



*Polymers in Medicine and Biology: 2009*  
*June 14-17, 2009*  
*Santa Rosa, California*

PROGRAM AND LECTURE ABSTRACTS

**SUNDAY, JUNE 14<sup>TH</sup>**

2:30 PM REGISTRATION BEGINS

**MODERATOR: KATHRYN UHRICH, RUTGERS UNIVERSITY**

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3:30 PM	<b><u>Kathryn Uhrich</u></b> Welcome and introductory remarks	
3:45 PM	<b><u>Milan Mrksich</u></b> University of Chicago, Chicago, IL <b><i>Tailored Substrates for Biology</i></b>	<b>1</b>
4:15 PM	<b><u>Prabhas V. Moghe</u></b> Rutgers University, Piscataway, NJ <b><i>NanoLipoBlockers: Multifunctional Nanoscale Assemblies for Targeted Management of Atherosclerosis</i></b>	<b>2</b>
4:45 PM	<b><u>Bob Ward</u></b> , Keith McCrea, Meng Ouyang, Yuan Tian, Shanger Wang, Jim Yang, and Gail Ward The DSM Polymer Technology Group, Berkeley, CA <b><i>Use of Surface Activity and Self Assembly in Medical Device Development and Manufacturing</i></b>	<b>3</b>

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5:45 PM RECEPTION HOSTED BY THE DSM POLYMER TECHNOLOGY GROUP, INC.

7:00 PM DINNER ON YOUR OWN

**MONDAY, JUNE 15<sup>TH</sup>**

7:30 AM CONTINENTAL BREAKFAST

**MORNING SESSION I**

**MODERATOR: SHROJAL DESAI, BOSTON SCIENTIFIC**

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8:30 AM	<b><u>Stuart L. Cooper</u></b> The Ohio State University, Columbus, OH and Editor of Journal of Biomaterials Science, Polymer Edition <b><i>Methacrylic Terpolymers for Tissue Engineering</i></b>	<b>4</b>
9:00 AM	<b><u>James M. Anderson</u></b> Case Western Reserve University, Cleveland, OH, and Editor of <i>Journal of Biomedical Materials Research</i> <b><i>Polymer Implants: The Challenge of the Foreign Body Reaction</i></b>	<b>5</b>
9:30 AM	<b><u>Michael Grunze</u></b> , A. Rosenhahn, D. Schilp, X.Cao, and M.Heidt University of Heidelberg, Heidelberg, Germany, and Editor of <i>BioInterphases</i> <b><i>Chemical and Physical Cues in Marine Fouling</i></b>	<b>6</b>

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**MONDAY, JUNE 15<sup>TH</sup>, CONT'D**

10:00 AM BREAK

**MORNING SESSION II**

**MODERATOR: TBA**

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10:15 AM	<b><u>William R. Wagner</u></b> , Kazuro Fujimoto, Zuwei Ma, Jianjun Guan, Devin Nelson, and Kimimasa Tobita University of Pittsburgh, Pittsburgh, PA and Editor of <i>Acta Biomaterialia</i> <b><i>Degradable Supports to Direct Soft Tissue Regeneration</i></b>	7
10:45 AM	<b><u>Stefan Tunev</u></b> Medtronics, Inc., Santa Rosa, CA Animal Models for Polymer Testing	8
11:15 AM	<b><u>Dennis Discher</u></b> University of Pennsylvania, Philadelphia, PA <b><i>Evading Clearance to Enhance Nano-Delivery: Surprises in Shape and Exploitation of a "Marker of Self" Ligand</i></b>	9
11:45 AM	<b><u>Debra Auguste</u></b> Harvard University, Cambridge, MA <b><i>Bioresponsive Therapies for Cancer and Cardiovascular Disease</i></b>	10

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12:15 PM LUNCH ON YOUR OWN

**AFTERNOON**

**MODERATOR: BARRY ARKLES, GELEST, INC.**

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3:00 PM	<b><u>Arthur J. Cury</u></b> Cury Consulting Services, Cambridge, MA <b><i>Molecular Design for Improved Medical Devices: A Retrospective</i></b>	11
3:30 PM	Ayala Hezi-Yamit, <b><u>Carol Sullivan</u></b> , Stefan Tunev, and Josiah Wilcox Medtronics, Inc., Santa Rosa, CA <b><i>Inflammation and Biocompatibility Evaluation of Polymers for Drug Eluting Stents (DES)</i></b>	12
3:45 PM	<b><u>Sue Mecham</u></b> Polymer Solutions, Inc., Blacksburg, VA <b><i>Polymer Product Test Data for FDA Submission</i></b>	13

