

Welcome Surface Science Professionals,

The annual BioInterface Symposium and Workshop is our chance to meet and discuss important developments in our industry.

The Surfaces in Biomaterials Foundation is dedicated to exploring creative solutions to technical challenges at the biointerface by fostering education and multidisciplinary cooperation among industrial, academic, clinical, and regulatory communities.

Corporations and educational institutions with products or services relevant to industrial engineers, research scientists, medical practitioners, and academians in the fields of biomaterials, and biomedical and diagnostic research come to this annual conference to network, learn, share information and enjoy the company of fellow professionals.

We hope your time at the 2009 BioInterface Symposium in San Mateo, CA will stimulate your thinking and provide a valuable experience that you can utilize to advance your research.

Sincerely,

Joe Chinn

President, Surfaces in Biomaterials Foundation

Exhibitors

American Preclinical Services Aperio Devro Medical Ltd. DialAct Corporation Evans Analytical Group JDP Pharma Consulting, LLC Kyowa Interface Science Co., LTD Lifecore Biomedical Nima Technology Sono-Tek Corp Center for Tribology AIO International Corp

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materials that belong to the body

The world's most critical devices rely on the world's most trusted biomaterials

An aging population, increasing cases of obesity, and appeals for comfort and convenience highlight the many trends elevating demands for innovative and improved medical devices and drug delivery systems. As researchers and device designers, you are developing new ways to support the human body and extend its healthy function. DSM Biomedical can provide the materials technology to help you respond to these challenges.

While DSM Biomedical's novel materials-based solutions fulfill present needs, they also enable the future solutions in medical devices and the biopharmaceutical industries. Our product portfolio includes coatings, drug delivery platforms and a wide range of biomedical materials used in short- and long-term implantable medical devices.

Biomedical materials

- Biomedical polymers: Bionate[®] PCU, BioSpan[®] SPU, CarboSil[®] TSPCU, Elasthane[™] TPU, PurSil[®] TSPU, TPE, and UHMWPE
- Dyneema Purity® fiber

Medical coatings

- \bullet ComfortCoat $\ensuremath{^{\text{TM}}}$ hydrophilic and antimicrobial coatings
- VitroStealth™ non-fouling coatings

Trancerta™ family of bioresorbable materials for drug delivery

The expertise and strengths of DSM Biomedical in polymers, coating technology, materials sciences and life sciences, uniquely position us to convert your ideas into safe and effective medical technology.

When it comes to designing your next device, trust the global leader in biomaterials, DSM Biomedical. Visit us at BioInterface 2009.

DSM Biomedical

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Monday, October 26, 2009

Workshop: "Advances in Thermoplastic Elastomers and Biodegradable Polymers: Analysis and Applications"

(Chair: Marc Hendriks, DSM Biomedical)

7:00 - 8:00 a.m.

Pre-Registration and Breakfast

8:00 - 8:15 a.m

Welcome and Introduction

Recent Advances in Medical Grade Thermoplastic Elastomers:

8:15 - 9:00 a.m.

"SIBS and Quatroset™ in Medicine" Len Pinchuk, Innovia LLC

9:00 - 9:45 a.m.

"Evolution of Medical Grade Thermoplastic Polyurethanes: Property Optimization and Process Improvements" Bob Ward, DSM PTG

9:45 - 10:15 a.m.

Break

Recent Advances in Bioresorbable Polymers:

10:15 - 11:00 a.m.

"Recent Advances in Bioabsorbable Polymers"
Kishore Udipi, Biopolymer Designs, Inc.

11:00 - 11:45 a.m.

"Amino Acid Based Bioresorbable Polymers: Exploiting Their Versatility in Degradation Mechanisms"

Aylvin Dias, DSM Biomedical

11:45 - 12:45 p.m.

Lunch

Applications of Advanced Medical Grade Polymers:

12:45 - 1:30 p.m.

"Beyond ISO 10993: Challenges for the Future"
Jim Anderson, Case Western Reserve University

1:30 - 2:15 p.m.

"Tooth Attachment: A Biomimetic-Tissue Engineering Approach"

Sunita Ho, UCSF School of Dentistry

2:15 - 3:00 p.m.

"Materials and their Requirements for Continuous Glucose Monitoring"

Bob Boock, Dexcom

3:00 - 3:30 p.m.

Break

Applied Technology Workshops:

(Chair: Peg Palmer, Surface Solutions Labs, Inc.)

