

06/24/05

CENTER FOR
BIOFILM
ENGINEERING

Agenda

CBE Technical Advisory Conference

July 6–8, 2005

Montana State University, Bozeman

Tuesday July 5

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

Wednesday July 6

7:30–8:30 a.m.
**Registration and
Continental Breakfast**
Strand Union Building (SUB)
Ballroom B & C

8:30–8:45
Introductory Remarks
SUB Ballroom D
Paul Sturman, CBE Industrial
Coordinator
Mel Czechowski, Church & Dwight,
TAC Chair

Keynote Presentation
8:45–9:40
**Gallium, a new potential anti-biofilm
treatment**
Pradeep Singh, Assistant Professor,
Department of Internal Medicine,
University of Iowa

SESSION 1: **Medical Biofilms**

9:40–10:00
**Overview of research in the Medical
Biofilm Laboratory**
Garth James, Medical Biofilm
Laboratory Manager

10:00–10:20
**The results and strategies for
treatment of infected total joint
arthroplasties—A biofilm-related
illness**
Gary Maale, Orthopedic surgeon
Dallas-Ft. Worth Sarcoma Group

10:20–10:40 Break

10:40–11:00
Biofilms in chronic wounds
Ellen Swogger, CBE Undergraduate,
Chemical & Biological Engineering

11:00–11:20
Biofilm-based wound care
Randy Wolcott, Director, Southwest
Regional Wound Care Center,
Lubbock, Texas

Special Presentation
11:20–12:10
**State of the CBE and vision for the
future**
Phil Stewart, CBE Interim Director

12:10–1:00
Lunch, Catered
SUB Ballroom B & C

Industry Presentation
1:00–1:30
**Biofilms in the hospitality, food and
healthcare industries**
Scott L. Burnett, Microbiologist,
Ecolab, Mendota Heights, MN

SESSION 2: **Biofilm Structure and Function**

1:30–1:40
Session Introduction
Zbigniew Lewandowski, CBE
Professor, Civil Engineering

1:40–2:00
**Three-dimensional biofilm structure
and activity**
Raaja Raajan Angathevar
Veluchamy, MS Candidate,
Environmental Engineering

2:00–2:20
**Hollow fiber membrane biofilm
reactor for dye wastewater
treatment**
Yeon Kyung-Min, Visiting
Researcher, Institute of
Environmental Protection and
Safety, School of Chemical
Engineering, Seoul National
University, Korea

2:20–2:40
Particle capture in biofilms
Anne Camper, CBE
Professor, Civil Engineering

2:40–3:00 Break

Special Presentation
3:00–3:30
**Bacteria can do amazing things:
Tertiary structure in biofilms**
Bill Costerton, Director, Dental
Biofilm Center, University of
Southern California

Special Presentation
3:30–4:00
**The *Pseudomonas aeruginosa*
dispersion autoinducer**
David Davies, Assistant Professor,
Biology, University of Binghamton,
New York

4:00–5:30
Poster Session

Focus Group Session
5:30–
**Medical biofilm methods
consortium**

Coordinated by Marty Hamilton
The inaugural meeting of CBE
members interested in the
development of validated, FDA-
accepted laboratory methods

Thursday July 7

7:30–8:30 a.m.
**Registration and
Continental Breakfast**
Strand Union Building (SUB)
Ballroom B & C

Invited Presentation
8:30–9:20
**A short range signaling system for
coordinated dispersal in biofilms**
Paul Stoodley, Associate Professor,
Center for Genomic Sciences
Allegheny-Singer Research
Institute, Pittsburgh, Pennsylvania
Laura Purevdorj-Gage, recent CBE
PhD graduate, Microbiology

SESSION 3: **Biofilm Methods**

9:20–9:30
Session Introduction
Darla Goeres, CBE Research
Engineer

9:30–10:00

Drip flow reactor: Design and repeatability

Nic Beck, Biofilm System Training Laboratory (BSTL) intern

Drip flow reactor: Ruggedness

Jackie Whitaker, BSTL intern

10:00–10:20

Parallel testing to determine the influence of biofilm growth conditions on antimicrobial log reduction: The rest of the story

Kelli Buckingham-Meyer, CBE Laboratory Specialist

10:20–10:40 Break

10:40–11:00

High throughput biofilm screening

Elinor Pulcini, CBE Research Associate

11:00–11:30

An integrated platform to optimize therapeutic agents for biofilm activity

Tim Morris, Senior Scientist, Cumbre, Dallas, Texas

11:30–11:50

Distinction between viable and dead bacteria using EMA-PCR

Andreas Nocker, CBE Assistant Research Professor

11:50–12:10

Community analysis of biofilm

Mark Burr, CBE Research Associate
Sabrina Behnke, Visiting Researcher, University of Duisberg-Essen, Germany

12:10–1:10

Lunch, Catered

SUB Ballroom B & C

SESSION 4:

Biofilm-Metals Interaction

1:10–1:40

Heavy metal reduction and toxicity

Brent Peyton, Associate Professor, Chemical and Biological Engineering

1:40–2:00

Mixed waste remediation: Influence of biofilms, minerals, and organic matter on the fate of explosives, chlorinated solvents, and heavy metals

Robin Gerlach, CBE Assistant Research Professor, Civil Engineering

3:00–5:00

TAC Business Meeting

Springhill Pavillion

6:00–8:00

Dinner

Springhill Pavillion

Friday

July 8

7:30–8:30 a.m.

Registration and Continental Breakfast

Strand Union Building (SUB)
Ballroom B & C

Invited Presentation

8:30–9:10

Disinfecting biofilm-associated *Legionella pneumophila*: The importance of free-living protozoa

Rodney Donlan, Centers for Disease Control and Prevention

SESSION 5:

Alternative Control Strategies

9:10–9:20

Session Introduction

Phil Stewart

9:20–9:40

Anti-biofilm surface coatings

Ross Carlson, Assistant Research Professor, Chemical and Biological Engineering

9:40–10:00

Cohesive strength measurement as a tool for evaluating biofilm removal strategies

Ray Hozalski, Visiting Researcher, Associate Professor, Civil Engineering, University of Minnesota

10:00–10:20 Break

10:20–10:40

A 3-D model of four hypothetical protective mechanisms of biofilms

Jason Chambless, PhD Candidate, Chemical and Biological Engineering

10:40–11:10

Arginine enhances antibiotic action against *Pseudomonas aeruginosa* biofilms

Phil Stewart

11:10–11:30

Controlled ultrasonic release of antibiotics from hydrogel surfaces

Patrick Norris, recent MS graduate, Mechanical Engineering

11:30–11:40

Session/Meeting Wrap-up and Industry Comment