



Montana Biofilm S&T Meeting Draft AGENDA: July 17–19, 2018



MONTANA
STATE UNIVERSITY



7/12/2018

Monday July 16

6:00–8:30 pm

Registration & welcome reception
Larkspur Foyer, Hilton Garden Inn
Bozeman

Tuesday July 17

7:30–8:00 am

**Registration & continental
breakfast**
Larkspur Foyer, Hilton Garden Inn

8:00–8:10

Introductory remarks
Larkspur Ballroom
Matthew Fields, CBE Director
Paul Sturman, CBE Industrial
Coordinator
Laura Wahlen, Research Scientist,
Baxter Healthcare,
Round Lake, IL

SESSION 1: Biofilm Methods

8:10–8:35

**Biofilm drain remediation study:
Biofilms in drains, a laboratory
model**
Charles Giambone, Vice President,
Technical Services, Rochester
Midland Corp., Rochester, NY

8:35–9:05

**Novel methods to study
multispecies biofilms**
Nuno Filipe Azevedo, Assistant
Professor, Chemical Engineering,
University of Porto, Porto,
Portugal

9:05–9:35

**3D printing of soft hydrogels for
biofilm engineering**
Jim Wilking, Assistant Professor,
Chemical & Biological Eng.,
MSU, CBE

9:35–10:05 **Networking Break**

10:05–10:30

**Shear stress mediates metabolism
and growth in electroactive
biofilms**

Andrew Jones, Postdoctoral
Researcher, Mechanical &
Industrial Eng., Northeastern
University, Boston, MA; CBE
Young Investigator Awardee

10:30–11:00

**The versatility of acoustic
pressure shockwave technology in
destroying biofilms**

Iulian Cioanta, Vice President,
Research & Development,
SANUWAVE Health,
Suwanee, GA

SESSION 2: Bacteriophage and Biofilm

11:00–11:30

**A bacteriophage integrase
regulates virulence factor
production by *Pseudomonas
aeruginosa***

Pat Secor, Assistant Professor,
Biological Sciences,
University of Montana; CBE
Young Investigator Awardee

11:30–12:00

**A potential biocontrol strategy for
healthcare facilities using a
surfactant-supplemented
bacteriophage cocktail for the
control of carbapenemase-
producing *Klebsiella pneumoniae*
biofilms**

Ariel Santiago, ORISE Research
Fellow, Biofilm Laboratory,
Centers for Disease Control,
Atlanta, GA; CBE Young
Investigator Awardee

12:00–1:00 pm

Catered lunch, Hilton Garden Inn

Special Presentation:

1:00–1:30

Life in the human gut microbiome
Seth Walk, Assistant Professor,
Microbiology & Immunology,
MSU

SESSION 3: Strategic Communication and Data Resources

1:30–2:00

**An overview of the BRaID
project**

Dave Millman, Assistant
Professor, Gianforte School of
Computing, MSU
Thiru Ramaraj, Bioinformatics
Research Scientist, National
Center for Genome Resources,
Santa Fe, NM

2:00–2:30

**Fostering a common vision to
mobilize innovation across
government, industry and
academic partnerships**

Jayne Morrow, Senior Science
Policy Advisor, National
Institute of Standards and
Technology, Gaithersburg, MD

CBE Open House: Lab demonstrations and poster session

3:00–5:00

3rd Floor Barnard Hall, MSU
Schedule available onsite

Wednesday July 18

7:30–8:00 am

**Registration & continental
breakfast**

Larkspur Foyer, Hilton Garden Inn

SESSION 4: Medical Biofilms

8:00–8:05

Session introduction

Garth James, Associate Research
Professor, Chem. & Biological
Eng., MSU; PI, Medical Biofilms
Laboratory, CBE

8:05–8:15

**Clinical efficacy of biofilm
disruption technology developed
with testing at the CBE**

Alicia Tetlak, Microbiologist, Next
Science LLC, Jacksonville, FL

8:15–8:45

**Diabetic wound care in our
veteran population**

MaryCloud Ammons Anderson,
Research Scientist, Idaho
Veterans Research and
Education Foundation, Boise VA
Medical Center, Boise, ID

8:45–9:15

**How bacteria in biofilms
withstand antibiotics**

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

9:15–9:45

**Microplate hydrogel assay
for antibiofilm testing**

Kenneth Scott Phillips, Biofilms
Research Group Leader, Center
for Devices & Radiological
Health, US Food & Drug Admin.,
Silver Spring, MD

9:45–10:15 Networking Break

10:15–10:45

Biofilm: The clinical dilemma

Eric Johnson, MD, Bozeman Health
Wound and Hyperbaric Center,
Bozeman, MT

10:45–11:15

**Characterization of
Mycobacterium chimaera biofilm
formation on medical device
materials**

Archana Siddam, Commissioner's
Fellow, Winchester Engineering
& Analytical Center, US Food &
Drug Admin., Winchester, MA

11:15–11:45

**Design, synthesis, and evaluation
of prodrug antimicrobials to
control biofilms**

Danica Walsh, PhD Student,
Chemistry & Biochemistry,
MSU, CBE

11:45–12:00

Presentation of CBE awards

Matthew Fields

12:00–1:00 pm

Catered lunch, Hilton Garden Inn

SESSION 5: Biofilm Physiology

1:00–1:30

**Investigating single cell growth
using drop-based microfluidic
incubation**

Shawna Pratt, PhD Student,
Chemical & Biological
Engineering, MSU, CBE

1:30–2:00

**Heterogeneity in *Pseudomonas
aeruginosa* populations**

Tatsuya Akiyama, Postdoctoral
Researcher, Microbiology &
Immunology, MSU

2:00–2:30

**Spatiotemporal mapping of
oxygen in a microbially-impacted
packed bed using ¹⁹F nuclear
magnetic resonance oximetry**

Jeffrey Simkins, PhD Student,
Chemical & Biological
Engineering, MSU, CBE

2:30–3:00

**CRISPR-mediated defense and
bacteriophage counter-defense in
*P. aeruginosa***

MaryClare Rollins, Research
Associate, Microbiology &
Immunology, MSU

3:00–3:15

State of the CBE Address

Matthew Fields

3:30–5:00

Business Meeting

Hilton Garden Inn

Dinner

6:00 pm

Rockin' TJ Ranch, Bozeman

Thursday July 19

7:30–8:00 am

**Registration & continental
breakfast**

Larkspur Foyer, Hilton Garden Inn

SESSION 6: Biofilm Imaging

8:00–8:30

**CBE imaging capabilities:
An overview**

Heidi Smith, Postdoctoral
Researcher, CBE

8:30–9:00

**Quantification of biofilm
characteristics from images with
error bars**

Al Parker, Biostatistician, CBE;
Assistant Research Professor,
Mathematical Sciences, MSU

9:00–9:30

**Characterizing the adhesion and
rheology of biofilms using
centrifuge force microscopy**

Tom LeFevre, PhD Student,
Chemical & Biological
Engineering, MSU, CBE

9:30–10:00 Networking Break

SESSION 7: Industrial Biofilms

10:00–10:30

**Biofilms in industrial water
handling systems: An overview of
real-time biomonitoring and
system performance**

David Vela, Senior Research
Scientist; Angela Delegard,
Research Scientist, Chem-Aqua,
Irving, TX

10:30–11:00

**Microbial defacement of building
materials**

Erika Espinosa-Ortiz, Postdoctoral
Researcher, CBE

11:00–11:30

**Scale in water systems:
A biomineral?**

Adrienne Phillips, Assistant
Professor, Civil Engineering,
MSU, CBE

11:30–11:40

Meeting wrap up