

Microbes: the Good, the Bad, and the Ugly

Session co-chairs:

- Gabriel Kwong, Associate Professor, Biomedical Engineering, Georgia Institute of Technology
- Anita Shukla, Associate Professor, School of Engineering, Brown University

Microbes pervade all aspects of our world. They can be harmful to human health, yet our bodies thrive living alongside a healthy microbiome and engineered microbes can be used to treat diseases like cancer. At the same time, microbes have been harnessed to clean the environment and create new products from vaccines to biofuels. In this session, we will share some of the latest advancements in a broad range of microbial applications.

In this session, we feature speakers whose work represents the broad potential of microbes. Our first speaker, Dr. Arthur Prindle from Northwestern University, will describe efforts to understand and engineer collective behaviors that arise from microbial communities. The next speaker, Dr. Caitlin Howell from the University of Maine, will describe materials-based approaches to prevent biofilm-associated infections, which are some of the most difficult infections to treat. Next, Dr. Aaron Anselmo, CSO of VitaKey, will provide an industry perspective on the development of advanced probiotic delivery systems to enhance nutrition. Finally, Dr. Kevin Solomon from the University of Delaware, will speak on using microbes for materials degradation and plastic upcycling as well as vaccine production and biohybrid materials.

Speaker List and Bios:

- Arthur Prindle, Ph.D.
Assistant Professor, Department of Biochemistry and Molecular Genetics, Northwestern University
Bio: <https://ebrc.org/arthur-prindle/>
<https://www.feinberg.northwestern.edu/faculty-profiles/az/profile.html?xid=38813>
<https://sites.northwestern.edu/prindle/>
- Caitlin Howell, Ph.D.
Associate Professor, Chemical and Biomedical Engineering, University of Maine
Bio: <https://umaine.edu/chb/faculty/caitlin-howell/>
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- Aaron Anselmo, Ph.D.
Chief Scientific Officer, VitaKey Inc.
Bio: <https://www.linkedin.com/in/aaron-anselmo-1130873a>
- Kevin Solomon, Ph.D.
Assistant Professor, Department of Chemical Engineering, University of Delaware
Bio: <https://cbe.udel.edu/people/faculty/kevin-v-solomon/>
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