

# ■ Center for Biofilm Engineering

11/09/2011

## 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  
Paul Sturman, CBE Industrial Coordinator  
Harsh Trivedi, IA Chair,  
Colgate- Palmolive  
Phil Stewart, CBE Director

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

**8:10–8:15**  
**Session introduction**  
Garth James, CBE Medical Projects Manager; Associate Research Professor, Chemical & Biological Engineering, MSU

**8:15–9:00**  
**Genetic circuits used by *Streptococcus mutans* for survival in biofilms**  
Dennis Cvitkovich, Associate Professor, Oral Microbiology, University of Toronto, Canada

**9:00–9:30**  
**Photodynamic therapy for dental biofilms**  
Alessandra Agostinho, CBE Research Scientist

**9:30–10:00**  
**The drip-flow reactor as a test system for oral care products**  
Garth James

**10:00–10:30 Break**

**10:30–11:00**  
**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**

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

**11:10–11:35**  
**Transport and microbial consumption of oxygen in acidic geothermal iron-oxide mats**  
Hans Bernstein, PhD student, Chemical & Biological Engineering, CBE

**11:35–12:00**  
**Extremophilic fungi for sustainable energy**  
Rich Macur, Assistant Professor, Chemical & Biological Engineering, CBE

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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 industrial water 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 the 2011 European biofilm meetings**  
Phil Stewart

### Poster session and laboratory open house

**3:20–5:20**  
CBE Laboratories, 3rd Floor EPS Building, MSU

**Live video presentation: Measuring biofilms at the biointerface of medical devices**  
Kenneth Scott Phillips, Regulatory Research Scientist, FDA

\*Detailed schedule provided at registration

## 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**  
Anthony Brennan, Professor, Materials Science & Engineering, University of Florida; Founder, Sharklet Technologies

9:20–9:50

Title TBA

Jonathan Leder, Novozymes

**9:50–10:20 Break**

## **SESSION 5:**

### **Biofilms and Host Responses**

10:20–10:30

Responses of human keratinocytes and fibroblasts to *Staphylococcus aureus* biofilms

Garth James

10:30–11:00

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

Mark Shirliff, Assistant Professor,  
Dental Surgery, University of  
Maryland, Baltimore

11:00–11:30

Application of the nematode *Caenorhabditis elegans* as a model for multi-kingdom interactions of *Staphylococcus/Candida* biofilms

Birthe Kjellerup, Assistant  
Professor, Microbiology, Goucher  
College

11:30–12:00

Animal models

Paul Attar, President, Bridge  
Preclinical Testing Services

12:00–12:10

Meeting Wrap-up

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