3:30 - 3:50 p.m

Biocoat, Inc. "Configurable Biopolymeric Coatings for Medical Devices with Optional Antimicrobial Protection: The Technology Platform Behind Hydak®"

3:50 - 4:10 p.m

Bayer MaterialScience LLC "Bayer Material Science's Hydrophilic Coatings"

4:10 - 4:30 p.m

AST Products "Environmentally Friendly Medical Coatings"

5:00 - 5:30 p.m.

BioInterface Symposium Welcome Reception

5:30 - 6:30 p.m.

Keynote Presentation: "Drug-eluting Stents: Past,

Present and Future"

James Barry, Boston Scientific Corporation

Tuesday, October 27, 2009

Surfaces in Biomaterials Foundation BioInterface Symposium

7:00 - 8:30 a.m.

Symposium Registration and Breakfast

7:20 - 8:20 a.m.

General Poster Session and Student Poster Judging (Co-chairs: Carl Turnquist, Genzyme and Rob Kellar, University of Northern Arizona)

8:20 - 8:30 a.m.

President's Welcome, Joe Chinn

Recent Advances in Biodegradable Polymer Systems:

(Co-chairs: Peter Markland and Jim Arps, SurModics) 8:30 - 8:50 a.m.

"Application of Reservoir Stent Technology for Simultaneous Multiple Drug Release"

Victoria Rogers, Cordis Corporation

8:50 - 9:10 a.m.

"Methods for Evaluating Local Delivery of Drugs to Arterial Tissue via Endovascular Devices" Mark E. Smith, American Preclinical Services 9:10 - 9:30 a.m.

"Development of DES with Biodegradable Polymer Matrix"

Ya Guo, Medtronic Vascular

9:30 - 9:50 a.m.

"Novel Ter Polymer and Hexyl PLA for Drug Delivery"
Peter Markland, SurModics Pharmaceuticals

9:50 - 10:10 a.m.

"Comparison of SynBiosys™ Urethane-linked Multiblock Copolymer and PLGA Coatings" Nathan Lockwood, SurModics, Inc.

10:10 - 10:30 a.m.

Break

Next Generation Drug Eluting Stents:

(Chair: Mikael Trollsas, Abbott Vascular)

10:30 - 11:00 a.m.

11:00 - 11:20 a.m.

"Fully Bioabsorbable Cor<mark>onary Scaf</mark>folds: How Do They Work?"

Thierry Glauser, Abbott Vascular

11:20 - 11:40 a.m.

"Thromboresistant Reservoir Technology™ Based Sirolimus Eluting Stent with Bound Heparin Surface" Jonathon Zhao, Cordis, a Johnson and Johnson Company

11:40 a.m. - 12:00 p.m.

"Release Kinetics for a Cilostazol Eluting Stent Using Reservoir Technology"

Ted Parker, Cordis, a Johnson and Johnson Company

12:00 - 1:00 p.m.

Student Town Hall Meeting and Attendee Luncheon

(Co-chairs: Carl Turnquist, Genzyme and Rob Kellar, Development Engineering Sciences)

1:00 - 1:30 p.m.

Surfaces in Biomaterials Foundation Business Meeting

Surface Interaction Designs for Controlled Biological Responses:

(Co-chairs: Joseph Berglund and Susan Rea Peterson, Medtronic CardioVascular)

1:30 - 2:00 p.m.

Invited Speaker

"Hybrid Drug/Device Strategies for the Treatment of AAA Disease"

Geoffrey Schultz, Stanford University

2:00 - 2:20 p.m.

"Artificial Cell Membrane Based on Phospholipid Polymer Chemistry for Regulating Biological Response on the Medical Devices"

Kazuhiko Ishihara, The University of Tokyo

2:20 - 2:40 p.m.

"Novel Polymer Coatings for Prevention of Biofilms in Dental Unit Waterlines"

Arinne Lyman, Nerites Corporation

2:40 - 3:00 p.m.

"Benefits of Crystalline HA Surfaces for Metallic Implants"

John O'Donoghue, University of Ulster, Jordanstown

3:00 - 3:20 p.m.

"On Surface-induced Non-native Protein Aggregation"
Christophe Bureau, BD Medical - Pharmaceutical Systems

3:20 - 3:40 p.m.

Break

3:40 - 5:00 p.m.

