Montana Biofilm S&T Meeting
FINAL AGENDA: July 16–18, 2013
Center for Biofilm Engineering

Monday
July 15
6:00–8:30 p.m.
Pre-registration & welcome reception
Larkspur Foyer, Hilton Garden Inn, Bozeman

Tuesday
July 16
7:30–8:00 a.m.
Registration & continental breakfast
Larkspur Foyer, Hilton Garden Inn

8:00–8:10
Introductory remarks
Larkspur Ballroom
Paul Sturman, CBE Industrial Coordinator
Chuck Pettigrew, IA Vice-Chair, Procter & Gamble
Phil Stewart, CBE Director

SESSION 1:
Oral Biofilms
8:10–8:20
Session introduction
Garth James, Medical Projects Manager, CBE; Associate Research Professor, Chemical & Biological Engineering, MSU

8:20–9:00
Visualizing the spatial organization of microbes in oral biofilms
Jessica Mark Welch, Assistant Research Scientist, Marine Biological Laboratory, The Josephine Bay Paul Center

9:00–9:30
Evaluating oral biofilm treatments using the CDC biofilm reactor and treatment imaging flow cell
Garth James

9:30–10:00
Survey of emerging approaches for control of oral biofilms
Phil Stewart

10:00–10:30 Networking Break

SESSION 2:
Cyclic-di-GMP
10:30–10:50
Cyclic-di-GMP: A universal signaling molecule for bacterial biofilm formation
Michael Franklin, Associate Professor, Microbiology, CBE

10:50–11:25
Probing second messenger molecules in biofilm formation: C-di-GMP and pGpG inhibitors and chemical probes
William Wuest, Assistant Professor, Chemistry, Temple University

11:25–12:00
Elucidating and targeting cyclic-di-GMP signaling
Chris Waters, Assistant Professor, Microbiology and Molecular Genetics, Michigan State University

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

SESSION 3:
Biofuels/Algal Biofilms
1:00–1:10
Session introduction
Matthew Fields, Associate Professor, Microbiology, CBE

1:10–1:40
Biofilm-based sustainable production of wastewater algae for biofuels and other co-products
Ron Sims, Biological Engineering Department Head & Co-Director, Sustainable Waste-to-Bioproducts Engineering Center, Utah State University

1:40–2:10
Direct measurement and characterization of active photosynthesis zones inside biofuel producing and wastewater remediating microalgal biofilms
Rob Gardner, Postdoctoral Researcher, CBE

Wednesday
July 17
7:30–8:00 a.m.
Registration & continental breakfast
Larkspur Foyer, Hilton Garden Inn

SESSION 4:
Medical Biofilms
8:00–8:05
Session introduction
Garth James

8:05–8:40
Molecular snapshots of pilus biogenesis, UTI pathogenesis and biofilm formation: Blueprint for therapeutics
Scott Hultgren, Professor, Molecular Microbiology; Director, Center for Women's Infectious Disease Research, Washington University Medical School

8:40–9:15
Defining biofilms on intravascular catheters as microbial communities
Rodney Donlan, Research Microbiologist/Biofilm Laboratory, Division of Healthcare Quality Promotion, Centers for Disease Control and Prevention
9:15-9:50  
**Catheter-associated urinary tract infection: How pathogenesis affects prevention and management**  
Rabih Darouiche, MD, VA Distinguished Service Professor, Medicine, Surgery and PM&R; Director, Center for Prostheses Infection, Baylor College of Medicine, Baylor University

9:50–10:20  
**Networking Break**

10:20–10:55  
**Efficacy of disinfection devices and protocols to remove bacterial spore contamination of needle-free connectors**  
Elinor Pulcini, Biosafety Manager, CBE; Assistant Research Professor, Chemical & Biological Engineering, MSU

10:55-11:15  
**Medical Biofilms Panel Discussion**  
Rod Donlan, CDC  
Matt Trebella, Bard Access Systems  
Phil Stewart, CBE  
Garth James, CBE

11:15–11:50  
**2013 State of the CBE**  
Phil Stewart

11:50–12:00  
**CBE Award Presentations:**  
*W.G. Characklis*  
Outstanding Researcher  
Student Citizen  
Phil Stewart

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

### Thursday July 18

#### SESSION 6: Biomimicry

**7:30–8:00 a.m.**  
Registration & continental breakfast  
Larkspur Foyer, Hilton Garden Inn

**8:00–8:10**  
**Session introduction**  
Phil Stewart

**8:10–8:40**  
**The art and science of biomimicry**  
Dayna Baumeister, Co-founder, Biomimicry 3.8

**8:40–9:10**  
**Natural product mimetics that inhibit and disperse bacterial biofilms**  
Christian Melander, Co-founder & Chief Research Officer, Agile Sciences; Associate Professor, Chemistry, North Carolina State University

**9:10–9:40**  
Activity of antimicrobial peptide mimetics against fungal biofilms in vivo  
Gill Diamond, Associate Professor, Oral Biology, UMDNJ-New Jersey Dental School

**9:40–10:10**  
**Packing them in: Using self-assembled protein cages to direct synthesis and packaging of polymers, minerals, and proteins**  
Trevor Douglas, Professor, Chemistry/Biochemistry, MSU

**10:10–10:40  **  
**Networking Break**

#### SESSION 7: Biofilm Methods

**10:40–11:10**  
**Results of a multi-laboratory evaluation of the Single Tube Method (ASTM Method E2871)**  
Darla Goeres, Assistant Research Professor, Chemical & Biological Engineering, CBE

**11:10–11:40**  
**Putting proteomics and metabolomics to work for you**  
Brian Bothner, Associate Professor, Chemistry/Biochemistry, MSU

**11:40–12:10**  
**Biofilms on orbit and on Earth: Current methods, future needs**  
Leticia Vega, Scientist, Water Recovery Systems Group, NASA-Johnson Space Center

**12:10-12:20**  
**Meeting Wrap-up**