



# Montana Biofilm Science & Technology Meeting and Workshop



July 10-12, 2024



Hilton Garden Inn Bozeman  
**Draft AGENDA**

6/29/2024 12:54 PM

## Tuesday July 9

**6:00–8:30 pm**  
**Registration & Welcome Reception** Larkspur Foyer

## Wednesday July 10

**7:00–8:00 am CBE & IA Members Coffee Talk** Goldenrod Boardroom

**7:30–8:00 am**  
**Registration & continental breakfast** Larkspur Foyer

**Meeting:** Larkspur Ballroom

**8:00–8:10**  
**Opening Remarks**  
Matthew Fields, Director, CBE;  
Professor, Microbiology &  
Cell Biology, MSU  
Darla Goeres, Coordinator of  
Industrial Development, CBE

**8:10–8:50**  
**Industrial Associate Introductions**

### SESSION 1: Biofilm as a System

**8:50–9:00**  
**Session Introduction**  
Darla Goeres

### Keynote Presentation

**9:00–9:45**  
**A fascination with phenazines**  
Dianne Newman, Gordon M.  
Binder/Amgen Professor of  
Biology and Geobiology,  
Caltech

### 9:45–10:15 Networking Break

**10:15–10:45**  
**Biofilms: The first bio-systems?**  
Matthew Fields

**10:45–11:15**  
**Systems Biology 101: From the basics to biofilms**  
Ross Carlson, Professor, Chemical  
& Biological Engineering, MSU,  
CBE

**11:15–12:00**  
**Panel: Biofilm as a System**  
Dianne Newman  
Matthew Fields  
Ross Carlson  
Moderator: Darla Goeres

### 12:00–1:30 Networking Lunch

### SESSION 2: Kill, Remove, Prevent

**1:30–1:35**  
**Session Introduction**  
Liz Sandvik, Research Engineer,  
CBE

**1:35–2:05**  
**Development of a test method to evaluate antibiofilm treatments of dental unit water lines**  
Chris Jones, PI, Standardized  
Biofilm Methods Laboratory,  
CBE

**2:05–2:35**  
**A method for evaluating the antimicrobial efficacy of residential laundry products**  
Laura Gage, Senior Microbiology  
Manager, Arxada

**2:35–3:05**  
**Microbial survival and comparison of shutdown procedures for dormant water recovery systems for spaceflight**  
Liz Sandvik

**3:05**  
**Transport to CBE laboratories**

### Poster Session and Lab Open House

**3:30–5:30**  
3rd Floor Barnard Hall, MSU  
Schedule available onsite

## Thursday July 11

**7:00–8:00 am CBE & IA Members Coffee Talk** Goldenrod Boardroom

**7:30–9:00 am**  
**Registration & continental breakfast** Larkspur Foyer

**Meeting:** Larkspur Ballroom

**8:00–9:00 IA+CBE Connect**

**9:00–9:05**  
**Opening remarks**  
Matthew Fields, Darla Goeres

### SESSION 3: Innovative Techniques for Biofilm Analysis

**9:05–9:10**  
**Session Introduction**  
Heidi Smith, Manager, Bioimaging  
Facility, CBE; Assistant  
Research Professor,  
Microbiology & Cell Biology,  
MSU

**9:10–10:10**  
**Three 20-minute talks**

**Label-free identification of microorganisms using spontaneous Raman spectroscopy**

Bruce Boles, PhD Student,  
Civil Engineering, MSU,  
CBE

**Imaging multispecies biofilms**

Erika Espinosa-Ortiz,  
Assistant Professor,  
Biological Engineering,  
Utah State University

**Using stimulated Raman spectroscopy to study the human fecal microbiome**

Jacob Schimetz, PhD  
Student, Microbiology &  
Cell Biology, MSU

**10:10–10:40 Networking Break**

(Continues on next page)

**10:40-11:10**

**Microsensors and food processing**

Stephan Warnat, Associate Professor, Mechanical & Industrial Engineering, MSU, CBE

**11:10-11:40**

**Electrochemistry as a tool to understand biocorrosion**

Giorgia Ghiara, Visiting Faculty, Fulbright Scholar, MSU, CBE

**11:40-12:00**

**CBE Awards & IA Milestones**

**12:00-1:00 Lunch**

**SESSION 4: Biofilms and Water Quality**

**1:00-1:05**

**Session Introduction**

Catherine Kirkland, Assistant Professor, Civil Engineering, MSU, CBE

**1:05-1:30**

**Monochloramine induces release of DNA and RNA from bacterial cells: Quantification, sequencing analyses, and implications**

Sakcham Bairoliya, Research Fellow, Civil and Environmental Engineering, Singapore Centre for Environmental Life Sciences Engineering, Nanyang Technological University

**\*Young Investigator Awardee**

**1:30-1:55**

**Biofilm dynamics in treatment wetlands**

Ellen Lauchnor, Associate Professor, Civil Engineering, MSU, CBE

**1:55-2:25 Networking Break**

**2:25-2:55**

**Pathogenic free-living amoeba: Interactions with biofilms in natural and engineered systems**

John Shikany, PhD Student, Chemical & Biological Engineering, MSU, CBE

**2:55-3:20**

**Biofilms and public health**

Joe Sexton, Team Lead, Biofilm and Microbial Control Laboratory, Clinical and Environmental Microbiology Branch, CDC

**Strategic Planning Meeting for CBE Members**

**3:45-5:00**

Hilton Garden Inn

**BBQ Dinner**

**6:00 pm**

Big Yellow Barn, Bozeman

**Friday  
July 12**

**8:00-8:30 am**

**Registration & continental breakfast**

Larkspur Foyer

**Meeting:** Larkspur Ballroom

**8:30-8:35**

**Opening Remarks**

Matthew Fields, Darla Goeres

**SESSION 5: Medicine and Healthcare**

**8:35-8:40**

**Session Introduction**

Kelly Kirker, Assistant Research Professor, Chemical & Biological Engineering, MSU, CBE

**8:40-9:10**

**Revisiting the biofilm model of wound infection**

Phil Stewart, Regents Professor, Chemical & Biological Engineering, MSU, CBE

**9:10-9:35**

**Crafting polymicrobial wound biofilm models through microbiome analysis**

Jontana Allkja, Postdoctoral Researcher, Dental School and Hospital, University of Glasgow

**\*Young Investigator Awardee**

**9:35-10:05 Networking Break**

**10:05-10:35**

**2-aminoimidazoles as antibiotic adjuvants: A piece to the AMR puzzle**

Amethyst Demeritte, PhD Student, Chemistry & Biochemistry, MSU, CBE

**10:35-11:05**

**One is not the loneliest number: Using new tools to study virus infections at a single cell level**

Emma Loveday, Assistant Professor, Microbiology & Cell Biology, MSU, CBE

**11:05-11:35**

**Bacterial hibernation: A mechanism for biofilm antibiotic tolerance**

Mike Franklin, Professor, Microbiology & Cell Biology, MSU, CBE

**11:35-11:45**

Meeting wrap-up



**Mark your calendar!**  
*CBE Pathways to Product Development Meeting  
January 29-30, 2025  
Washington, D.C.*

*The Center for Biofilm Engineering gratefully acknowledges the support from these meeting sponsors:*



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