Point-Counterpoint Session

(Chair: Carl Turnquist, Genzyme)

"Be it resolved that in vitro biological assays provide little predictive relevance for validating human in vivo responses to implanted devices"

Debater 1: David Grainger, Univ. Utah
Debater 2: Kevin Healy, UC Berkeley

Wednesday, October 28, 2009

8:00 - 8:30 a.m.

Breakfast & Registration

8:30 - 9:30 a.m.

Cell and Protein Interactions with Biomaterials (Podium and Poster Session):

(Co-chairs: Gene Boland, Cardiovascular Innovation Institute & Kahlid Kader, University of Iowa)

This will be a brief session of 5-minute introductions by poster presenters about the topic of their posters. Once the presenters finish, you will be given a chance to discuss the presenters' topics with them at their respective posters.

"Complement Adsorption on Biomaterial Surfaces"
Sheryl Kane, EIC Laboratories, Inc.

"Antimicrobial Coatings Based on Amine Plasma
Polymer Films Loaded with Silver Nanoparticles"
Krasimir Vasilev, University of South Australia

"Inhibition of Bacterial Attachment by Mussel-Inspired Coatings on Urinary Stent and Catheter Materials"
Baiyan Dong, Nerites Corporation

"Preparation of Contact Lens Materials for Real-Time Protein Adsorption Studies by QCM-D"

Matthew C. Dixon, Q-Sense. a Division of Biolin Inc.

"Proteomic Characterization of Human Plasma Protein Adsorption onto Biomimetic Glycocalyx Surfaces" Irene Y. Tsai, University of Pennsylvania

"Quantitative Characterization of Biomaterial to Assist Human Test Panels"

S. Kuiry, Center for Tribology, Inc.

"Novel Tissue Section Analysis Using Whole Slide Imaging for Studying the Tissue-Biomaterial Interface" Steven J. Potts, Aperio Technologies

9:30 - 10:15 a.m. Podium/Poster session

10:15 - 10:30 a.m.

Break

Stability of Biomaterials in Clinical Applications:

(Chair: Jeremy L. Gilbert, University of Syracuse)
10:30 - 10:50 a.m.

"Titanium is Not 'The Most Biocompatible Metal' Under Cathodic Electrochemical Potential" Jeremy L. Gilbert, University of Syracuse

10:50 - 11:10 a.m.

"Surface Properties of Foldable Acrylic Intraocular Lenses (IOLs)"

Eugene P. Goldberg, University of Florida

11:10 - 11:30 a.m.

"The Effect of Electropolishing and Magnetoelectropolishing on the Biocompatibility of Porous Nitinol Implant" Chandan Pulletikurthi, Florida International University

11:30 - 11:50 a.m.

"Comparing the Biocompatibility of Electropolished and Magnetoelectropolished Nitinol"

Waseem Haider, Florida International University

11:50 - 12:10 p.m.

"Analytical Comparison of CoCrMo Implant Passivation using Nitric Acid or Citric Acid" Stephanie Vass, DePuy Orthopaedics

12:15 - 1:30 p.m.

Attendee Luncheon and Awards Sessions

(Chair: Marc Hendriks, DSM Biomedical; Student Award Chair: Carl Turnquist, Genzyme)

Excellence in Surface Science Award Winner: Gabor Somorjai

"BioInterfaces. The Grand Challenge of Molecular Surface Chemistry"

Coming Innovations in Medical Devices:

(Chair: Zhengrong Zhou, St. Jude Medical) 1:30 - 2:00 p.m.

"Nitric Oxide Materials—A Natural Approach to Creating More Biocompatible Medical Devices" Melissa M. Reynolds, Colorado State University

2:00 - 2:20 p.m.

"Novel Highly Robust Non-Fouling Surfaces by UV Curing Technology: A Powerful Tool in Device Design"
Jens Thies, DSM Biomedical

2:20 - 2:40 p.m.

"Evolution of Prosthetic Heart Valves—Novel Materials and Revolutionary Technologies"

Aditee Kurane, St. Jude Medical

2:40 - 3:00 p.m.

"Evolution of Intravascular Technology"
Yunbing Wang, Abbott Vascular

3:00 - 3:30 p.m.

Break

Academic/Industrial Partnerships Roundtable

(Chair: Steven Goodman, 10H Technology Inc.) 3:30 - 4:00 p.m.

