

Agenda
CBE Technical Advisory Conference
February 2–4, 2005
Montana State University, Bozeman

Wednesday
February 2

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

Thursday
February 3

8:00–8:45 a.m.
Registration and
Continental Breakfast
Strand Union Building (SUB)
Room 275 / 276

8:45–9:00
Introductory Remarks
SUB Ballroom D
Paul Sturman, CBE Industrial
Coordinator
Mel Czechowski, Church & Dwight,
TAC Chair
Phil Stewart, CBE Interim Director

Keynote Presentation
9:00–9:50
Resistance, persistence and
consistence in biofilm communities
Peter Gilbert, Professor of Microbial
Physiology, University of
Manchester

SESSION 1:
Biofilm Control

9:50–10:00
Session Introduction
Phil Stewart, MSU-CBE Professor,
Chemical & Biological Engineering

10:00–10:20
Patterns of DNA synthesis in
Staphylococcus epidermidis
biofilms
Suriani Abdul Rani, CBE MS
Candidate, Chemical & Biological
Engineering

10:20–10:40
A coupled fluid-biofilm finite
element model and its potential
applications
Brett Towler, MSU-CBE Assistant
Professor, Civil Engineering

10:40–11:00 Break

11:00–11:20
Adaptive responses to antimicrobial
agents in biofilms
Phil Stewart and Barbara Szomolay,
MSU PhD Candidate, Mathematical
Sciences

11:20–11:30
Session Conclusion and Comment

Special Presentation
11:30–12:00
Person to person: A historical look
at CBE-Industry partnerships
Al Cunningham & friends

12:00–1:00
Lunch, Catered
SUB Ballroom C

SESSION 2:
Biofilm Methods

1:00–1:10
Session Introduction
Marty Hamilton, MSU-CBE
Professor Emeritus, Statistics

1:10–1:30
Biofilms: Regulatory challenges
Melba Morrow, Special Assistant to
the Director, Antimicrobials Division,
Office of Pesticide Programs,
US EPA

1:30–1:50
Multi-species oral biofilm model
Garth James, CBE Medical
Projects Manager

1:50–2:10
PCR-based community analysis of
environmental biofilms:
Competence and caveats
Mark McBroom, Recent MSU-CBE
MS Graduate, Environmental
Engineering

2:10–2:30
What is the "detection limit" when
using dilution series methods for
counting bacteria?
Julia Sharp, PhD Candidate in
Statistics, and Marty Hamilton

2:30–2:40
Session Conclusion and Comment

2:40–3:00 Break

SESSION 3:
Biological Fuel Cells

3:00–3:10
Session Introduction
Zbigniew Lewandowski, MSU-CBE
Professor, Civil Engineering

3:10–3:30
Sustainable power in microbial fuel
cells
Joseph Menicucci, CBE Ph.D.
Candidate, Chemical & Biological
Eng.

3:30–3:50
Power management in microbial
fuel cells
Avinash Shantaram, CBE MS
Candidate, Environmental Eng.

3:50–4:00
Session Conclusion and Comment

Special Presentations
4:00–4:30
Biofilms: Clinical communities are
asking us to support clinical
management: Are we ready for
reduction to practice?
Bill Costerton, Director, Dental
Biofilm Center, University of
Southern California

4:30–5:00
Diffusion in Biofilms:
Now in *hypertext*
Al Cunningham, MSU-CBE
Professor, Civil Engineering
Rocky Ross, MSU-CBE Professor,
Computer Science
Phil Stewart

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

6:00
Dinner
Catered, Ballroom C

Friday February 4

8:00–8:45 a.m.
**Registration and
Continental Breakfast**
Strand Union Building (SUB)
Ballroom C

SESSION 4: Water Treatment

8:45–8:50
Session Introduction
Anne Camper, MSU-CBE Associate
Professor, Civil Engineering

8:50–9:10
**Control of biofilms and
microbiological water quality in
water distribution systems**
Raymond Hozalski, CBE Visiting
Researcher, Associate Professor of
Civil Engineering, University of
Minnesota

9:10–9:30
**Microbial biofilms as indicators of
estuarine ecosystem condition**
Andreas Nocker, MSU-CBE
Research Assistant Professor

9:30–9:50
**Biofilm challenges in the
international space station**
Monsi Roman, Chief Microbiologist,
Environmental Control and Life
Support, NASA/Marshall Space
Flight Center

9:50–10:00
Session Conclusion and Comment

10:00–10:20 Break

SESSION 5: Cell-Cell Signaling

10:20–10:25
Session Introduction
Tim Ford, Department Head,
Microbiology, MSU

10:25–10:45
**Influence of quorum sensing and
hydrodynamics on *Pseudomonas
aeruginosa* biofilm structure and
behavior**
Laura Purevdorj-Gage, recent MSU-
CBE PhD graduate, Microbiology

10:45–11:05
**Influence of the quorum sensing
signal autoinducer-2 on
Mycobacterium avium biofilm
formation**
Henriette Geier, MSU-CBE
PhD Candidate, Microbiology

SESSION 6: Environmental Biofilms

11:05–11:10
Session Introduction
Al Cunningham, MSU-CBE
Professor, Civil Engineering

11:10–11:30
**Use of solid phase iron oxide
minerals as terminal electron
acceptors in anaerobic respiration:
A selective pressure for surface-
associated bacterial growth during
early life on Earth**
Gill Geesey, MSU Professor,
Microbiology

11:30–11:50
**Exploring microbial capabilities
through biochemical network
analysis**
Ross Carlson, MSU-CBE
Assistant Research Professor

11:50–12:20
**Biofilms on plant surfaces: Impacts
on plant production, biology and
ecology**

Cindy Morris, visiting researcher,
INRA-Avignon Plant Pathology
Research Station, Montfavet,
France

**Biofilms on Plant Roots: Impacts
on Plant Production, Biology, and
Ecology in the Underworld**
Rick Veeh, MSU-CBE
Senior Research Associate

12:20–12:30
**Session/Meeting Wrap-up and
Industry Comment**

12:30–2:00
TAC Business Meeting