



Montana Biofilm Science & Technology Meeting and Workshop



July 9-11, 2025



Hilton Garden Inn Bozeman
Final AGENDA

7/23/2025 3:57 PM

Tuesday July 8

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

Wednesday July 9

7:00–8:00 am Coffee Talk
Optional discussion hour for members & CBE leadership
Goldenrod Boardroom

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

8:00–3:10
Meeting Larkspur Ballroom

8:00–8:15
Opening Remarks
Matthew Fields, Director, CBE;
Professor, Microbiology &
Cell Biology, MSU
Darla Goeres, Coordinator of
Industrial Development, CBE

8:15–8:45
Introductions

SESSION 1: The Rules of Biofilm Behavior

8:45–8:55
Session Introduction
Matthew Fields

Keynote Presentation
8:55–9:40
Mechanisms and consequences of biofilm formation
Fitnat Yildiz, Professor,
Microbiology and
Environmental Toxicology,
University of California Santa Cruz

9:40–10:10 Networking Break

10:10–10:40
Living within your means: From basic geometry to a bacterium's limited budget of surface area
Ross Carlson, Professor, Chemical & Biological Eng., MSU, CBE

10:40–11:10
Probing the life of gut microbes using next generation physiology tools
Roland Hatzenpichler, Associate Professor, Chemistry & Biochemistry, MSU, CBE

11:10–11:55
Panel:
Fitnat Yildiz
Roland Hatzenpichler
Ross Carlson
Moderator: Matthew Fields

11:55–1:25 Networking Lunch

SESSION 2: Interactions at the Interface

1:25–1:30
Session Introduction
Chris Jones, PI, Standardized Biofilm Methods Lab, CBE

1:30–1:50
Evaluating a standard operating procedure for multidomain biofilm growth in the Industrial Surfaces Biofilm Reactor and demonstration of use cases
Kylie Bodle, Postdoctoral Researcher, CBE

1:50–2:10
Investigating the environmental and genetic factors that influence early surface attachment in the foodborne pathogen *Vibrio vulnificus*
Tiffany Williams, Senior Innovation Scientist–Microbiology, Diversey

2:10–2:30
Selecting representative multi-domain microbial communities for surface-associated laboratory consortia
Ghazal Vahidi, Postdoctoral Researcher, CBE

2:30–2:50
Testing the implications of micron-scale texture on microbial surface sensing and biofilm formation: An indwelling-device model

Shawna Pratt, Postdoctoral Researcher, Microbiology & Immunology, Geisel School of Medicine at Dartmouth College
*Young Investigator Awardee

2:50
Depart for Poster Session (on own)

CBE Poster Session

3:30–5:30
Inspiration Hall, MSU
Schedule & lab tour sign-up available onsite

Thursday July 10

7:00–8:00 am Coffee Talk
Optional discussion hour for members & CBE leadership
Goldenrod Boardroom

8:00–9:00 am
Cont. breakfast Larkspur Foyer

8:00–9:00 CBE Connect
Optional networking hour for attendees and CBE researchers
Larkspur meeting area

9:00–4:00
Meeting Larkspur Ballroom

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

SESSION 3: Multi-Species Pathology

9:05–9:10
Session Introduction
Kelly Kirker, Assistant Research Professor, Chemical & Biological Eng., MSU, CBE

(Continues on next page)

9:10-9:40

The role of physical forces in shaping polymicrobial communities

Pat Secor, Associate Professor,
Microbiology & Cell Biology,
MSU, CBE

9:40-10:10

Biofilm microorganism growth and community composition, and urogenital infection association in active-duty female soldiers using 2nd and 3rd generation Freshette® female urinary diversion devices

Elizabeth Kostas-Polston, Assoc.
Professor & Deputy Director,
Nursing Science Program,
Uniformed Services University
of the Health Sciences

10:10-10:40 Networking Break

10:40-11:10

Short-lived success: Recolonization of Carbapenem-resistant *Enterobacteriales* in sink drains following repeated disinfection with a peroxide-peracetic acid-based foam

Amy Mathers, Professor,
Medicine and Pathology,
University of Virginia Medical
School

11:10-11:40

Cystic fibrosis: A paradigm biofilm infection in a new era

Phil Stewart, Regents Professor,
Chemical & Biological Eng.,
MSU, CBE

11:40-12:05

CBE Awards & Milestones

12:05-1:20 Lunch

**SESSION 4: Rapid Trios—
The Matrix**

1:20-1:25

Session Introduction

Laura Jennings, Assistant
Professor, Microbiology & Cell
Biology, MSU, CBE

1:25-1:45

Biofilm dispersal patterns revealed using far-red fluorogenic probes

Andrew Bridges, Assistant
Professor, Biological Sciences,
Carnegie Mellon University
*Young Investigator Awardee

1:45-2:05

Random acts of resistance: Polysaccharide and epigenetic heterogeneity in *Pseudomonas aeruginosa* biofilms

Laura Jennings

2:05-2:25

Lab biofilm models, the brain ache of planning a breakup IRL

Alan House, Senior Scientist,
Industrial Cleaning, Novonesis

2:25-2:55 Networking Break

**SESSION 5: Rapid Trios—
Engineered Systems**

2:55-3:00

Session Introduction

Isaak Thornton, Postdoctoral
Researcher, CBE;
Ethan Viles, PhD Student,
Mechanical & Industrial Eng.,
MSU, CBE

3:00-3:20

Scaling up and validating processes for biocement production for soil stabilization

Michael Carter, Biomaterials
Research Scientist, Air Force
Research Laboratory

3:20-3:40

mRNA PNA-FISH for high resolution gene expression and the spatial ecology of *Legionella pneumophila* biofilms

Ana Barbosa, Visiting PhD
Student, Chemical & Biological
Eng., University of Porto

3:40-4:00

Biofilms in pharmaceutical and clinical water systems

Mark Pasmore, Associate
Director, R&D, Vantive

4:00-4:10 Short Break

**Strategic Planning
Meeting for CBE
Members**

4:10-5:10

Hilton Garden Inn

BBQ Dinner

6:00-9:00 pm

Big Yellow Barn, Bozeman

**Friday
July 11**

8:00-8:30 am

Cont. breakfast Larkspur Foyer

8:30-11:50 am

Meeting Larkspur Ballroom

8:30-8:35

Opening Remarks

Matthew Fields, Darla Goeres

8:35-9:20

Career Insights Panel: STEM in Industry

AvantGuard
ICU Medical
Sherwin-Williams Company
STERIS
Moderator: Chris Jones

**SESSION 6: Life in the
Extreme**

9:20-9:25

Session Introduction

Liz Sandvik, Research Engineer,
CBE

9:25-9:55

Material coatings and strategies for biofilm mitigation in spacecraft water systems

Madelyn Mettler, Affiliate
Postdoctoral Researcher, CBE

9:55-10:25 Networking Break

10:25-10:55

Chill Solutions: Cold-adapted biosurfactants for industrial innovation

Christine Foreman, Assoc. Dean,
Norm Asbjornson College of
Eng.; Professor, Chemical &
Biological Eng., MSU, CBE

Closing Keynote Presentation

10:55-11:40

Polymicrobial biofilm growth and control during spaceflight

Bob McLean, Regents' Professor,
Biology, Texas State University

11:40-11:50

Closing Remarks

Matthew Fields, Darla Goeres

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