

**Environmental Release of Engineered Pests:
Building an International Governance Framework**

North Carolina State University

October 5 – 6, 2016

Wednesday, October 55 – Talley Student Union, 3rd Floor, Currituck-Hatteras Suite

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| 7:50 a.m. | Bus leaving Doubletree Hotel for NCSU Campus |
| 8:00 a.m. – 8:30 a.m. | Registration, Breakfast |
| 8:30 a.m. – 8:45 a.m. | Welcome, introductions: Dr. Fred Gould

Dr. Alan Rebar , Vice Chancellor, Office of Research, Innovation, and Economic Development, North Carolina State University |
| 8:45 a.m. – 9:00 a.m. | Dr. Gary Fitt , Chair, Science Advisory Body, Organisation for Economic Cooperation and Development (OECD) and Science Director, Commonwealth Scientific and Industrial Research Organisation (CSIRO) |
| 9:00 a.m. – 9:30 a.m. | Keynote address: Dr. James Collins , Virginia M. Ullman Professor of Natural History and the Environment, Arizona State University

<i>Gene drives in our future: Challenges of and opportunities for using a self-sustaining technology in pest and vector management</i> |
| 9:30 a.m. – 10:15 a.m. | Goal-setting Talk & Discussion – Dr. Zack Brown , Assistant Professor, Agricultural and Resource Economics, North Carolina State University |
| 10:15 a.m. – 10:30 a.m. | Coffee Break |
| 10:30 a.m. – 12:00 p.m. | Existing Governance Structures – examples from OECD countries

<i>15 minute talks with 30 minute Q&A at the end of the presentations, moderated by Dr. Lucy Carter</i> |
| 10:30 a.m. – 10:45 a.m. | Dr. Owain Edwards , Senior Principal Research Scientist and Group Leader, Commonwealth Scientific and Industrial Research Organisation (CSIRO)

<i>The regulatory framework in Australia for gene drive modified insect pests</i> |

- 10:45 a.m. – 11:00 a.m. **Dr. Alan Pearson**, Biological Scientist, United States Department of Agriculture-Animal and Plant Health Inspection Service (USDA-APHIS)
Regulation of Genetically Engineered Organisms by USDA-APHIS
- 11:00 a.m. – 11:15 a.m. **Dr. Lucia Roda Ghisleri**, Directorate General of Quality and Environmental Assessment, Natural Environment Ministry of Agriculture, Food and Environment
Spanish Commission on Biosafety: Strategy and challenges in assessing a trial with a GM olive fly
- 11:15 a.m. – 11:45 p.m. Q & A with Panel
- 11:45 a.m. – 1:00 p.m. Lunch
- 1:00 p.m. – 1:20 p.m. Reconvene, feedback on workshop goals
- 1:20 p.m. – 3:20 p.m. Existing Governance Structures - examples from BRIC countries**
15 minute talks with 30 minute Q&A at the end of the presentations, moderated by Dr. Zack Brown
- 1:20 p.m. – 1:35 p.m. **Dr. Vibha Ahuja**, Chief General Manager, Biotech Consortium India Limited
Regulation of Emerging Gene Technologies in India
- 1:35 p.m. – 1:50 p.m. **Dr. Kongming Wu**, Vice President and Professor, Chinese Academy of Agricultural Sciences (CAAS)
Biosafety management of genetically modified insects in China
- 1:50 p.m. – 2:05 p.m. **Dr. Rod Rejesus**, Associate Professor, Agriculture and Resource Economics, North Carolina State University (NCSU)
International Lessons from Genetically Modified (GM) Crop Adoption & Regulation: An Asian Perspective
- 2:05 p.m. – 2:20 p.m. **Dr. Aggrey Ambali**, Head, science, Technology and Innovation Hub, New Partnership for Africa's Development (NEPAD)
Preparations in the AU Systems in handling engineered products for vector control

