

Agenda (07-21-03)  
Technical Advisory Conference  
July 21–24, 2003  
Montana State University–Bozeman

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## Monday July 21

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6:00–7:30 p.m.  
Pre-registration and  
Welcome Reception  
GranTree Inn  
North 7<sup>th</sup> Ave, Bozeman

## Tuesday July 22

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7:30–8:30 a.m.  
Registration and  
Continental Breakfast  
Strand Union Building (SUB)  
Room 275 / 276

8:30–8:45  
Introductory Remarks  
SUB Ballroom A  
Paul Sturman,  
CBE Industrial Coordinator  
Bobby Orr, Tyco Healthcare, TAC  
Chair

### Keynote Speaker:

8:45–9:30  
*Pseudomonas aeruginosa* Biofilms:  
Identification of Genes Important for  
the Biofilm Phenotype  
Barbara Iglewski, Professor,  
Microbiology and Immunology,  
University of Rochester Medical  
Center

### SESSION 1: Keck Project

9:30–9:40  
Session Introduction  
Phil Stewart, CBE Deputy Director

9:40–10:00  
Imaging Biofilm Structures and  
Fluid Flow by NMR Microscopy  
Erica Gjersing, CBE MS Candidate,  
Chemical Engineering

### 10:00–10:20 Break

10:20–10:40  
Diffusion in *Staphylococcus*  
*epidermidis* Biofilms  
Suriani Abdul Rani,  
CBE Undergraduate Researcher,  
Chemical Engineering

10:40–11:00  
Spatial Patterns of Green  
Fluorescent Protein Expression in  
Biofilms  
Ruifang (Grace) Xu,  
CBE PhD Candidate,  
Chemical Engineering

11:00–11:20  
A 3-D Model of Biofilm Growth and  
Detachment  
Steve Hunt, CBE PhD Candidate,  
Chemical Engineering

11:20–11:40  
Dispersal Mechanisms in  
*Pseudomonas aeruginosa* Biofilms  
Laura Purevdorj,  
CBE PhD Candidate, Microbiology

11:40–12:00  
Cell Movement in Biofilms  
Benjamin Klayman,  
CBE PhD Candidate,  
Environmental Engineering

12:00–12:15  
Wrap-Up and Industry Comment

12:15–1:30  
Lunch, Catered  
SUB Ballroom C

1:30–2:00  
State of the CBE Address  
Bill Costerton, CBE Director

2:00–2:15  
Assets of a CBE Education  
Erin Werner, recent CBE graduate,  
BS, Chemical Engineering

### SESSION 2: Biofilm Methods

2:15–2:25  
Session Introduction  
Darla Goeres,  
CBE Research Engineer

2:25–3:00  
Antimicrobials Regulation  
at EPA  
Robert Brennis, US EPA

### 3:00–3:20 Break

3:20–3:40  
Grow, Analyze & Disseminate:  
Progress in the Standardized  
Biofilm Methods Research Area  
Darla Goeres

3:40–4:00  
Development of a National Standard  
for Testing Dental Unit Water Line  
Antimicrobials  
Paul Sturman,  
CBE Industrial Coordinator

4:00–4:10  
Wrap-Up and Industry Comment

### SESSION 3: Fungal and Mycobacterial Biofilms

4:10–4:40  
*Candida albicans* as a Model Biofilm  
System  
Peter Suci, CBE Assistant Research  
Professor, Microbiology

4:40–5:00  
Mycobacterial Biofilms:  
A Sticky Wicket  
Luanne Hall-Stoodley,  
Adjunct Professor, Microbiology,  
MSU Veterinary Molecular Biology

### 5:00–6:00 Poster Session

6:00–7:30  
FDA Regulatory Discussion Session  
Janine Morris and Doyle Gantt,  
Center for Devices and Radiological  
Health, Office of Device Evaluation,  
US Food and Drug Administration

## Wednesday July 23

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**7:30–8:30 a.m.**  
**Registration and Continental Breakfast**  
Strand Union Building (SUB)  
Room 275 / 276

