

The Stevens Conference on Bacteria-Material Interactions Program

Thursday, June 9, 2011

Time	Title	Presenter	Affiliation
8:15 - 9:00 a.m. Registration and Continental Breakfast			
Session 1 Session Chair: Matthew Libera, Stevens Institute of Technology			
9:00 - 9:15 a.m.	Welcome and Overview	Matthew Libera	Stevens Institute of Technology
9:15 - 9:45 a.m.	Invited: Biomaterials-Associated Infections: Crosspoints between Disciplines	Henk Buscher	University Medical Center Groningen
9:45 - 10:15 a.m.	Invited: Prevention, Diagnosis, and Medical Management of Hardware Associated Infection	Elie Barbari	Mayo Clinic
10:15 - 10:20 a.m.	RF: Inkjet-Printed Antibiotic- and Calcium-Eluting Bioresorbable Nanocomposite Micropatterns for Orthopaedic Implants	Yexin Gu	Stevens Institute of Technology
10:20 - 10:25 a.m.	RF: Microtopographic Patterns Affect Escherichia coli Biofilm Formation on poly (dimethylsiloxane) Surfaces	Huan Gu*	Syracuse University
10:25 - 10:30 a.m.	RF: Differential Response of Staphylococci and Osteoblasts to Varying Titanium Surface Roughness	Yong Wu	Stevens Institute of Technology
10:30 - 11:00 a.m. Break and Posters			
Session 2 Session Chair: Barry Kreiswirth, Public Health Research Institute (PHRI)			
11:00 - 11:30 a.m.	Invited: Biofilm Development and Antibiotic Resistance	Karin Sauer	Binghamton University
11:30 a.m. - 12:00 p.m.	Invited: Antimicrobial Peptoids are Effective against Pseudomonas aeruginosa Biofilms	Rinki Kapoor	Stanford University
12:00 - 12:05 p.m.	RF: Evaluating the Physical Properties of Pseudomonas aeruginosa Lipopolysaccharides and their Relationship to Bacterial Pathogenicity	Ivan Ivanov*	Worcester Polytechnic
12:05 - 12:10 p.m.	RF: Electrochemical Inhibition of Bacterial Persister Cells	Tagbo Niepa*	Syracuse University
12:10 - 1:15 p.m. Working Lunch			
Session 3 Session Chair: Joe Zitelli, Stryker			
1:15 - 1:45 p.m.	Invited: Orthopedic Device Failure: Distinguishing Infection from Aseptic Loosening	Tom Bauer	Cleveland Clinic
1:45 - 2:15 p.m.	Invited: Surgical Management of Hardware Associated Spinal Infections	Ahmad Nassr	Mayo Clinic
2:15 - 2:30 p.m.	Development of Clinically Relevant Methods to Determine Antimicrobial Efficacy of an Antibiotic Coated Hip System	Claire Kavanagh	Depuy Ireland
2:30 - 2:35 p.m.	RF: Biomimetic Nanofibers with Antibiotic-Eluting Bioresorbable Micropatterns for Orthopaedic Implant Surface	X. Chen	Stevens Institute of Technology
2:35 - 2:40 p.m.	RF: In Vitro Bacterial Interactions with Surface Modified PEEK	Edward Rochford*	AO Foundation

RF=Rapid Fire

2:40 - 2:45 p.m.	RF: Length-Scale Mediated Differential Adhesion of Mammalian Cells and Microbes	Yi Wang	Stevens Institute of Technology
2:45 - 3:15 p.m. Break and Posters			
Session 4	Session Chair: Svetlana Sukhishvili, Stevens Institute of Technology		
3:15 - 3:45 p.m.	Bacterial Biofilms as a Source of Antibiofilm Compounds	Jeff Kaplan	University of Medicine and Dentistry of New Jersey (UMDNJ)
3:45 - 4:00 p.m.	Nanotechnology for Reducing Biofilm Infections on Medical Devices	Tom Webster	Brown University
4:00 - 4:15 p.m.	Controlling Bacterial and Fungal Biofilms with Rechargeable Antimicrobial Biomaterials	Yuyu Sun	University of South Dakota
4:15 - 4:30 p.m.	Acinetobacter baumannii Biofilm Formation on Standard and New Generation Orthopaedic Metals	Mark Ehrensberger	SUNY, Buffalo
4:30 - 4:45 p.m.	Hydrogel Based Coatings for Controlled Release of Vancomycin	Xiaojun Yu	Stevens Institute of Technology
4:45 - 4:50 p.m.	RF: Surface Self-Assembled Antimicrobial Microgels	Q. Wang	Stevens Institute of Technology
4:50 - 4:55 p.m.	RF: Maintenance of Adhering Staphylococci on a Surface during Exposure to a Quaternary Ammonium Compound and AFM Imaging	Mihaela Crismaru	University Medical Center Groningen
4:55 - 5:00 p.m.	RF: Quartz Crystal Microbalance with Dissipation Monitoring (QCM-D) Studies of Antimicrobial Peptide Destabilization of Cell Membranes	K.F. Wang	Worcester Polytechnic
5:00 - 6:00 p.m. Break			
6:00 - 7:00 p.m. Reception at W Hotel, Hoboken			
7:00 - 9:30 p.m. Dinner Seminar: The Hitchhiker's Guide to Finding the Perfect Biofilm Resistant Biomaterial Bill Costerton, Allegheny-Singer Research Institute			

