

07/17/2015

Monday July 13

6:00–8:30 pm

Registration & welcome reception
Larkspur Foyer, Hilton Garden Inn
Bozeman

Tuesday July 14

7:30–8:00 am

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

8:00–8:10

Introductory remarks
Larkspur Ballroom
Paul Sturman, CBE Industrial
Coordinator
Chuck Pettigrew, Chair, CBE
Industrial Associates; Principal
Scientist, Procter & Gamble
Matthew Fields, CBE Director

SESSION 1: Oilfield Biofilms

8:10–8:15

Session introduction
Paul Sturman

8:15–8:45

**Visualization and quantification of
biofilm removal**
TJ Tidwell, Principal Microbiologist,
Nalco Champion Company,
Sugar Land, TX

8:45–9:20

**Mechanisms and mitigation of
severe microbial corrosion by
sulfate-reducing bacteria**
Dennis Enning, Senior Research
Engineer, ExxonMobil Upstream
Research Company, Houston, TX

9:20–9:50

**Modeling the growth and
chemistry of sulfate-reducing
biofilms**
Robin Gerlach, Professor,
Chemical & Biological
Engineering, MSU-CBE

9:50–10:20 Networking Break

10:20–10:50

**Thiosulfate-reducing microbes in
oil field systems: Too often
overlooked**

Kathleen Duncan, Research
Associate Professor,
Microbiology & Plant Sciences,
University of Oklahoma,
Norman, OK

10:50–11:20

**Transformation of hydraulic
fracturing chemicals
underground—Focus on
glutaraldehyde**

Genevieve Kahrilas, PhD Candidate,
Chemistry, Colorado State
University, Fort Collins, CO

11:20–11:50

**Enhancement of biogenic coalbed
methane production**

Katie Davis, PhD student,
Chemical & Biological
Engineering, MSU-CBE

12:00–1:00

Catered lunch, Hilton Garden Inn

SESSION 2: Regulatory Agency Update

1:00–1:30

**Meeting Highlights: Anti-biofilm
Technologies—Pathways to
Product Development, Feb 2015**
Paul Sturman

1:30–1:55

**Biofilm claims for antimicrobial
products: U.S. EPA regulatory
perspective**

Steve Tomasino, Senior Scientist,
U.S. EPA Office of Pesticide
Programs, Fort Meade, MD

1:55–2:20

**Results from continued
optimization of the Single Tube
Method**

Darla Goeres, Associate Research
Professor, Chemical & Biological
Engineering, MSU-CBE

CBE Open House: Lab demonstrations and poster session

3:00–5:00

3rd Floor EPS Building, MSU
Detailed schedule available onsite

Wednesday July 15

7:30–8:00 am

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

SESSION 3: Medical Biofilms

8:00–8:05

Session introduction
Garth James, Associate Research
Professor, Chemical & Biological
Engineering, MSU-CBE

8:05–8:30

3D imaging of oral biofilms
Garth James

8:30–9:00

***Clostridium difficile* and health
care-associated infection**
Seth Walk, Assistant Professor,
Microbiology & Immunology,
MSU

9:00–9:30

**In vitro analysis of *Clostridium
difficile* biofilms: Imaging and
antimicrobial treatment**
Elinor deLancey Pulcini, Assistant
Research Professor, Chemical &
Biological Engineering, MSU-CBE

9:30–10:00 Networking Break

10:00–10:30

**Antimicrobial and anticancer β 2,
2-amino acid derivatives: Peptide
mimetics with potential for oral
administration**

Dominik Ausbacher, CBE visiting
Postdoctoral Researcher,
Department of Pharmacy, UiT—
The Arctic University of Norway,
Tromsø, Norway

10:30–11:00

***Staphylococcus aureus* biofilms and keratinocyte apoptosis**

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

Young Investigators

11:00–11:30

Phenazine antibiotic inspired discovery of biofilm-eradicating small molecules

Robert Huigens III, Assistant Professor, Medicinal Chemistry, University of Florida, Gainesville, FL

11:30–12:00

Coupling multi-scale in situ determination of biofilm mechanical properties to mathematical modeling of biofilm fluid-structure interaction

Juan Pavissich, Postdoctoral Researcher, Department of Biotechnology, Delft University of Technology, The Netherlands

12:00–12:10

Presentation of CBE awards

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

12:10–1:10

Catered lunch, Hilton Garden Inn

**SESSION 4:
Biofilm Mineral Interactions**

1:10–1:15

Session introduction

Robin Gerlach

1:15–1:35

From speleogenesis to sewer corrosion

Phil Stewart

1:35–2:15

Subaerial biofilms: New horizons in stone biodeterioration research

Federica Villa, CBE Visiting Postdoctoral Researcher, University of Milan, Italy

2:15–2:45

Biomining of kidney stones

Logan Schultz, Postdoctoral Researcher, MSU-CBE

2:45–3:15

Overview of biofilm mediated mineralization and engineering applications

Adie Phillips, Assistant Professor, Civil Engineering, MSU-CBE

3:30–5:00

Business Meeting

Hilton Garden Inn

6:00

Dinner/Banquet

Rockin' TJ Ranch, Bozeman

**Thursday
July 16**

7:30–8:00 am

Registration & continental breakfast

Larkspur Foyer, Hilton Garden Inn

8:00–8:05

Introductory Remarks

Renee Reijo Pera, Vice President, Research & Economic Development, MSU

**SESSION 5:
Biofilm Fundamentals**

8:05–8:10

Session introduction

Matthew Fields

8:10–8:35

Novel extracellular membrane structures in a sulfate-reducing biofilm

Lauren Franco, PhD student, Microbiology & Immunology, MSU-CBE

8:35–9:00

Antimicrobial tolerance in biofilms

Phil Stewart

9:00–9:25

Biofilms formed by the archaeon *Haloferax volcanii* exhibit cellular differentiation and social motility, and facilitate horizontal gene transfer

Thane Papke, Associate Professor, Molecular & Cell Biology, University of Connecticut, Storrs, CT

9:25–9:50

Biofilm formation mechanisms of *Pseudomonas aeruginosa* predicted via metabolic models

Francisco Vital-Lopez, Research Scientist, DoD Biotechnology High-Performance Computing Software Applications Institute (BHSAI), Frederick, MD

9:50–10:20 Networking Break

**SESSION 6:
New Tools & Methods**

10:20–10:25

Session introduction

Jim Wilking, Assistant Professor, Chemical & Biological Engineering, MSU-CBE

10:25–10:50

Quantifying biofilm characteristics over time from 3-D confocal microscope movies

Al Parker, Assistant Research Professor, Mathematical Sciences; Bio-statistician, MSU-CBE

10:50–11:15

Drop-based microfluidics for high-throughput biological assaying

Connie Chang, Assistant Professor, Chemical & Biological Engineering, MSU-CBE

11:15–11:40

Developing materials-based understanding of biofilm mechanics

Jim Wilking

11:40–12:05

Applications of microelectrodes for biofilm kinetics and inhibition studies

Ellen Lauchnor, Assistant Professor, Civil Engineering, MSU-CBE