

Agenda

Wednesday, 31 May, 2023				
Time		Title	Presenter	Affiliation
8:00 - 9:00		Registration and light breakfast		
9:00 - 9:10		Welcome and Conference Overview	Matt Libera	Stevens Institute of Technology
Session 1		Clinical Challenges 1 Moderator: Honjun Wang, Stevens Institute of Technology		
9:10 - 9:50	1	Case studies of infection associated with soft-tissue biomaterials	Peter Taub, MD	Mt. Sinai
9:50 - 10:30	2	Biofilms in Bone Tumor Patients: Quantitative Science Chasing Clinical Imperatives	Nick Berthal, MD	UCLA
10:30 - 11:00		Break and Poster Viewing		
		Clinical Challenges 2 Moderator: Helen Lee, Stevens Institute of Technology		
11:00 - 11:40	3	OR Contamination and Device-Associated Infection	Kees Poelstra, MD PhD	Rothman Orthopaedics
11:40 - 11:45	RF1	Evaluating Staphylococcus epidermidis biofilm development at the vascular interface reveals host interface alters biofilm structure	Lily Gaudreau	WPI
11:45 - 11:50	RF2	Pseudomonas aeruginosa Persister Cells Regrow upon Decreasing Antibiotic Concentration	Tripti Gupta	Garwood Medical
11:50 - 11:55	RF3	Impact of culture media on growth & virulence factor production by S. aureus clinical isolates	Zoey Jiang	Brown University
11:55 - 12:00	RF4	Pathogenesis of Candida albicans Induced by the Cyclic Strain of Biomaterial Surfaces	Carolina Montoya	Temple University
12:00 - 1:00		Lunch		

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Session 2		Interventions Moderator: Matthew Fields, Montana State CBE		
1:00 - 1:25	4	Possible Intervention Points in the Development of Gram-Negative Biofilms	Karin Sauer	Binghamton University
1:25 - 1:50	5	To touch or not to touch: the mechanism of antibacterial contact transfer	Shikha Nangia	Syracuse University
1:50 - 2:05	6	Antimicrobial Peptides Based Medical Devices	Martin Andersson	Chalmers University
2:05 - 2:10	RF5	Using Controlled Delivery of Antibiotics to Overcome Mechanisms of Resistance	Angela Brown	Lehigh University
2:10 - 2:15	RF6	Antimicrobial capacity of elastin-like biopolymer-based thin-layer coatings	Antonella Bandiera	University of Trieste
2:15 - 2:20	RF7	Designer Liposomic Nanocarriers Are Effective Biofilm Eradicator	Yaara Oppenheimer-Shaanan	Weizmann Inst. of Science
2:20 - 2:25	RF8	Antimicrobial peptide-grafting to improve effectiveness of bacterial wound Infection treatment	Claudia Monteiro	i3S, University of Porto
2:25 - 2:30	RF9	Peptoid-Loaded Microgels Self-Defensively Inhibit Staphylococcal Colonization of Titanium in a Model of Operating-Room Contamination	Wenhan Zhao	Stevens Institute of Technology
2:30 - 3:30		Conference Photo & Poster Session 1		
Session 3		Panel Discussion Moderator: Matt Libera, Stevens Institute of Technology		
3:30 - 4:00	7	Recovery: The Intersection of Disability Law and Policy with Efforts to Preven, Detect, and Cure	Jonathan Martinis, JD	Syracuse BBI
4:00 - 5:00		Panel Discussion: How can convergence accelerate prevention, detection, and cure?	Nick Bernthal Jonathan Martinis Dacheng Ren Karen Sauer Stacey Bonnell	UCLA Syracuse BBI Syracuse Binghamton University Nuvasive/OSMA/FDA IR
6:00 - 10:00		Hudson River Dinner Cruise		

