

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