Keynote: Colin Fairman, JD, PhD, Fulbright & Jaworski L.L.P. Turning Ideas into Reality: Creating, Protecting and Managing Patent Portfolios

4:00 - 4:20 p.m.

Jeanine Burmania, MS Biomedical Engineering & Pharmaceutical Science, Wisconsin Alumni Research Foundation (WARF)

The Role of the Technology Tran<mark>sfer Office</mark> in the Pathway from Collaboration to Commercialization

4:20 - 4:25 p.m.

Steven Goodman - Session Chair Introduction to:
Will you be my Partner? Brief "seeking partners"
Presentations by any registered attendee (see Submission Instructions below).

4:25 - 4:30 p.m.

Jeanine Burmania of the Wisconsin Alumni Research Foundation, is seeking industrial partners interesting in Licensing Medical Device Technologies.

4:30 - 4:35 p.m.

Speaker to be determined

4:35 - 4:40 p.m.

Steven Goodman of 10H Technology and UW-Madison, seeks to assist industrial partners with analytical

and microscopic characterization for R&D, QA/QC, and for Regulatory purposes. Also seeks partners in evaluating and developing new technology and business opportunities.

4:40 - 4:55 p.m.

More Speakers to be determined

4:55 - 5:00 p.m.

Steven Goodman

Closing remarks and "Free" Money to Fund Partnerships - Governmental and other funding sources for Academic and Industrial Partnerships.

5:00

Session ends

Session Announcement - The Ultimate BioInterface Networking Session

Are you Seeking Partners to help you with device testing, evaluation or research? Do you have a technology or service that is likely to be of interest to BioInterface attendees? Did you ever wish you could simultaneously reach all the attendees at a meeting?

Here is your chance: "The BioInterface Networking Session."

Any registered attendees may present, "I am seeking partners..." or a similar message at the final session of BioInterface 2009 on Wednesday October 28 at 3:30 PM.

Presenters will be allotted a maximum of 5 minutes, including any questions. Submissions will be accepted on a first-come, first-served, time-available basis, at the discretion of the session chair. To enable last minute discussions, submissions may be received up until 3 PM on the day of the session. Up to 5 PowerPoint slides will be allowed, but must be received no later than noon on October 28. Send your request to the session chair-Steven Goodman. Include the "Seeking partners" Title, your name, institution and contact information. Send to the session chair at sgoodman@10HTech.com. Include "BioInterface Networking Session" in the subject line.

Thank You, Program Committee

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2009 Excellence in Surface Science Award



Gabor Somorjai

Keynote Speaker: James J. Barry, PhD, Boston Scientific Corp.

"Drug-eluting Stents: Past, Present and Future"

James J. Barry, Ph.D., is Sr. Vice
President, Corporate Technology Development at Boston Scientific. He
oversees the Corporate Research and
Development efforts, the Pre-clinical
Sciences Department, is responsible
for maintaining the company's product

development systems and heads the Technical Executive Committee that is composed of the company's Vice Presidents of R&D. He leads the company's efforts in the identification and early development of drug, device and biological systems for potential application in implantable and catheter-based delivery systems. This Corporate Group is the company's center of excellence in biological approaches to the understanding and treatment of relevant target diseases. These have ranged from traditional therapeutic strategy's to stem cell/biological matrices and other novel cutting edge approaches.

Dr. Barry joined Boston Scientific in 1992 and was the initiator and champion of the company's drug eluting stent program. This effort resulted in the TAXUS™ coronary stent which was developed under Dr Barry's leadership; a paclitaxel-eluting polymeric stent that

became the most successful medical device launched with annual sales exceeding \$3 Bn.

Prior to joining Boston Scientific, Dr. Barry held positions at the Howmedica Division of Pfizer where he initiated their bio-resorbable fracture fixation program and at Kontron Instruments, Inc. where he played a pivotal part in resolving the FDA consent decree (a role for which he had been hired).

Dr. Barry is the author of multiple articles in peer reviewed publications, including the journals of Controlled Release, Biomaterials and several clinical journals in the cardiovascular field. He holds in excess of 35 national and international patents. Dr Barry also represents Boston Scientific's interests on the Boards of a number of emerging technology companies. Dr. Barry holds a Ph.D. in Biochemistry from the University of Massachusetts-Lowell and a B.A. degree in chemistry from Saint Anselm College.

Savethe Date!



BioInterface 2010

October 18-20, 2010 Atlanta, Georgia