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Thursday, 1 June, 2023				
Time		Title	Presenter	Affiliation
8:15 - 9:00		Registration and Light Breakfast		
Session 4		Surface Interactions Moderator: Claudia Marques, Binghamton University		
9:00 - 9:25	8	Harnessing macrophage behavior for chronic wound healing	Kara Spiller	Drexel University
9:25 - 9:40	9	How the mechanical bending of elastomers can enable microbial surface attachment	Ben Hatton	University of Toronto
9:40 - 10:05	10	Reading the map: Effects of topography on biofilm initiation and development	Dacheng Ren	Syracuse University
10:05 - 10:10	RF10	Enzymatically-Responsive Shape Memory Polymers for Chronic Wound Infection Surveillance and Biofilm Prevention	Maryam Ramezani	Syracuse University
10:10 - 10:15	RF11	Aligned nanotopography impedes S. aureus biofilms	Naimat Bari	Virginia Tech
10:15 - 11:00		Poster Session 2		
Session 5		Infection Models and Methods Moderator: Jing Fan, City College		
11:00 - 11:30	11	In vivo infection models - filling the gap between in vitro and clinical	Tom Schaer DVM	UPenn Vet School
11:30 - 11:45	12	Galleria mellonella as an alternative in vivo model to study device infections	Martijn Riool	Regensburg University
11:45 - 12:00	13	Antimicrobial Devices: Challenges and Opportunities in 2023 and beyond	Scott Phillips	
12:00 - 12:15	14	ISO/ASTM working groups on the antimicrobial properties of implants	John Rose	Smith & Nephew
12:15 - 1:15		Lunch		

Thursday, 1 June, 2023				
Time		Title	Presenter	Affiliation
Session 6		Translation Moderator: Jeff Garanich, City College		
1:15 - 1:30	15	Commercializing antimicrobial surfaces requires technology and claim-specific testing	Jordan Katz	Orthobond
1:30 - 1:45	16	Three Decisions That Matter in Detecting Device Infection in Orthopedics	Lianne Yang	Zimmer Biomet
1:45 - 2:00	17	Physical removal of biofilms via viscoelastic fluids: principles & biomedical applications	Mohammed Labib	Novaflux
2:00 - 2:15	18	Commercializing Peptoid Oligomers: A Biomimetic Strategy for Development of New Anti-infective Therapeutics	Kent Kirschenbaum	Maxwell Biosciences/NYU
2:15 - 2:30	19	Efforts to Translate Cellulose-Based Hydrogels to the Clinic	Steve Nicoll	City College of NY
2:30 - 2:45	20	Translating 3D-Printed Antimicrobial Si3N4-PEEK Cervical Spine Devices from the Bench to the Clinic: Phase I Material Development	Ryan Bock	SINTX Technologies
2:45 - 3:00	21	A Novel Silicone Composite Biomaterial with Strong Antimicrobial and Antibiofilm Character and Its Implications for Preventing HAIs	David Vachon	Iasis Molecular Sciences
3:00 - 3:20		Quick Break		
Session 7		Concluding Discussion Moderator: David Grainger, University of Utah		
3:20 - 4:00	22	A career-long perspective of biofilms & device infection: where might we be going	Henk Busscher	UMCG
4:00 - 4:15		Conference Closure	Matt Libera	Stevens Institute of Technology

Moderators

Name	Affiliation
Jing Fan	City College
Matthew Fields	Montana State University
Jeff Garanich	City College
David Grainger	University of Utah
Helen Lee	Stevens Institute of Technology
Claudia Marques	Binghamton University
Hongjun Wang	Stevens Institute of Technology