- 2:20 p.m. – 2:35 p.m. **Dr. Paulo Andrade**, Professor, Federal University of Pernambuco (Brazil)
Regulation of GM insect pests under the Brazilian regulatory framework: present and future
- 2:45 p.m. – 3:00 p.m. Coffee Break
- 3:00 p.m. – 3:30 p.m. Q & A with Panel
- 3:30 p.m. – 5:00 p.m. Panel: Socioecological Context I: GMO Governance**
15 minute talks with 30 minute Q&A at the end of the presentations, moderated by Dr. Fred Gould
- 3:30 p.m. – 3:45 p.m. **Dr. Michael Burgess**, Professor and Chair, Biomedical Ethics, and W Maurice Young Centre for Applied Ethics, University of British Columbia (Canada)
Public trust in governance: Pacification or participation?
- 3:45 p.m. – 4:00 p.m. **Dr. Andrew Stirling**, Professor of Science & Technology Policy, University of Sussex (UK)
Challenges in the governance of the engineered life: Research policy, innovation dynamics and the politics of progress
- 4:00 p.m. – 4:15 p.m. **Dr. Doug Gurian-Sherman**, Senior Scientist and Director of Sustainable Agriculture, Center for Food Safety (USA)
Lessons from the GE Crop Debate
- 4:15 p.m. – 4:30 p.m. **Dr. Lucy Carter**, Research Scientist, Commonwealth Scientific and Industrial Research Organisation (CSIRO), (Australia)
An ethical framework for releasing genetic pest and disease vectors
- 4:30 p.m. – 5:00 p.m. Q & A with Panel
- 5:00 p.m. – 5:30 p.m. **Closing Remarks and introduction to Case Studies**
moderated by **Dr. Zack Brown**
- 5:45 p.m. Bus to CJ Poole Clubhouse
- 5:50 p.m. – 8:00 p.m. Dinner – CJ Poole Clubhouse
- 8:00 p.m. Bus from CJP Clubhouse to Hotel

Thursday, October 65 – Talley Student Union, 4th Floor, Room 4280

NOTE: Room change-different from Wednesday's room!

- 7:50 a.m. Bus from Doubletree hotel to NCSU Campus
- 8:00 a.m. – 8:30 a.m. Breakfast
- 8:30 a.m. – 9:00 a.m. **Welcome and review – moderated by Dr. Jason Delborne**
- 9:00 a.m. – 9:30 a.m. **Keynote address: Dr. Jennifer Kuzma**, Goodnight-NCGSK Foundation Distinguished Professor, School of Public and International Affairs and Co-Director, Genetic Engineering and Society (GES) Center, North Carolina State University (NCSU)
- Governance for Engineered Pests in Historical and Systems Context*
- 9:30 a.m. – 11:00 a.m. Panel: Socioecological Context II: Considerations for Gene Drive Governance**
- 15 minute talks with 30 minute Q&A at the end of the presentations*
- 9:30 a.m. – 9:45 a.m. **Dr. John Mumford**, Professor of Natural Resource Management in the Centre for Environmental Policy, Imperial College, London
- GM insect regulation in Europe*
- 9:45 a.m. – 10:00 a.m. **Dr. Camilla Beech**, Head of Regulatory Affairs, Oxitec (UK)
- Learning from 7 years of experience in releasing GE mosquitoes*
- 10:00 a.m. – 10:15 a.m. **Dr. James Lavery**, Assistant Professor, Department of Public Health Sciences and Research Scientist in the Centre for Research on Inner City Health and Centre for Global Health Research, St. Michael's Hospital, University of Toronto
- Models of community engagement for field testing and release of engineered organisms*
- 10:15 a.m. – 10:30 a.m. **Dr. Keith Hayes**, Senior Research Scientist, Commonwealth Scientific and Industrial Research Organisation (CSIRO), (Australia)
- Robust probabilistic risk assessment for synthetic gene drives*

10:30 a.m. – 11:00 a.m.	Q & A with Panel
11:00 a.m. – 11:15 a.m.	Coffee Break
11:15 a.m. – 12:45 p.m.	Breakout Groups I: Stakeholder mapping of selected case studies
12:45 p.m. – 1:45 p.m.	Reconvene: Lunch & group reports
1:45 p.m. - 3:30 p.m.	Breakout Groups II: Charting a course to effective stakeholder engagement
3:30 p.m. – 3:45 p.m.	Coffee Break
3:45 p.m. – 4:30 p.m.	Reconvene /Group reports/Q&A/Discussion
4:45 p.m. – 5:00 p.m.	Wrap up and adjournment
5:15 p.m.	Bus to hotel or airport