**Short Course on Public Deliberation about Gene Editing in the Wild**

***This course was designed as a “Pre-conference short course” for the American Political Science Association’s Annual Meeting. APSA short courses provide diverse opportunities, either half day or full day, for professional development, and they offer attendees the chance to connect with scholars from a range of backgrounds. It is possible to repurpose this syllabus and course outline for a half day, intensive course that explores ethical issues raised by gene editing in the wild and investigates the pros and cons on using broad public deliberation to make decisions about the use of this technology. It is also possible to use the material from each session below as part of a larger course -- in bioethics or health, technology and society -- focused on the governance of emerging technologies. These materials could also be incorporated as case study illustrations into a political science course on democratic theory or democratic deliberation. The bibliography and semester course materials available on this web site list readings that will be useful in developing the short course.***

**COURSE OVERVIEW**

Commitments to collective problem solving in the U.S. are eroding. In pluralistic societies, it is important for the different ethnic groups and social classes to recognize and value that they share a common purpose or they will devolve into self-interested tribes jockeying for power. In this short course, we will explore the potential for collective problem solving about the use of gene editing technologies to modify populations of wild organisms, such as mosquitoes, which might be done by creating and releasing large numbers of modified individuals or by means of gene drives that force a modification from a few individuals through a population.

Gene editing proposals have significant potential benefits, risks, and uncertainties, both for human welfare and for aspects of the shared environment that are valued in themselves. Given the values at stake, commentators have argued that the proposals require public engagement and that such engagement should be deliberative.  There is a consensus that usual governance processes alone will not address key concerns about genetically modified organisms adequately. In this course, we will review the literature on democratic deliberation and reflect on whether appropriately structured deliberations can achieve this goal.

While the calls for public deliberation are ubiquitous, there has been less discussion about how such deliberations should be conducted. In this course, we will discuss how to structure deliberations. In particular, we will discuss debates about how to represent the public. Some scholars argue that it is crucial to include a statistically representative sample of the population in public deliberations because doing so is more likely to generate findings that will be accepted by policy makers. Other scholars argue that it is crucial to over-sample groups that have been historically under-represented. For example, Native Americans may have different values about the human relationship with nature that should be included in these deliberations. We will explore the implications of these competing perspectives.

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**SECTION I: WHAT IS GENE EDITING IN THE WILD?**

* 10 minutes: Introduce the Goals of the Course
* 10 minutes: What is Gene Editing in the Wild?
  + video from 2019: “The Bold Plan to End Malaria with a Gene Drive”. https://www.docwirenews.com/docwire-pick/future-of-medicine-picks/is-genetically-editing-mosquitoes-the-best-way-to-fight-malaria/
* 30 minutes: Describe the kinds of gene editing initiatives that might take place or are under way
  + The 10 NSF case studies
  + More in-depth description later in module:
    - Mosquitoes: Target Malaria and Oxitech field trials
    - Trees: American Chestnut field trials
* 10 minutes: Discussion

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**SECTION II: CALLS FOR PUBLIC ENGAGEMENT/DELIBERATION**

* 10 minutes: Framing Context
  + Background/several reports: calls for public engagement in science & technology policy-making
  + Normative claims for public engagement
  + General description about various forms of public engagement, including democratic deliberation (but only general here for public deliberation)
* 40 minutes: Summarize issues:
  + Normative claims for pubic deliberation/broad public deliberation
  + When to conduct deliberative activities
  + What public deliberation means versus broad public deliberation
  + What public deliberation should look like (representation issue – more discussion in Hours 3 & 4)
  + Who conduct and funds deliberative activities
  + Issue of impact of deliberative outcomes on policy decision-making
* 10 minutes: Discussion

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**SECTION III: PUBLIC DELIBERATION AND REPRESENTATION**

* 15 minutes: Public Deliberation and Gene Editing in the Wild
  + Why public deliberation in this context versus other types of public engagement activities?
* 35 minutes:
  + What is at stake regarding public representation issue in the context of gene editing in the wild?
  + What factors about gene editing in the wild should be taken into consideration in considering what “publics” to have represented at deliberative activities?
* 10 minutes: Discussion

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**SECTION IV: BARRIERS TO PUBLIC DELIBERATION**

* 40 minutes: Three Gene Editing Initiatives: Target Malaria, Oxitec, American Chestnut
  + What do we know from the literature about public engagement activities?
  + What are the strengths/weaknesses of those engagement activities in relation to expectations of what deliberative activities are supposed to look like (and accomplish?)
  + What are the barriers to public deliberation?
    - Funding
    - No mandate for regulatory agencies
    - Lack of political will
  + Implications of barriers for actual “deliberation” and for representation issue in context of gene editing in the wild
* 20 minutes: Discussion