Moderators

Papers

Paper Number	Presenter	Affiliation	Title
1	Peter Taub	Mt. Sinai	Case studies of infection associated with soft-tissue biomaterials
2	Nick Bernthal	UCLA	Biofilms in Bone Tumor Patients: Quantitative Science Chasing Clinical Imperatives
3	Kees Poelstra	Rothman Orthopaedics	OR Contamination and Device-Associated Infection
4	Karin Sauer	Binghamton	Possible Intervention Points in the Development of Gram-Negative Biofilms
5	Shikha Nangia	Syracuse	To touch or not to touch: the mechanism of antibacterial contact transfer
6	Martin Andersson	Chalmers	Antimicrobial Peptides Based Medical Devices
7	Jonathan Martinis	BBi syracuse	Recovery: The Intersection of Disability Law and Policy with Prevention, Detection, and Cure Efforts
8	Kara Spiller	Drexel	Harnessing macrophage behavior for chronic wound healing
9	Benjamin Hatton	Toronto	How the mechanical bending of elastomers can enable microbial surface attachment
10	Dacheng Ren	Syracuse	Biofilm control by engineering antifouling topographies
11	Tom Schaer	UPenn Vet	In vivo infection models - filling the gap between in vitro and clinical
12	Martijn Riool	Regensburg	Galleria mellonella as an alternative in vivo model to study biomaterial-associated infections
13	Scott Phillips	KSP	Antimicrobial Devices: Challenges and Opportunities in 2023 and beyond
14	John Rose	Smith & Nephew	ISO working group for implants with an antimicrobial effect
15	Jordan Katz	Orthobond	Commercializing Antimicrobial Surfaces Requires Technology and Claim-Specific Testing
16	Lianne Yang	Zimmer Biomet	Three Decisions That Matter in Detecting Device Infection in Orthopedics
17	Mohammad Labib	NovaFlux	Physical removal of biofilms with viscoelastic fluids - principles and biomedical applications
18	Kent Kirshenbaum	NYU	Antimicrobial Peptoids: A Biomimetic Strategy to Address Emerging Pathogens
19	Steve Nicoll	City College	Efforts to Translate Cellulose-Based Hydrogels to the Clinic
20	Ryan Bock	Sintx	Translating 3D-Printed Antimicrobial Si3N4-PEEK Cervical Spine Devices from the Bench to the Clinic: Phase I Material Development
21	David Vachon	Iasis Molecular Sciences	A Novel Silicone Composite Biomaterial with Strong Antimicrobial and Antibiofilm Character and Its Implications for Preventing HAIs
22	Henk Busscher	UMCG	A career-long race for the surface - time for a paradigm change towards biomaterials-associated infection

Posters

Poster Number	Presenter	Affiliation	Title
P1	Daniel Ammerman	Rowan	Use of Ionic Liquids as Antifungal Agents
P2 & RF6	Antonella Bandiera	Trieste	Antimicrobial capacity of elastin-like biopolymer-based thin-layer coatings
P3 & RF11	Naimat Bari	Virginia Tech	ALIGNED NANOTOPOGRAPHY IMPEDES S. AUREUS BIOFILMS
P4 & RF5	Angela Brown	Lehigh	Using Controlled Delivery of Antibiotics to Overcome Mechanisms of Resistance
P5	Kyoungjin Seo	Yonsei	Physical stress-driven deformation in biofilm matrix complex
P6	Rachel Cerrate	Rowan	Use of Ionic Liquids as Antibacterial Agents
P7	Filipa Campos	Porto	Antimicrobial peptides loaded into PLGA nanoparticles to manage wound infections: why do different peptides release differently?
P8	Guglielmo Coppola	KU Leuven	A pH-dependent release antimicrobial coating for implantable devices triggered by biofilm formation
P9	Bruna Costa	i3s Portugal	Dhvar5-Functionalized Titanium in the Prevention of Orthopedic Device-Related Infections: Antimicrobial and Immunomodulatory Studies
P10	Yousr Dhaouadi	Syracuse	A new optogenetic system for investigating bacterial persistence
P11	Emily Diep	UMass	Electrospinning living probiotics into alginate-based nanofibers for antimicrobial wound dressings
P12	Changling Du	Syracuse	Sequential Burst and Sustained Release of P-Coumaric Acid from Shape Memory Polymer Foams for Polymicrobial Infection Prevention in Trauma-Related Hemorrhagic Wounds
P13	Kuan-Che Feng	Stony Brook	Formulating a gentle disinfectant for endodontic surgery using hypochlorous acid
P14	Shi Fu	Stony Brook	Design of an anti-bacterial living skin equivalent for wounds
P15	Isadora Garcia	Univ Maryland Dental	Iron Oxide@Mesoporous Silica Functionalized with Antibacterial Silane as a Novel Platform for Drug Delivery in Dental Adhesives
P16 & RF1	Lily Gaudreau	WPI	Evaluating Staphylococcus epidermidis biofilm development at the vascular interface reveals host interface alters biofilm structure
P17	Tania Grainha	Minho	Design of a multi-functional PVC coating addressing the polymicrobial nature of Ventilator-Associated Pneumonia
P18	Yunhua Guo	Stevens	Polymer Surfaces Modified by Peptide-Loaded Polyanionic Microgels Resist Bacterial Colonization
P19 & RF2	Tripti Gupta	Garwood Medical	Pseudomonas aeruginosa Persister Cells Regrow upon Decreasing Antibiotic Concentration
P20	Zehui Han	Syracuse	Inhibiting bacterial biofilm formation on polydimethylsiloxane with mucin coating
P21	Mats Hulander	Chalmers	Fibrinogen Conformation on Nanoparticles Affects S. epidermidis adhesion