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**MONDAY, JUNE 15<sup>TH</sup>, CONT'D**

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4:00 PM	<b><u>James P. Oberhauser</u></b> Abbott Vascular, Santa Clara, CA <b><i>Fully Bioabsorbable Coronary Scaffolds: How Do They Work?</i></b>	14
4:15 PM	<b><u>Andrew J. Marshall</u></b> , Max G. Maginness, Christine L. Glaister, Craig Woods, Robert B. Metter, and Jason A. Burdick Healionics Corp., Redmond, WA <b><i>Sphere Templated Angiogenic Regeneration (STAR®) Scaffolds for Device Biointegration and Wound Repair</i></b>	15
4:30 PM	<b><u>David Gale</u></b> Sinexus Inc., Santa Clara, CA <b><i>Bioabsorbable Stent for Controlled Drug Delivery in the Sinus</i></b>	16
4:45 PM	<b><u>Wouter Roorda</u></b> and Nadine Ding Abbott Vascular, Santa Clara, CA <b><i>Biocompatibility Evaluation of Polymers for Intravascular Applications</i></b>	17
5:00 PM	D. H. Wiese, G. Maier, <b><u>Michael O. Hunt</u></b> , U. Deisinger, S. Hamisch, T. Blunk, D. Tausendpfund, and J. Baumer Polymaterials AG, Kaufbeuren, Germany and Greensboro, NC <b><i>Versatile Polyurethane Scaffold Material for Tissue Engineering</i></b>	18
5:15 PM	<b><u>Josef Schröder</u></b> Chemspeed Technologies, Inc., Monmouth Junction, NJ <b><i>Accelerating Biomaterial R&amp;D by Automated High Output Technologies</i></b>	19

5:45 PM POSTER SESSION AND RECEPTION

7:00 PM DINNER ON YOUR OWN

**TUESDAY, JUNE 16<sup>TH</sup>**

7:30 AM CONTINENTAL BREAKFAST

**MORNING SESSION I**

**MODERATOR: DAWN SMITH, CIBA VISION CORPORATION**

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8:30 AM	<b><u>Daniel M. Ratner</u></b> University of Washington, Seattle, WA <b><i>Expanding the Paradigm of Glycomics: Carbohydrate Surface Modification and Characterization</i></b>	20
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**TUESDAY, JUNE 16<sup>TH</sup>, CONT'D**

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9:00 AM	<b><u>Kevin J. Edgar</u></b> , Carter Fox, Nilanjana Kar, Jessica Posey-Dowty, and Michael Shelton Virginia Tech, Blacksburg, VA <b><i>Design of Polysaccharides for Amorphous Oral Drug Delivery Systems</i></b>	21
9:30 AM	<b><u>Efrosini Kokkoli</u></b> University of Minnesota, Minneapolis, MN <b><i>Peptide-Functionalized Nanoparticles for Targeted Delivery of Therapeutics</i></b>	22
10:00 AM	Dale Waters, David Myung, and <b><u>Curtis W. Frank</u></b> Stanford University, Palo Alto, CA <b><i>Interpenetrating Network Hydrogels with High Mechanical Strength for Ophthalmic Applications</i></b>	23

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10:30 AM BREAK

**MORNING SESSION II**

**MODERATOR: TBA**

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10:45 AM	<b><u>Andreas Greiner</u></b> University of Marburg, Marburg, Germany <b><i>Polymer Nanofiber Nonwovens containing Living Bacteria by Electrospinning: A Route Towards Living Membranes</i></b>	24
11:15 AM	<b><u>Thomas Jozefiak</u></b> Genzyme Corp., Framingham, MA <b><i>Biomaterials for the Prevention of Postsurgical Adhesions</i></b>	25
11:45 AM	<b><u>Surya Mallapragada</u></b> Iowa State University, Ames, Iowa <b><i>Self-assembling Block Copolymers for Gene Delivery and Biomineralization</i></b>	26
12:15 PM	<b><u>Mitchell A. Winnik</u></b> , Olga Ornatsky, Xudong Lou, Isaac Herrera, Daniel Majonis, and Vladimir Baranov University of Toronto, Toronto, Canada <b><i>Polymers for Bioassays Based upon Atomic Mass Spectrometry</i></b>	27

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12:45 PM LUNCH ON YOUR OWN



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**TUESDAY, JUNE 16<sup>TH</sup>, CONT'D**

