

# THE FUTURE OF MICROBIAL BIOTECHNOLOGY: FROM RESEARCH TO REGULATION



Innovative  
Genomics  
Institute



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## DAY 1 – Wednesday 2 February 2022

- 11:00am – **Welcome** – What Are GEMs and Why Are They Important?  
Anastasia Bodnar (USDA-OCE)
- 11:05am – **Regulatory Overview – USDA** – What is the Coordinated Framework?  
Sally McCammon (USDA-APHIS)
- 11:20am – **Panel** – GEMs in Food and Agriculture  
Kate Krueger (Helikon Consulting), Bruce Friedrich (Good Food Institute),  
Bjorn Traag (Andes Ag), and Guillaume Barbier (JoynBio)  
Moderator: Jenny Splitter (Independent journalist)
- 11:50am – **Regulatory Overview – FDA** – Food and Feed Safety  
Shayla West-Barnette (CFSAN) and Diego Paiva (CVM)
- 12:35pm – **Regulatory Overview – USDA** – Food and Agriculture  
Martha Malapi-Wight (APHIS-BRS) and John Hicks (FSIS)
- 1:20pm – **Break**
- 1:50pm – **Panel** – GEMs in the Environment and Biomanufacturing  
Kent Smith (bioMASON), Spencer Diamond (IGI), and Jay  
Fitzgerald (DOE)  
Moderator: Julie Shapiro (Keystone Policy Center)
- 2:20pm – **Regulatory Overview – EPA** – Pesticides and Industrial Uses  
Kara Welch (OPP) and Gwen McClung (OPPT)
- 3:05pm – **Panel** – Scientific Advances and the Future of GEMs  
Megan Palmer (Stanford University), David Savage (IGI), Rodolphe  
Barrangou (NC State), and Anne Cheever (DARPA)  
Moderator: Andrea Hodgson (Schmidt Futures)
- 3:45pm – **Q&A | Discussion** – Melinda Kliegman (IGI)
- 4:15pm – **Closing**

## DAY 2 – Thursday 3 February 2022

- 11:00am – **Welcome** – Summary of Day 1 and Intro to Day 2  
Melinda Kliegman (IGI)
- 11:05am – **Regulatory Overview – USDA-AMS** – GEMs in the Bioengineered Food Disclosure Standard  
Alex Fischer (USDA-AMS)
- 11:20am – **Trade and Markets Overview – FAS** – GEMs in International Trade  
Jen Rowland (USDA-FAS)
- 11:35am – **Panel** – Societal Engagement and Public Education  
Jennifer Kuzma (NC State), Charles Denby (Berkeley Yeast), and Charlie Arnot (CFI)  
Moderator: Brittany Anderton (Science Communication Lab)
- 12:05pm – **Q&A | Discussion** – Melinda Kliegman (IGI)
- 12:30pm – **Break**
- 1:00pm – **Review and discussion of Case Study #1** – Biofertilizer: Genetically Engineered *Azospirillum brasilense* for extended ammonia production  
Moderator: Kellye Eversole (Phytobiomes Alliance)
- 1:05pm – Overview of the Technology – Tim Schnabel (Stanford University) and Myles Herbert (Indigo Ag)
- 1:30pm – APHIS Response – Subray Hedge (BRS)
- 1:50pm – EPA Response – Gwen McClung (OPPT)
- 2:10pm – Q&A | Discussion
- 2:25pm – **Break**
- 2:35pm – **Review and discussion of Case Study #2:** Biopesticide (hypothetical): Genetically Engineered *Trichoderma harzianum*  
Moderator: Kellye Eversole (Phytobiomes Alliance)
- 2:40pm – Overview of the Technology – Carly Odynsky (Joyn Bio)
- 3:05pm – EPA Response – Kara Welch (Office of Pesticide Programs)
- 3:25pm – APHIS Response – Subray Hedge (BRS)
- 3:45pm – Q&A | Discussion
- 4:00pm – **Case Studies Wrap-Up** – Kellye Eversole (Phytobiomes Alliance)
- 4:05pm – **Workshop Closing** – Anastasia Bodnar (USDA-OCE)