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