**AFTERNOON, MODERATOR: TBA**

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3:00 PM	<b><u>Jeffrey Frelinger</u></b> , Adam Bunztnan, Robbie Petros, Mary Napier, and Joseph DeSimone University of North Carolina, Chapel Hill, NC <b><i>Targeting of PRINT particles to Antigen Specific T cells</i></b>	<b>28</b>
3:30 PM	<b><u>Paula Hammond</u></b> Massachusetts Institute of Technology, Cambridge, MA <b><i>Patchy Micelles and Functional Peptides for Targeted Delivery Systems</i></b>	<b>29</b>
4:00 PM	<b><u>Jason A. Burdick</u></b> University of Pennsylvania, Philadelphia, PA <b><i>Engineering Hydrogels to Control Stem Cell Interactions for Regenerative Medicine</i></b>	<b>30</b>
4:30 PM	<b><u>Tarek M. Fahmy</u></b> Yale University, New Haven, CT <b><i>Biomimetic Approaches to Modulating Immune Responses with Polymeric Formulations</i></b>	<b>31</b>
5:00 PM	<b><u>Seema Agarwal</u></b> University of Marburg, Marburg, Germany <b><i>Polymer Nanofiber Webs by Electrospinning for Tissue Engineering and Related Applications</i></b>	<b>32</b>

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5:45 PM RECEPTION

7:00 PM DINNER ON YOUR OWN

**WEDNESDAY, JUNE 17<sup>TH</sup>**

7:30 AM CONTINENTAL BREAKFAST

**MORNING SESSION, MODERATOR: TBA**

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8:30 AM	<b><u>João C. Fernandes</u></b> , Alice Santos-Silva, Manuela E. Pintado, and F. Xavier Malcata Escola Superior de Biotecnologia, Universidade Católica Portuguesa, Porto, Portugal <b><i>Biological Properties and Potential Applications of Chitosan Oligomers</i></b>	<b>33</b>
9:00 AM	<b><u>Joe Berglund</u></b> Medtronic, Inc., Santa Rosa, CA <b><i>Technical Challenges Associated with Bioabsorbable Materials for Vascular Stents</i></b>	<b>34</b>

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**WEDNESDAY, JUNE 17<sup>TH</sup>, CONT'D**

9:30 AM	Marya Ahmed, Xiaoze Jiang, Zhicheng Deng, and <b><u>Ravin Narain</u></b> Department of Chemistry and Biochemistry, Laurentian University, Sudbury, ON, and Department of Chemicals and Materials Engineering, University of Alberta, Edmonton, Canada <b><i>Cationic Carbohydrate-Functionalized Single Walled Carbon Nanotubes: Synthesis, Characterization and Transfection Studies</i></b>	<b>35</b>
10:00 AM	<b><u>Melissa A. Grunlan</u></b> Texas A&M University, College Station, TX <b><i>Enhancing the Blood Compatibility of PEO-Modified Biomaterials</i></b>	<b>36</b>
10:30 AM	<b><u>Bret J. Chisholm</u></b> , Shane J. Stafslie, Partha Majumdar, Justin Daniels, Elizabeth Lee, Nathan Gubbins, Lyndsi Vander Wal, and Erin Nyren-Erickson North Dakota State University, Fargo, ND <b><i>Research and Development of Contact-Active, Antimicrobial Surface Coatings Using Combinatorial/High-Throughput Methods</i></b>	<b>37</b>
11:00 AM	<b><u>Yi Yan Yang</u></b> Institute of Bioengineering and Nanotechnology, Singapore <b><i>Hierarchical Supramolecular Polymer Nanostructures for Drug/Gene Delivery</i></b>	<b>38</b>
11:30 AM	<b><u>Judy Riffle</u></b> , N. Sriranganathan, N. Pothayee, A. Ranjan, M. Seleem, and P. Huffstetler Virginia Tech, Blacksburg, VA <b><i>Polymeric Carriers for Transporting Antibiotics to Intracellular Pathogens</i></b>	<b>39</b>
11:50 PM	<b><u>Buddy D. Ratner</u></b> University of Washington, Seattle, WA <b><i>The Power of Pores in Plain Polymers (and Engineered Polymers) for Promoting Healing And Tissue Regeneration</i></b>	<b>40</b>
12:10 PM	<b><u>Kathryn E. Uhrich</u></b> Rutgers University, Piscataway, NJ <b><i>Polymer Drugs and Polymeric Therapeutics: Making Polymers from Bioactives</i></b>	<b>41</b>
12:30 PM	JUDY RIFFLE, CONCLUDING REMARKS	
12:45 PM	MEETING ENDS – LUNCH ON YOUR OWN	