

# GENE DRIVE RESEARCH IN NON-HUMAN ORGANISMS

## Recommendations for Responsible Conduct

### Science, Ethics, and Governance Considerations for Gene Drive Research

An information-gathering workshop of the  
Committee on Gene Drive Research in Non-Human Organisms:  
Recommendations for Responsible Conduct

**Wednesday, October 28th, 2015**  
**National Academy of Sciences**  
**Auditorium**  
**2101 Constitution Avenue, NW**  
**Washington, DC**

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## Agenda

- 8:00 am**      **Welcome & Introduction**
- Purpose of the Gene Drive Study—Elizabeth Heitman, Study Co-chair, Vanderbilt University
  - Workshop objectives and organization—James Collins, Study Co-chair, Arizona State University
- 8:10 – 10:00**      **Scientific Considerations**
- Capabilities and tradeoffs of gene drive techniques—Austin Burt, Imperial College (8:10)
  - Genome sequencing approaches and determining off-target effects of engineered nucleases—Shengdar Tsai, Massachusetts General Hospital (8:30)
  - Understanding ecological and evolutionary conditions for gene flow
    - Plants—Allison Snow, Ohio State University (8:50)
    - Mosquitoes—Nora Besansky, University of Notre Dame (9:10)
  - Discussion with the Committee (9:40)
- 10:10**              *Break*
- 10:30 – 12:00**      **Responsible Conduct and Ethics**
- Scientific integrity in research on emerging technologies—Francis Macrina, Virginia Commonwealth University (10:30)
  - Ethics in science and governance of science—Bruce Jennings, Vanderbilt University (10:50)

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- Do gene drives present novel ethical considerations?— Andrew Light & Jesse Kirkpatrick, George Mason University (11:10)
- Discussion with the Committee (11:30)

**12:00** *Break*

**1:00 – 2:40** **Perspectives on Opportunities and Limitations in Low and Middle Income Countries**

- Role of science in the development and governance of biosafety of biotechnology research in African countries— Diran Makinde, Africa Biosafety Network of Expertise (1:00)
- How interactions with communities influence vector control research directions and governance policies in Thailand— Wannapa Suwonkerd, Division of Vector-borne Disease Control, Ministry of Health (1:20)
- Benefits and challenges for multi-country field trials of biotechnology in Latin America— Norma Padilla, Universidad de Valle de Guatemala (1:40)
- Discussion with the Committee (2:10)

**2:40** *Break*

**3:00 – 4:40** **Scales of Governance**

- International mechanisms to govern biotechnology— David Wirth, Boston College (3:00)
- US governance of biotechnology— Megan Palmer, Stanford University (3:20)
- Institutional governing policies— Zach Adelman, Virginia Tech (3:40)
- Discussion with the Committee (4:10)

**4:40** *Break*

**5:00** **Public Comment Period**

**6:00** **Adjourn**

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To register for this workshop, visit  
<http://nas-sites.org/gene-drives/category/meetings/>

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