

External Review of Safety, Security, and Environmental Issues of Engineering Biology R & D– Committee Meeting #2

Tuesday April 22nd 8:00am-5:00pm ET & Wednesday April 23rd 8:00-4:30pm ET

Hybrid Meeting

Purpose

This information-gathering meeting for the committee will be held over two days and include a mix of closed sessions (i.e., only committee and NASEM staff) and open sessions.

Goals of the meeting include:

- To review and discuss the statement of task.
- Discuss the implications of what the committee hears from presenters during the information gathering sessions for its future work and the report.
- Discuss committee balance and composition.
- To discuss in an open session the committee's statement of task with the study sponsor, the National Science Foundation (NSF)
- To develop small work groups and make writing assignments to be completed before the next committee meeting.

DAY ONE: APRIL 22ND 10:00AM-11:00AM & 1:15PM-4:30PM (ALL TIMES ET)

8:00am-10:00am - Closed Session: Committee and National Academies Staff Only

Open Session: This discussion, held in open session, will be recorded and made publicly available

Panel Title: "Addressing Environmental, Security, and Safety Gaps for Engineering Biology R & D"

10:00-10:05am Welcome and Introduction

Jason Delborne, Committee Member

10:05-10:25am 5-minute Remarks

Session Moderator: Jason Delborne

- Chris Wozniak, Environmental Protection Agency
- Kate Adamala, University of Minnesota
- Leyma P. De Haro, Merrick & Company
- Vaughn Cooper, University of Pittsburgh

10:25-11:00am Moderated Q & A Discussion with Committee

Session Moderator: Jason Delborne

11:00am-1:15pm - Closed Session: Committee and National Academies Staff Only

Open Session: This discussion, held in open session, will be recorded and made publicly available

Panel Title: “National Security Commission on Emerging Biotechnology (NSCEB) Panel”

Staff from the [National Security Commission on Emerging Biotechnology](#) will brief the committee on their new report [Charting the Future of Biotechnology](#). The discussion will focus on the aspects of the NSCEB report most relevant to safety, security, and environmental considerations for future engineering biology research and development.

1:15-1:20pm Welcome and Introduction

India Hook-Barnard, Committee Member

1:20-1:35pm NSCEB Report Briefing

Panelists

- Caitlin Frazer, NSCEB (Executive Director)
- Sam Weiss Evans, NSCEB (Senior Policy Advisor)
- Steven Moss, NSCEB (Senior Policy Advisor)

1:35-2:15pm Moderated Q &A Discussion with Committee

Session Moderator: India Hook-Barnard

2:15-2:30pm Stretch Break

Still in an open session during this break.

Panel Title: “Artificial Intelligence/ Automation Convergence in Engineering Biology”

This session will explore the impact of AI, automation, and their convergence with engineering biology on biosafety, biosecurity, and environmental considerations. It will examine how AI and automation can both increase risk and enhance security and safety. The discussion features panelists who served on the committees responsible for authoring the NASEM reports [Biodefense in the Age of Synthetic Biology \(2018\)](#), [Strategic Report on Research and Development in Biotechnology for Defense Innovation \(2024\)](#), and [The Age of AI in the Life Sciences: Benefits and Biosecurity Considerations \(2025\)](#).

2:30-2:35pm Welcome and Introduction

Peter Carr, Committee Member

2:35-2:45pm 5-minute Remarks

Session Moderator: Peter Carr

- Mike Imperiale, University of Michigan- will represent the 2018 and 2025 reports
- Gigi Gronvall, Johns Hopkins University- will represent the 2018 and 2025 reports

2:45-3:30pm Moderated Q &A Discussion with Committee

Session Moderator: Peter Carr

Open Discussion between the committee and the National Science Foundation (NSF)

3:30-3:35pm Welcome and Introduction

Felicia Wu & Richard Murray, study committee co-chairs

3:35–3:45 Perspectives from NSF study sponsors on the Statement of Task

Theresa Good, NSF

Theresa will provide opening remarks on the Statement of Task.

3:45–4:30pm Roundtable Discussion with committee and NSF study sponsors

Felicia Wu & Richard Murray, study committee co-chairs

Following Theresa’s remarks, Felicia and Richard will lead a roundtable discussion between the committee and study sponsor. During this time, the committee members will have the opportunity to ask questions.

END OF DAY 1 OPEN SESSIONS

4:30pm – 6:30 - Closed Session: Committee and National Academies Staff Only

MEETING ADJOURNS

DAY TWO: APRIL 23RD 9:00AM-12:15PM (ALL TIMES ET)

8:00am – 9:00am - Closed Session: Committee and National Academies Staff Only

Open Session: This discussion, held in open session, will be recorded and made publicly available

Panel Title: “Industry Perspectives on Environmental, Safety, and Security Considerations for Engineering Biology”

Resources Shared by Speakers:

[Publication informing BioMADE’s 4S Principles](#)

[Industry Perspectives on 4S](#)

[Safety and Security — BioMADE](#)

9:00-9:05am Welcome and Introduction

Zara Summers, Committee Member

9:05-9:25pm 5-minute Remarks

Session Moderator: Zara Summers

- Steve Evans, BioMADE (Senior Technical Fellow)
- Lauren Junker, BASF (Innovation Scout and Partnership Manager)
- James Diggans, Twist Biosciences (Head of Biosecurity)

9:25-10:00am Moderated Q &A Discussion with Committee

Session Moderator: Zara Summers

Panel Title: “Funders Perspectives of Environmental, Safety, and Security Considerations for Engineering Biology”

10:00-10:05am Welcome and Introduction

Richard Murray, Committee Co-Chair

10:05-10:25pm 5-minute Remarks

Session Moderator: Richard Murray

- Megan Palmer, Advanced Research Projects for Health (ARPA-H)
- Ernie Glover, Alfred P. Sloan Foundation
- Valerie Martindale, U.S. Army Research Laboratory
- Andrea Hodgson, Schmidt Sciences

10:25-11:00am Moderated Q &A Discussion with Committee

Session Moderator: Richard Murray

11:00-11:15pm Stretch Break

Still in an open session during this break.

Panel Title: “Public Trust and Perception: Informing Safety, Security, and Environmental Risks”

11:15-11:20pm Welcome and Introduction

Chris Cummings, Committee Member

11:20-12:00pm Up to 15-minute Remarks

Session Moderator: Chris Cummings

- Michael Zaroukian, Professor Emeritus of Medicine, Michigan State University
- Dietram Scheufele, University of Wisconsin-Madison
- Christina Agapakis, formerly Ginkgo Bioworks

12:00-12:15pm Moderated Q&A Discussion with Committee

Session Moderator: Chris Cummings

END OF DAY 2 OPEN SESSIONS

12:15pm – 4:30pm - Closed Session: Committee and National Academies Staff Only

MEETING ADJOURNS