### SESSION 4: **Environmental Biofilms**

SUB Ballroom A

**8:30–8:40**  
**Session Introduction**  
Al Cunningham, Professor,  
Civil Engineering, CBE

**8:40–9:00**  
**A Conceptual Model of Biofilm Processes in Porous Media**  
Al Cunningham

**9:00–9:20**  
**Influence of Electron Shuttling Compounds and Iron Mineral Surfaces on Redox-reactions in the Environment**  
Robin Gerlach, CBE Assistant Research Professor

**9:20–9:40**  
**Uranium Immobilization by Sulfate Reducing Biofilms**  
Haluk Beyenal,  
CBE Assistant Research Professor,  
Chemical Engineering

**9:40–10:00**  
**Control of Acid Production in Mine Tailings Through the Addition of Dissolved Organic Carbon**  
Paul Sturman

**10:00–10:20**  
**Use of Molecular Methods Techniques to Study Changes in an Oilfield Consortium Exposed to Nitrate and Nitrite**  
Birthe Venø Kjellerup,  
CBE Visiting Scientist, Danish Technological Institute

**10:20–10:30**  
**Wrap-Up and Industry Comment**

**10:30–10:50 Break**

### SESSION 5: **Emerging Research**

**10:50–11:30**  
**Confocal Microscopy: Changing Our Perceptions of Biofilms**  
Betsey Pitts, CBE Facilities Manager, Microscopy

**11:30–12:00**  
**Biofilms and Bioterrorism**  
Anne Camper, CBE Associate Professor, Civil Engineering

**12:00–1:20**  
**Lunch, Catered**

### SESSION 6: **Industry Forum**

**1:20–1:40**  
Diane Cummins, Colgate-Palmolive,  
Worldwide Director, Oral Care

**1:40–2:00**  
David Vogel, Microbiology Manager,  
Smith & Nephew

**3:00–5:00**  
**TAC Business Meeting (Springhill Pavilion)**

**6:00–8:00**  
**Dinner (Springhill Pavilion)**

## Thursday July 24

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**7:30–8:30**  
**Registration and Continental Breakfast**  
Strand Union Building (SUB)  
Room 275 / 276

**SESSION 7:**  
**Medical Biofilms**  
SUB Ballroom D (Note room change)

**8:30–8:40**  
**Session Introduction**  
Mark Shirliff, CBE Assistant Research Professor, Microbiology

**8:40–9:10**  
**Compromised Host Defense on *Pseudomonas aeruginosa* Biofilms: Characterization of Neutrophil and Biofilm Interactions**  
Al Jesaitis, Professor, Microbiology, MSU

**9:10–9:30**  
**Oxygen and Nitrate Modulate Antibiotic Susceptibility of *Pseudomonas aeruginosa* in Biofilms**  
Giorgia Borriello, CBE Visiting Scientist, PhD Student,  
Portici Naples, Italy

**9:30–9:50**  
**Proteomic, Microarray, and Host-Pathogen Interaction Studies of *Staphylococcus aureus* Biofilms**  
Mark Shirliff

**9:50–10:00**  
**Wrap-Up and Industry Comment**

**10:00–10:20 Break**

### SESSION 8: **Biofilm Detachment/Removal**

**10:20–10:25**  
**Session Introduction**  
Paul Stoodley, CBE Assistant Research Professor, Microbiology & Civil Engineering

**10:25–10:40**  
**Detachment and Oxacillin Resistance of Emboli from *Staphylococcus aureus* Biofilm**  
Suzanne Wilson, CBE Research Assistant

**10:40–10:55**  
**The Clinical Relevance of Flow and Detachment**  
Christoph Fux, CBE Visiting Scientist, University of Bern, Switzerland

**10:55–11:10**  
**Proteomic Evaluation of Detached Particles of Biofilm vs. Attached**  
Krista Cooperstein, CBE Undergraduate Research Assistant, Microbiology

**11:10–11:30**  
**Predicting the Rate of Large Particle Detachments**  
Cord Hamilton, CBE Statistician Technician

**11:30–11:50**  
**Detachment and Dispersal Mechanisms in Biofilms**  
Paul Stoodley

**11:50–12:00**  
**Wrap-Up and Industry Comment**

**12:00–12:10**  
**Meeting Wrap up**