MONTANA STATE UNIVERSITY

Montana Biofilm S&T Meeting
Draft AGENDA: July 14–17, 2014
Center for Biofilm Engineering

07/14/2014

Monday July 14

6:00–8:30 pm
Pre-registration & welcome reception
Larkspur Foyer, Hilton Garden Inn Bozeman

Tuesday July 15

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
Tony Rook, Chair, CBE Industrial Associates; and Manager, Microbiology, The Sherwin-Williams Company
Phil Stewart, CBE Director

SESSION 1: Biofilm Infection

8:10–8:20
Session introduction
Phil Stewart, CBE

8:20–8:50
Biofilm model of delayed healing in the rabbit ear: Clinical implications of virulence, host response, and treatment
Thomas Mustoe, MD, Professor, Plastic Surgery, Northwestern University, Chicago, IL

8:50–9:20
Whack-a-mole, chess and the fight against chronic infections
Pradeep Singh, MD, Professor, Medicine & Microbiology, University of Washington, Seattle

9:20–9:50
Prosthetic joint infection update
Robin Patel, MD, and Chair, Division of Clinical Microbiology, College of Medicine, Mayo Clinic, Rochester, MN

9:50–10:20 Networking Break

10:20–10:50
Transport limitations in heterogeneous systems
Isaac Klapper, Professor, Mathematics, Temple University, Philadelphia, PA

10:50–11:20
Atmospheric plasma for annihilation of wound biofilms
Garth James, Assoc Research Professor, Chem & Biological Eng; CBE Medical Biofilm Laboratory Manager

11:20–11:50
Gel-entrapped *Staphylococcus aureus* as a model of biofilm infection
Breana Pabst, Research Assistant, CBE

12:00–1:00
Catered lunch, Hilton Garden Inn

SESSION 2: Microscopy

1:00–1:30
Time-lapse confocal microscopy of gel-entrapped bacteria as models of infection
Betsey Pitts, Research Scientist and Microscope Facilities Mgr, CBE

Visualization of cell surface interactions of environmental samples using confocal microscopy
Heidi Smith, PhD student, Land Resources & Environ Sci, CBE

1:30–1:55
Experience with the microscopy Treatment Flow Cell
Lindsey Lorenz, Research Assistant, CBE
Kelli Buckingham-Meyer, Research Assistant, CBE

1:55–2:20
FISH On! Optimization and utility of Fluorescence In Situ Hybridization (FISH) in detecting industry-relevant environmental microbes
Dana Skorupa, Postdoctoral Research Associate, CBE

CBE Open House: Lab demonstrations and poster session

3:00–5:00
3rd Floor EPS Building, MSU
Detailed schedule provided at Registration

Wednesday July 16

7:30–8:00 am
Registration & continental breakfast
Larkspur Foyer, Hilton Garden Inn

SESSION 3: DNA Sequencing in Practice

8:00–8:30
Sequencing: Trials & tribulations
Matthew Fields, Assoc Professor, Microbiology, CBE

8:30–9:00
Molecular diagnosis of medical biofilm
Randy Wolcott, MD, Southwest Regional Wound Care Center, Lubbock, TX

9:00-9:30
Bacterial community changes with depth and metal geochemistry from mined material
Chiachi Hwang, Industrial Research Scientist, CBE

9:30-10:00
I did not know because I could not grow…the impact of molecular methods on microbial control in industrial systems
Vic Keasler, Senior RD&E Group Leader, Microbiology & Global Biotechnology Anchor, Ecolab

10:00–10:30 Networking Break

Young Investigators

10:30-11:00
Genetic requirements in spatially organized polymicrobial wound infection
Keith Turner, Postdoctoral Fellow, Center for Infectious Disease, University of Texas at Austin

11:00–11:30
Analyzing secondary metabolite production by 3D-printed bacterial populations using scanning electrochemical microscopy
Jodi Connell, Postdoctoral Fellow, Center for Infectious Disease, University of Texas at Austin

Special Presentations

11:30–11:50
State of the CBE Address
Phil Stewart

11:50–12:00
Presentation of CBE awards
Phil Stewart

12:00–1:00
Catered lunch, Hilton Garden Inn

SESSION 4: U.S. Regulatory Review

1:00–1:05
Session introduction

1:05–1:30
Biofilm claims for antimicrobial products: U.S. EPA regulatory perspective
Stephen Tomasino, Senior Science Advisor, U.S. EPA-OPP, Microbiology Laboratory Branch

1:30–1:50
FDA/CBE joint workshop recap
Phil Stewart, CBE

1:50–2:15
Biofilm claims–EPA rules and implications
John Wood, Senior Director, Agency Relations, Ecolab, Inc.

2:15–2:40
Biofilm test methods and impact on regulatory guidelines
LaShanda Glenn, Scientist, Procter & Gamble

2:40–3:10
Discussion: Paths forward for biofilm regulation

3:30-5:00
Business Meeting

6:00
Dinner/Banquet
Rockin' TJ Ranch, Bozeman

Thursday July 17

7:30–8:00 am
Registration & continental breakfast
Larkspur Foyer, Hilton Garden Inn

SESSION 5: New CBE Capabilities: Micromechanics & Microfluidics

8:00–8:05
Session introduction

8:05–8:30
Mechanical properties of microbial biofilms
Jim Wilking, Asst Professor, Chem & Biological Eng, CBE

8:30–8:55
Drop-based microfluidics for biological applications: From colloidal dispersions to high-throughput assaying
Connie Chang, Asst Research Professor, Chem & Biological Eng, CBE

SESSION 6: Bacterial Survival in Industry and the Environment

8:55–9:00
Session introduction

9:00–9:25
Hot water disinfection of planktonic and biofilm bacteria
Mark Pasmore, Research Manager, Baxter Healthcare Corporation
Diane Walker, Research Engineer, CBE

9:25–9:50
Systems analysis of iron-limited growth: Insights into pathogen metabolic acclimation to host
Ross Carlson, Assoc Professor, Chem & Biological Eng, CBE

9:50–10:15 Networking Break

10:15–10:40
Field-scale plugging of hydraulic fractures using ureolytic bacteria
Al Cunningham, Professor, Civil Eng, CBE;
Robin Gerlach, Assoc Professor, Chem & Biological Eng, CBE;
Adie Phillips, Research Engineer, CBE

10:40–11:10
Presence, pervasiveness, and persistence of wastewater pathogen *Escherichia coli* O157:H7 in model treatment wetlands
Rachel VanKempen-Fryling, PhD student, Microbiology, CBE

11:10–11:35
Monitoring *Chlorella* survival during algal biofuel production using a community ecology approach
Tisza Bell, PhD student, Microbiology, CBE

11:35–12:00
Biofouling on household reverse osmosis water treatment membranes
Stephen Markwardt, MS student, Environmental Eng, CBE