine Campbell, CCAP/SAMS
9. "Novel bioactives from Baltic cyanobacteria"  
Christine Edwards, Robert Gordon University
10. "Biosynthesis of released exopolysaccharides in *Synechocystis* spp. PCC 6803"  
Stefan Semerdzhiev, University of Glasgow
11. "Bioprospecting for novel microbial pigments using Raman spectroscopy"  
Jordan Twigg, University of Glasgow
12. "Synthetic Biology with Serine Integrases"  
Sean Colloms, University of Glasgow
13. "CyanoGate: A Golden-Gate-based toolkit for engineering cyanobacteria"  
Alejandra Schiavon, University of Edinburgh
14. "Developing the cyanobacterial toolkit to enhance metabolic engineering of *Synechocystis* sp. PCC 6803"  
John Heap, Imperial College London
15. "Engineering improved ethylene production: Leveraging systems biology"  
Alexander Van Hagen, University of Nottingham
16. "Identification of the ergothioneine biosynthesis pathway in *Synechocystis*"  
Nick Smirnoff, University of Exeter
17. "Developing a scalable downstream process for extraction and purification of the high value cyanobacterial pigment protein C-phycoerythrin"  
Ravendran Vasudevan, University of Edinburgh

## Delegates

Amtmann, Anna	University of Glasgow
Angione, Claudio	Teesside University
Bavington, Charlie	GlycoMar
Bibby, Thomas	University of Southampton
Bryan, Samantha	University of Nottingham
Burgueno, Acortina	Algaceuticals UK
Campbell, Christine	CCAP/SAMS
Carvalho, Laurence	Centre for Ecology & Hydrology
Colloms, Sean	University of Glasgow
Craig, Sean	University of Nottingham
De Pommès, Carlos	Algaceuticals UK
Dobel, Anne	Centre for Ecology & Hydrology
Eaglesfield, Ross	University of Glasgow
Edwards, Christine	Robert Gordon University
Ferenczi, Aron	University of Edinburgh
Gale, Grant	University of Edinburgh
Green, David	SAMS
Hanke, Guy	Queen Mary University of London
Hawkins, Nathan	Anatune Ltd.
Heap, John	Imperial College London
Huokko, Tuomas	University of Liverpool
Jubeau, Sebastien	Xanthella Ltd.
Kagganti Ramesh Guptha, Nitish	Glasgow Caledonian University
Kindt, Rocky	Scottish Bioenergy
Lai, Giorgio	Newcastle University
Lawton, Linda	Robert Gordon University
Lea-Smith, David	University of East Anglia
Liu, Luning	University of Liverpool
Mackinder, Luke	University of York
Madsen, Mary Ann	University of Glasgow
Madugu, Fatima	Umyu University
Mapstone, Lydia	University College London
Maxwell, Declan	Robert Gordon University
McCormick, Alistair	University of Edinburgh
McKenzie, Douglas	Xanthella Ltd.
Mihnev, Aleksandar	University of Glasgow
Miller, Brian	uFraction8
Mills, Lauren	University of East Anglia
Moss, Claire	GlycoMar
Mullineaux, Conrad	Queen Mary University of London
Nenninger, Anja	University of Exeter
Peele, Danielle	Haida Corporation
Purton, Saul	University College London
Puxty, Richard	University of Warwick
Ravasz, Mate	University of Edinburgh
Rottig, Annika	University of Southampton
Schiavon, Alejandra	University of Edinburgh
Semerdzhev, Stefan	University of Glasgow
Smirnoff, Nicholas	University of Exeter
Taleb, Aumaya	Algenuity
Thompson, Elinor	University of Greenwich
Twigg, Jordan	University of Glasgow
Van Hagen, Alexander	University of Nottingham
Vasudevan, Ravendran	University of Edinburgh
Vuorijoki, Linda	John Innes Centre
Westermann, Linda	University of Warwick
Wey, Laura	University of Cambridge
Yuzenkova, Yulia	Newcastle University
Zhao, Guoyan	University of York
Zhao, Longsheng	University of Liverpool