

## Flowers Consortium Workshop on ‘Synthetic Biology and Biosecurity’

Date: 28th February 2014, 10am to 5pm, followed by a reception 5pm to 7pm

Venue: The River Room, King’s College London, Strand Campus,  
Strand, London, WC2R 2LS

Organisers: Catherine Jefferson, Filippa Lentzos and Claire Marris

### AIM

**The aim of the workshop is to explore the extent to which concerns about the misuse of synthetic biology for biological warfare or bioterrorism are realistic or exaggerated in the light of the realities of scientific research in this area.**

Some of the questions that the workshop seeks to address include:

- How have concerns about biological weapons and bioterrorism emerged and evolved over time?
- How have synthetic biology misuse concerns been framed in the media and in policy discourse?
- What are the tangible and intangible barriers to state and non-state production of synthetic biological weapons?
- What evidence and expertise are drawn on in assessments of misuse risks?
- What scientific developments within synthetic biology might be relevant to misuse concerns, now or in future?

The workshop will bring together around 24 participants (synthetic biologists, policy experts, science journalists, and social scientists with specialist expertise in these areas,) and the aim is to encourage interactive discussion throughout the day between participants with different perspectives. A background document will be circulated to all participants prior to the workshop to help focus the discussion on key themes.

The workshop will be held under the Chatham House Rule in order to facilitate open and productive discussion:

*“When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.”*

A report summarising the discussions will be produced and published online by the end of April 2014. This may contain anonymous verbatim citations from the discussions and all participants will be given the opportunity to comment on a draft. We also anticipate that insights from the workshop will be used for academic papers and a Policy Brief to be disseminated at the Biological Weapons Convention.

The whole meeting will be audio recorded and the recording will be used only by the workshop organisers. The confidentiality of participants will be respected at all times.

## ACKNOWLEDGEMENTS

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EPSRC award ‘Centre for Synthetic Biology and Innovation’ (EP/G036004/1)

<http://gow.epsrc.ac.uk/NGBOViewGrant.aspx?GrantRef=EP/G036004/1>

EPSRC award ‘An Infrastructure for Platform Technology in Synthetic Biology’  
(EP/JO2175X/1)

<http://gow.epsrc.ac.uk/NGBOViewGrant.aspx?GrantRef=EP/JO2175X/1>

ESRC award ‘The Politics of Bioterrorism’

<http://www.kcl.ac.uk/sspp/departments/sshm/research/Research-Groups/bppp/Projects/The-Politics-of-Bioterrorism.aspx>

# CSYNBI

Centre for **Syn**thetic **B**iology and **I**nnovation

# EPSRC

Engineering and Physical Sciences  
Research Council



## **PROGRAMME**

*The programme has been structured to encourage discussion among all participants. The day is divided into four main sessions focusing on different aspects, each introduced with two short talks (15 minutes each).*

**09:30-10:00** Coffee, tea and pastries provided

**10:00-10:10** **Welcome**  
Richard Kitney  
Claire Marris

**10:10-11:20** **Session 1: How have concerns about biological weapons and bioterrorism emerged and evolved over time?**  
Filippa Lentzos: 'The world's most deadly weapons': The politics of bioterrorism  
Debra MacKenzie: A case study of the 2011 H5N1 avian influenza transmission studies  
DISCUSSION (40 minutes)

**11:20-12:30** **Session 2: How have 'dual use' concerns about synthetic biology been framed in the media and in policy discourse?**  
Catherine Jefferson: Synthetic biology and biosecurity in the media  
James Revill: Synthetic biology and 'dual use' concerns in policy discourse  
DISCUSSION (40 minutes)

**12:30-13:30** **LUNCH**

**13:30-14:40** **Session 3: What are the tangible and intangible barriers to state and non-state production of biological weapons?**  
Sonia Ben Ouagrham-Gormley: What are the barriers to weaponisation?  
Kathleen Vogel: What is the role of tacit knowledge in determining what malevolent actors could achieve?  
DISCUSSION (40 minutes)

**14:40-15:50** **Session 4: What scientific developments within synthetic biology might be relevant to misuse concerns, now or in future?**  
Piers Millett: What evidence and expertise are drawn on in assessments of misuse risks?  
Jim Ajioka: What are the realities of scientific research in this area?  
DISCUSSION (40 minutes)

**15:50-16:15** **BREAK**

**16:15-16:55** **General discussion**

**16:55-17:00** **Closing Remarks**  
Paul Freemont

**17:00-19:00** **Reception**

## Participants

Jim	Ajioka	Department of Pathology, University of Cambridge
Brian	Balmer	Department of Science and Technology Studies, University College London
Sonia	Ben Ouagrham-Gormley	Department of Public and International Affairs, George Mason University
Sophie	Brice	Home Office
Jane	Calvert	Science Technology and Innovation Studies, University of Edinburgh
Brett	Edwards	Department of Politics, Languages & International Studies, University of Bath
Steve	Eley	Defence Science and Technology Laboratory
Tom	Ellis	Centre for Synthetic Biology and Innovation, Imperial College London
James	Field	Centre for Synthetic Biology and Innovation, Imperial College London
Paul	Freemont	Centre for Synthetic Biology and Innovation, Imperial College London
Alex	Hamilton	Department of Sociology, London School of Economics
Catherine	Jefferson	Department of Social Science, Health & Medicine, King's College London
Richard	Kelwick	Centre for Synthetic Biology and Innovation, Imperial College London
Richard	Kitney	Centre for Synthetic Biology and Innovation, Imperial College London
Filippa	Lentzos	Department of Social Science, Health & Medicine, King's College London
Debra	MacKenzie	New Scientist
Claire	Marris	Department of Social Science, Health & Medicine, King's College London
Lorna	Miller	Defence Science and Technology Laboratory
Piers	Millet	Biological Weapons Convention Implementation Support Unit
James	Revill	Harvard Sussex Program, University of Sussex
Guy-Bart	Stan	Centre for Synthetic Biology and Innovation, Imperial College London
Kathleen	Vogel	Department of Science and Technology Studies, Cornell University
John	Walker	Foreign and Commonwealth Office