Poster Number	Presenter	Affiliation	Title
P22	Jingjing Ji	Syracuse	Complexation strength of cationic antibiotics with polyanionic microgels and E. coli membrane
P23 & RF3	Zoey Jiang	Brown	Impact of culture media on growth and virulence factor production by Staphylococcus aureus clinical isolates
P24	Fanyi Li	CSIRO	Photo-crosslinkable Multifunctional Antimicrobial Coatings for Medical Device Applications
P25	Sandy Liao	Swinburne	Multifunctional Antibacterial Surfaces Prepared by a High-velocity Cold Spray Process
P26 & RF8	Claudia Montiero	i3s Porto	Antimicrobial peptide-grafting to improve effectiveness of bacterial wound Infection treatment
P27	Carolina Montoya	Temple	Piezoelectric Dental Restorative Composites with Antimicrobial Functionalities
P28 & RF4	Carolina Montoya	Temple	Pathogenesis of Candida albicans Induced by the Cyclic Strain of Biomaterial Surfaces
P29	Jeongmi Moon	Yonsie/Umich	Polymer-driven Bacterial Physical Aggregation in Cariogenic Biofilm
P30 & RF7	Yaara Oppenheimer-Shaanan	Weizmann Institute	Designer Liposomic Nanocarriers Are Effective Biofilm Eradicators
P31	Natalie Page	Rowan	Antimicrobial Efficacy of Multifunctional Coatings
P32 & RF10	Maryam Ramezani	Syracuse	Enzymatically-Responsive Shape Memory Polymers for Chronic Wound Infection Surveillance and Biofilm Prevention
P33	Sweta Roy	Syracuse	A New Strategy for Persister Control
P34	Claire Saxby	Nottingham	Novel Polymer Coatings to Reduce Infection on Blood Contacting Devices
P35	Sidi Seddiki	Algeria	Surgical masks and Covid-19: Utility and infectious risks
P37	Julie Stenken	Arkansas	A Microdialysis Sampling-Based Biofilm-Macrophage System for in situ Secretome Collection
P38	Annija Stepulane	Chalmers	Hydrogel Particle Coating Modified PDMS for Antibacterial Contact-Killing and Drug Delivery Properties
P39	Fahimeh Tabatabaei	iFyber	Design and Validation of a New Wound Infection Model Using Ex Vivo Viable Skin Tissue
P40	Desmond van der Berg	Toronto	Micro and nanotopographies to reduce microbial surface attachment
P41	Yujia Wei	Army Medical University - China	Activated titanium loaded with DADs promotes the repair of infected bone defects by inhibiting the recurrence of infection
P42	Yikang Xu	Syracuse	Micron-scale Topographies Affect Phagocytosis of Bacterial Cells on Polydimethylsiloxane Surfaces
P43	Wenhan Zhao	Stevens	An in vitro Operating-Room Model of Bacterial Contamination
P44 & RF9	Wenhan Zhao	Stevens	Peptoid-Loaded Microgels Self-Defensively Inhibit Staph Colonization of Titanium in a Model of Operating-Room Contamination