

# ■ Center for Biofilm Engineering

02/08/2012

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## Monday February 6

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**6:00–8:30 p.m.**  
**Pre-registration and welcome reception**  
Hilton Garden Inn, Bozeman

## Tuesday February 7

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

**8:00–8:10**  
**Introductory remarks**  
Larkspur Ballroom  
Tom McCoy, Vice President,  
Research, Creativity, &  
Technology Transfer, MSU  
Paul Sturman, CBE Industrial  
Coordinator  
Harsh Trivedi, IA Chair,  
Colgate-Palmolive  
Phil Stewart, CBE Director

### **SESSION 1:** **Oral Biofilms**

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

**8:20–8:50**  
**Antimicrobial penetration and efficacy in an in vitro oral biofilm model**  
Phil Stewart

**8:50–9:20**  
**Biofilms in dental unit waterlines**  
Alessandra Agostinho, DDS,  
CBE Research Scientist

**9:20–9:50**  
**The drip-flow reactor as a test system for oral care products**  
Garth James

**9:50–10:20 Break**

**10:20–10:50**  
**Investigations into mobile genetic elements and horizontal gene transfer within oral biofilms**  
Adam Roberts, Lecturer, Microbial  
Diseases, UCL Eastman Dental  
Institute, London

### **SESSION 2:** **Thermal Biofilms**

**10:50–11:00**  
**Session introduction**  
Brent Peyton, Professor, Chemical &  
Biological Engineering, CBE;  
Associate Director, Thermal  
Biology Institute, MSU

**11:00–11:30**  
**Transport and microbial consumption of oxygen in acidic geothermal iron-oxide mats**  
Hans Bernstein, PhD student,  
Chemical & Biological  
Engineering, CBE

**11:30–12:00**  
**Extremophilic fungi for sustainable energy**  
Rich Macur, Research Assistant  
Professor, Chemical & Biological  
Engineering, CBE  
Mark Kozubal, Postdoctoral  
Researcher, Thermal Biology  
Institute, MSU

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

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### **SESSION 3:** **Industrial Biofilms**

**1:00–1:10**  
**Session introduction**  
Paul Sturman

**1:10–1:45**  
**Innovative use of biofilms in water and wastewater treatment**  
Zbigniew Lewandowski, Professor,  
Civil Engineering, CBE

**1:45–2:15**  
**Metabolic cooperation in methanogenic biofilms: Cellular biomass or cellular energy**  
Kristen Brileya, PhD student,  
Microbiology, CBE

### **Special Presentation**

**2:15–2:40**  
**Highlights from recent European biofilm meetings**  
Phil Stewart

### **Poster session, laboratory open house, and live video presentation**

**3:20–5:20**  
**Lab open house and poster session**  
CBE Laboratories, 3rd Floor EPS  
Building

**3:30–4:00**  
**Live video presentation**  
Location: 1st Floor EPS 126 & 127  
**Analytical challenges of microbial biofilms on medical devices**  
K. Scott Phillips, Regulatory  
Research Scientist, US FDA

## Wednesday February 8

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

### **SESSION 4:** **Green Biofilm Control Strategies**

**8:00–8:05**  
**Session introduction**  
Phil Stewart

**8:05–8:50**  
**Biofilm shielding: The role of quorum sensing, rhamnolipids, and eDNA**  
Michael Givskov, Professor,  
International Health,  
Immunology, & Microbiology,  
University of Copenhagen;  
Professor, Singapore Centre on  
Environmental Life Sciences  
Engineering

**8:50–9:20**

**Bioinspired topographies for  
bacterial inhibition strategy**

Rhea May, Microbial Research  
Associate, Sharklet  
Technologies, Inc.

**9:20–9:50**

**Microbe-microbe interactions and  
application to MBR flux  
enhancement**

Jonathan Leder, Technical Director,  
Novozymes Biologicals, Inc.

**9:50–10:20 Break**

**SESSION 5:**

**Biofilms and Host  
Responses**

**10:20–10:30**

**Session introduction**

Garth James

**10:30–11:00**

**Considering the host immune  
response for vaccine development  
against *Staphylococcus aureus*  
biofilms**

Mark Shirtliff, Associate Professor,  
Microbial Pathogenesis, Dental  
School, University of Maryland,  
Baltimore

**11:00–11:30**

**Application of the nematode  
*Caenorhabditis elegans* as a  
model for multi-kingdom biofilm  
interactions of *Staphylococcus*  
*epidermidis* and *Candida albicans***

Birthe Venø Kjellerup, Assistant  
Professor, Microbiology, Goucher  
College, Baltimore

**11:30–12:00**

**Animal models useful for efficacy  
screening of antimicrobial and  
anti-biofilm drugs and coatings**

Paul Attar, President, BRIDGE  
Preclinical Testing Services

**12:00–12:10**

**Meeting Wrap-up**

See you at the  
***NEXT MEETING:***  
***July 17–19, 2012***