Friday, June 10, 2011

Time	Title	Presenter	Affiliation
8:15 - 9:00 a.m. Registration and Continental Breakfast			
Session 5	Session Chair: Tom Webster, Brown University		
9:00 - 9:30 a.m.	Invited: The Race to the Biointerface: Measuring Biofilms on Medical Devices	Scott Phillips	Food and Drug Administration (FDA)
9:30 - 10:00 a.m.	Invited: Bridging the Gap between In Vitro and In Vivo Evaluation of Biomaterials Associated Infections	Henny van der Mei	University Medical Center Groningen
10:00 - 10:30 a.m.	Invited: 3D Bone Tissue Model for Biomaterial-Associated Infection and Wound Healing	Woo Lee	Stevens Institute of Technology
10:30 - 11:00 Break and Posters			
Session 6	Session Chair: Karin Sauer, Binghamton University		

11:00 - 11:30 a.m.	Invited: Bacterial Interactions in Human Oral Biofilms	Rob Palmer	National Institute of Health (NIH)
11:30 - 11:45 a.m.	Quantifying the Effects of Material Properties on Oral Biofilms	Nancy Lin	National Institute of Standards & Technology (NIST)
11:45 a.m. - 12:00 p.m.	BioScape: A Modeling and Simulation Language for Bacteria-Material Interactions	Adriana Compagnoni	Stevens Institute of Technology
12:00 - 12:05 p.m.	RF: Microfluidic Approach to Create 3D Tissue Models for Biofilm-Related Infection of Orthopaedic Implants	Helen Lee	Stevens Institute of Technology and Columbia University
12:05 - 12:10 p.m.	RF: Superparamagnetic Iron Oxide Nanoparticles Could Be Better than Antibiotics at Reducing Biofilm Produced by Staphylococcus aureus Erik Taylor*	Erik Taylor*	Brown University
12:10 - 12:15 p.m.	RF: Fighting Slime: Dispersing Biofilms with Layer-by-Layer Coatings	Svetlana Pavlukhina	Stevens Institute of Technology
12:15 - 1:15 Working Lunch			
Session 7	Session Chair: Nancy Lin, National Institute of Standards & Technology (NIST)		
1:15 - 1:45 p.m.	Invited: Self-Assembled Antimicrobial Coatings	Svetlana Sukhishvili	Stevens Institute of Technology
1:45 - 2:00 p.m.	Enhancement and Mechanism of Resisting Biofilm Formation by Chiral Monolayers on Nanostructured Gold films	Yan-Yeung Luk	Syracuse University
2:00 - 2:15 p.m.	Poly(lactic Acid) Electrospun Membranes Incorporating Silver Nanoparticles	Angel Romo-Urbe	Universidad Nacional Autónoma de México (UNAM)
2:15 - 2:30 p.m.	Biomimetic Surfaces for Wound Healing	Hongjun Wang	Stevens Institute of Technology
2:30 - 2:45 p.m. Break			
Panel Discussion: Matthew Libera, Moderator			
2:45 - 3:45 p.m.	How Can We Bring New Materials-Based Infection-Control Strategies Quicker to Clinical Practice?	Henk Busscher	Kolff Institute
		Bill Costerton	Allegheny-Singer Research Institute
		Woo Lee	Stevens Institute of Technology
		Scott Phillips	U.S. Food and Drug Administration (FDA)
3:45 - 4:00 p.m. Conference Closure			

POSTERS

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P1	RF: Inkjet Printed Antibiotic and Calcium Eluting Bioresorbable Nanocomposite Micropatterns for Orthopaedic Implants	Yexin Gu	Stevens Institute of Technology

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P5	RF: Electrochemical Inhibition of Bacterial Persister Cells	Tagbo Niepa*	Syracuse University
P6	RF: Biomimetic Nanofibers with Antibiotic Eluting Bioresorbable Micropatterns for Orthopaedic Implant Surface	X. Chen	Stevens Institute of Technology
P7	RF: In Vitro Bacterial Interactions With Surface Modified PEEK	Edward Rochford*	AO Foundation
P8	RF: Length Scale Mediated Differential Adhesion of Mammalian Cells and Microbes	Yi Wang	Stevens Institute of Technology
P9	RF: Surface Self Assembled Antimicrobial Microgels	Q. Wang	Stevens Institute of Technology
P10	RF: Maintenance of Adhering Staphylococci on a Surface during Exposure to a Quaternary Ammonium Compound and AFM Imaging	Mihaela Crismaru	University Medical Center Groningen
P11	RF: Quartz Crystal Microbalance with Dissipation Monitoring (QCMD) Studies of Antimicrobial Peptide Destabilization of Cell Membranes	K.F. Wang	Worcester Polytechnic
P12	RF: Microfluidic Approach to Create 3D Tissue Models for Biofilm Related Infection of Orthopaedic Implants	Helen Lee	Stevens Institute of Technology and Columbia University
P13	RF: Superparamagnetic Iron Oxide Nanoparticles Could Be Better than Antibiotics at Reducing Biofilm Produced by Staphylococcus aureus	Erik Taylor*	Brown University
P14	RF: Fighting Slime Dispersing Biofilms with Layer by Layer Coatings	Svetlana Pavlukhina	Stevens Institute of Technology
P15	SERS-Enabled Biofilm Mapping	Jinwoo Park	Stevens Institute of Technology
P16	Susceptibility of S. aureus Biofilms to Reactive Discharge Gases	Christian Traba	Stevens Institute of Technology
P17	Molecular-Beacon-Conjugated PEG Nanohydrogels for Bacterial Identification	Xiaoguang Dai	Stevens Institute of Technology
P18	Squarylated Homoserine Lactone (SHL): New Unnatural Modulator for Quorum Sensing and Biofilm Formation	Yan-Yeung Luk	Syracuse University
P19	Morphological Effects of Quaternary Ammonium Compounds on Staphylococci	Aidan Zerdoum	Stevens Institute of Technology
P20	Three-Dimensional Nanostructures for Anti-Biofouling	Chang-Hwan Choi	Stevens Institute of Technology