

# Board on Life Sciences: Harnessing Microbial Diversity for the Bioeconomy - Webinar

November 2, 2022



**WEDNESDAY, NOVEMBER 2, 2022**

## OPEN

**11:30am–11:40am EDT**

### **Welcome**

Barbara Schaal, Washington University in St. Louis

Kavita Berger, National Academies of Sciences, Engineering, and Medicine

**11:40am–12:50pm EDT**

### **Biodiversity of Microbes: Scientific Challenges and Opportunities**

Often biodiversity is discussed at a macro-level, specifically focusing on biodiversity of animals and plants. At a micro-level, the Earth is inhabited by a trillion or more species of microbes, nearly all of which remain undiscovered. During this discussion, speakers will explore current advances in studying microbial diversity, knowledge and technical gaps that need overcoming, and forward-looking needs and applications for identifying, analyzing, and understanding microbial diversity and function.

#### **Moderator**

Beronda Montgomery, Grinnell College

#### **Speakers**

Jack Gilbert, University of California San Diego

Jay T Lennon, Indiana University

Jennifer Martiny, University of California Irvine

Victoria Orphan, California Institute of Technology

**12:50pm–12:55pm EDT**

### **Break**

12:55pm–2:00pm EDT

**Building the Bioeconomy: Harnessing Diversity and Unique Functions of Microbes**

The bioeconomy builds on advances in the life sciences, engineering, computer science, data science, materials science, and many other fields to create processes and products that address societal issues. Many of these efforts seek to replace petroleum-based with bio-based processes and products. The concept of “circular bioeconomy” has emerged during the last several years to illustrate the systemic and continuous cycle of using biomass from biological resources for economic growth and development. Microbes with novel or unique functions feature prominently in this circular bioeconomy, and as new microbes are discovered and studied, new opportunities arise for harnessing their capabilities to develop bio-based and bio-inspired products. This concept is advanced through the recent Executive Order on Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bioeconomy. During this discussion, speakers will discuss successes, challenges, and opportunities for harnessing knowledge about microbial function to design and develop processes and products to feed into the bioeconomy.

**Moderator**

Sudip Parikh, American Association for the Advancement of Science

**Speakers**

Adam Guss, Oak Ridge National Laboratory

Michelle O’Malley, University of California Santa Barbara

David Breslauer, Bolt Threads

Janet Westpheling, University of Georgia

2:00pm EDT

**Adjourn**