

# Meeting Programme

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## Tuesday 21 May

09:30	Registration	Exchange Atrium
10:00	Jim Murray (University of Cardiff) Welcome and introduction	Lecture theatre

### Session 1: What is synthetic biology, and what can it be used for?

10:15	Jim Haseloff (University of Cambridge) Engineering plant form
10:40	June Medford (Colorado State) Rewiring a plant and digital-like controls
11:05	Andy Boyce (Biotechnology & Biological Sciences Research Council) Research Council strategy and funding for synthetic biology
11:30	Belinda Clarke (Technology Strategy Board) Funding new frontiers in synthetic biology

### Session 2: From molecules to cells and circuits

11:55	Dek Woolfson (University of Bristol) Generating and applying toolkits of <i>de novo</i> peptide components for synthetic biology	
<b>12:20</b>	<b>Lunch</b>	<b>Computer Science Atrium</b>
13:15	Cameron Alexander (University of Nottingham) Synthetic polymers – new containers and communication materials for synthetic biology	
13:40	Lee Cronin (University of Glasgow) Bottom up meets top down: From inorganic biology to synthetic biology manipulations in 3D printed wet-ware	
14:05	Martin Howard (John Innes Centre) Implementation of analogue arithmetic circuitry in plants	
14:30	Anne Osbourn (John Innes Centre) Making new molecules	
14:55	Rob Edwards (University of York; FERA) Plant synthetic biology: A new platform for industrial biotechnology?	

### Session 3: Plant synthetic biology

15:20	Chloe Singleton (University of Exeter) Synthetic metabolons	Lecture theatre
<b>15:45</b>	<b>Afternoon tea</b>	<b>Exchange Atrium</b>
16:05	Giles Oldroyd (John Innes Centre) Redesigning the symbiotic signalling pathway for rhizobial recognition	
16:30	Sebastian Schornack (Sainsbury Laboratory Cambridge) Targeted variation of genomes using TAL effectors	
16:55	Breakout groups: What can plants do for synthetic biology?	Various locations
19:30	Dinner at the National College for School Leadership	

# Meeting Programme

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## Wednesday 22 May

<b>08:45</b>	<b>Tea and coffee</b>	<b>Exchange Atrium</b>
<b>Session 4: Synthetic biology tools</b>		<b>Lecture theatre</b>
09:00	Susan Rosser (University of Glasgow) Recombinases as tools for synthetic biology	
09:25	George Lomonosoff (John Innes Centre) eVLPs for plant synthetic biology	
09:50	Tom Ellis (Imperial College London) Assembling designer genomes	
10:15	Sylvestre Marillonnet (Icon Genetics) Developing tools for synthetic biology: Golden Gate Cloning and the MoClo System	
10:40	Jim Ajioka (University of Cambridge) A guide to Gibson assembly	
11:05	Coffee break	<b>Exchange Atrium</b>
11:30	Breakout sessions to discuss future community needs	Various locations
<b>12:30</b>	<b>Lunch</b>	<b>Computer Science Atrium</b>
13:30	Feedback from breakout groups	Lecture theatre
14:00	Claire Marris (Kings College London) Responsible Research and Innovation for Synthetic Biology	
14:25	Alistair Elfick (University of Edinburgh) iGEM	
14:50	Natalio Krasnogor (University of Nottingham) Computational tools for rapid model prototyping in synthetic biology	
15:15	Jim Haseloff (University of Cambridge) PlantFab registry of DNA parts for plants	
15:40	Richard Kitney (Imperial College London) Foundational Resources from cSynBi	
16:05	Guy-Bart Stan (Imperial College London) Taking a forward-engineering approach to the design of synthetic biology systems?	
<b>16:30</b>	<b>Close</b>	

# Breakout Sessions Information

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Your breakout groups are the same for the two discussion sessions. The dots on your badges represent the group you will be in. The groups are also labelled in the delegate list. Your group chair, rapporteur, and meeting location is given in the table below.

	<b>Chair</b>	<b>Rapporteur</b>	<b>Location</b>
Red	Andrew Spicer	TBC	
Green	Rob Edwards	Tom Ellis	
Blue	Anne Osbourn	Dek Woolfson	
Yellow	Susan Rosser	Jim Murray	
White	Giles Oldroyd	Ruth Bastow	

## **Breakout Session 1: What can synthetic biology do for plants?**

### **Tuesday**

16:55 Discussion in breakout groups

18:00 Feedback

18:30 Finish

1. What are the benefits of undertaking synthetic biology in plants?
2. What can plants contribute to synthetic biology?
3. If you were not limited by technology or resources, what new plants or plant products would you construct using synthetic biology approaches?
4. Which plant system(s) would provide a useful starting point for synthetic biology research?
5. What barriers would need to be overcome in order to carry out the projects outlined above?

## **Breakout Session 2: A plant synthetic biology community**

### **Wednesday**

11:30 Discussion in breakout groups

12:30 Lunch

13:30 Feedback

1. What current tools and resources exist to support plant synthetic biology?
2. What new tools and community resources are needed to allow plant researchers to make progress in this new sphere?
3. To what extent is the UK plant science community well placed to take advantage of the current opportunities in synthetic biology? What are the current barriers?
4. If there was an initiative to bring together a plant synthetic biology community, who should it include and what purpose would it serve?
5. Should such a community be limited to plant science, or should it be linked to communities that are already beginning to emerge in microbial or other areas?