CENTER FOR BIOFILM ENGINEERING

Agenda (01-31-04)
Technical Advisory Conference
February 4–6, 2004
Montana State University–Bozeman

Wednesday February 4

6:00–8:00 p.m.
Pre-registration and Welcome Reception
GranTree Inn
North 7th Ave, Bozeman

Thursday February 5

7:30–8:10 a.m.
Registration and Continental Breakfast
Strand Union Building (SUB)
Room 275 / 276

8:10–8:30
Introductory Remarks
SUB Ballroom D
Paul Sturman, CBE Industrial Coordinator
Bobby Orr, Bard Medical, TAC Chair
Bill Costerton, CBE Director
Robert Marley, Dean, College of Engineering

Keynote Presentation:

8:30–9:15
Battling Bacteria by Jamming Their Command Language
Michael Givskov, Director, Centre for Biomedical Microbiology, Danish Technical University, Lyngby, Denmark

SESSION 1:
Fate of Undesirable Organisms in Clean Water Systems

9:15–9:20
Session Introduction
Anne Camper, Associate Professor, Civil & Environmental Engineering, CBE

9:20–9:40
Detection of Pathogens in Biofilms
Mark Burr, CBE Research Scientist

9:40–10:00
Attachment and Persistence of Pathogens in Drinking Water Biofilms
Garth James, Staff Microbiologist, MSE Technology Applications, Inc., Butte, Montana

10:00–10:20 Break

10:20–10:40
Public Health Implications of Mycobacterial Survival in Municipal Water Systems
Tim Ford, Department Head, Microbiology, MSU

10:40–11:00
Biofilms, Biodegradation and Surfaces
Anne Camper

SESSION 2:
Advances in Biofilm Modeling

11:00–11:10
Session Introduction
Al Cunningham, Professor, Civil Engineering, CBE

11:10–11:30
Modeling Transport and Adsorption of Undesirable Bacteria to an Established Drinking Water Biofilm
Jace Harwood, CBE MS Candidate, Chemical & Biological Engineering

11:30–11:50
Modeling Persistence of (Undesirable) Bacteria Introduced into an Established Drinking Water Biofilm Using Cellular Automata
Steven Hunt, CBE PhD Candidate, Chemical & Biological Engineering

11:50–12:10
Finite Element Modeling: A Tool for Predicting Hydrodynamic Forces on Biofilm Structures
Brett Towler, CBE PhD Candidate, Civil Engineering

12:10–12:20
Wrap-Up and Industry Comment

12:20–1:30
Lunch, Catered
SUB Ballroom C

Special Presentation:

1:30–2:00
Recap of ASM Biofilms 2003 Themes
Phil Stewart, Professor, Chemical & Biological Engineering, CBE

SESSION 3:
Metal–Microbe Interactions

2:00–2:10
Session Introduction
Zbigniew Lewandowski, Professor, Civil Engineering, CBE

2:10–2:50
The Role of Controlled Cultivation in Biogeochemistry and Systems Microbiology Research
Yuri Gorby, Microbiologist, Pacific Northwest National Lab

2:50–3:10 Break

3:10–3:30
Determination of Uranium Concentration in Wastewater from Sulfate Reducing Biofilm Reactors Using Voltammetry
Enrico Marsili, Visiting Scientist, University of Rome, Italy

3:30–3:50
Microbial Fuel Cells
Allison Rhoads, CBE MS Candidate, Environmental Engineering

3:50–4:10
Telemetry Systems for Microbial Fuel Cells
Avinash Shantaram, CBE MS Candidate, Environmental Engineering

4:10–4:20
Wrap-Up and Industry Comment

4:20–5:00
Strategic Planning Session

5:00–6:00
Poster Session
SUB Room 275 / 276

6:00
Dinner, Catered
SUB Ballroom C

Friday
February 6

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

SESSION 4:
Biofilm Methods
SUB Ballroom D

8:30–8:40
Session Introduction
Darla Goeres, CBE Research Engineer

8:40–9:00
Viable Plate Count Methods Comparison: Spread Plate vs. Drop Streak
Kelli Buckingham-Meyer, CBE Research Specialist

9:00–9:20
Analysis of Laboratory Biofilm from Three Growth Reactors
Linda Loetterle, CBE BSTL Research Specialist

9:20–9:40
Assessing Biofilm Growth in Remote Areas Using the Mobile Biofilm Unit
Peter Suci, Assistant Research Professor, Microbiology, CBE

9:40–10:00
Phylogenetic Analysis of Clinical Biofilms: A Study of Two Infected Brain Shunts
Rick Veeh, CBE Senior Research Associate

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

10:10–10:30 Break

SESSION 5:
Biofilm Control

10:30–10:40
Session Introduction
Phil Stewart

10:40–11:00
Role of Oxygen in Biofilm Susceptibility to Antibiotics
Lee Richards, CBE PhD Candidate, Chemical & Biological Engineering

11:00–11:20
Electrochemical Control of *Staphylococcus epidermidis* Biofilms
Christine Rabinovitch, CBE Research Associate

11:20–11:40
A Genetic Basis for *Pseudomonas aeruginosa* Biofilm Antibiotic Resistance
Phil Stewart

11:40–12:00
The Limitations of Laboratory Strain Genomes in the Study of "Real-World" Pathogenesis
Christoph Fux, MD, Visiting Scientist, Institute of Infectious Diseases, University of Bern, Switzerland

12:00–12:10
Session/Meeting Wrap-up and Industry Comment

12:15–2:00
TAC Business Meeting
(for CBE Industrial Associate designated representatives only; lunch will be served)