

13TH INTERNATIONAL SYMPOSIUM ON STIMULI-RESPONSIVE MATERIALS

Symposium Organizers and Chairs: Marek W. Urban and Brent S. Sumerlin

Hilton Sonoma Wine Country
3555 Round Barn Blvd., Santa Rosa
California 95403, USA

SUNDAY, OCTOBER 23, 2016

2:30 – 7:00 **REGISTRATION; Hilton Sonoma Lobby**

4:00 – 4:10 **Opening Remarks;** M. W. Urban, B. S. Sumerlin

OPENING SESSION From Responsive Molecules to Applications

4:10 – 4:40 **DESIGN AND CHARACTERIZATION OF POLYMER HYDROGELS FORMED VIA DYNAMIC LINKAGES BETWEEN BORONATE ESTERS AND BIOLOGICAL PHENOLS/POLYPHENOLS;** ZHUOJUN HUANG, PATRICK BURCH, JING CHENG, **PHILLIP B. MESSERSMITH**, Departments of Bioengineering and Material Science and Engineering, University of California, Berkeley, USA.

4:40 – 5:10 **STIMULI-RESPONSIVE BLOCK POLYMER/IONIC LIQUID MATERIALS;** **TIMOTHY P. LODGE**, Department of Chemistry and Department of Chemical Engineering & Materials Science, University of Minnesota, Minneapolis, USA.

5:10 – 5:40 **PHOTOTROPIC LIQUID CRYSTALS;** **TIMOTHY WHITE**, Air Force Research Laboratory Materials and Manufacturing Directorate, Wright Patterson AFB, Dayton, USA.

5:40 - 6:10 **AEROSPACE APPLICATIONS UTILIZING CONDUCTIVE AND ELECTROACTIVE POLYMERS;** **PATRICK J. KINLEN**, Advanced Polymer Materials, Chemical Technology, Boeing Research & Technology, The Boeing Company, Berkeley, USA.

MONDAY, OCTOBER 24, 2016

AM SESSION: **Stimuli-Responsive Devices I**
Session Chair: Dirk Kuckling, University of Paderborn, Germany.

8:00 – 8:30 **pH-RESPONSIVE POLYMERS FOR CONTROLLING DIAGNOSTIC IMAGING;** **STEPHEN G. BOYES**, Department of Chemistry and Geochemistry, Colorado School of Mines, Golden, USA.

8:30 – 9:00 **POLYMER SHEETS THAT SELF-FOLD IN RESPONSE TO LIGHT;** **JAN GENZER**, N. C. State University, Raleigh, USA.

9:00 – 9:30 **DESIGN PARADIGMS FOR THE FABRICATION OF LIGHT UPCONVERTING MATERIALS;** **YOAN C. SIMON**, School of Polymers and High Performance Materials, The University of Southern Mississippi, Hattiesburg, USA.

AM SESSION: **Stimuli-Responsive Gels and Networks**
Session Chair: Timothy White, Wright Patterson AFB, Dayton, OH, USA.

10:00 – 10:30 **REVERSIBLE SHAPE MEMORY POLYMERS: MECHANISMS AND UTILIZATION IN A MICROFLUIDIC DEVICE;** **PATRICK T. MATHER**, Chemical Engineering, College of Engineering, Bucknell University, USA

- 10:30 – 11:00** **FUNCTIONAL THIN HYDROGEL LAYERS;** **DIRK KUCKLING**, MOMEN ALI, MEIKE ROTH, JIE LI, ZIMEI CHEN, MICHAEL TIEMANN, Chemistry Department, University of Paderborn, Paderborn, Germany.
- 11:00 – 11:30** **ADVANCE IN SELF-OSCILLATING POLYMER MATERIAL SYSTEMS;** **RYO YOSHIDA**, Department of Materials Engineering, School of Engineering, The University of Tokyo, Japan.

TUESDAY, OCTOBER 25, 2016

AM SESSION: Stimuli-Responsive Devices II

Session Chair: Michael Serpe, University of Alberta, Canada.

- 8:00 – 8:30** **FROM MECHANO-RESPONSIVE TO MECHANO-SENSITIVE COATINGS;** **ANDREAS FERY**; Leibniz-Institut für Polymerforschung Dresden, Institute for Physical Chemistry and Polymer Physics, Dresden, Germany.
- 8:30 – 9:00** **GUIDED FOLDING OF NEMATIC LIQUID CRYSTAL ELASTOMER SHEETS INTO 3D VIA PATTERNED 1D MICRO-CHANNELS;** YU XIA,¹ HILLEL AHARONI,² GERARDO CEDILLO-SERVIN,¹ RANDALL D. KAMIEN,² and **SHU YANG**;^{1,*}
¹Department of Materials Science and Engineering, University of Pennsylvania, ²Department of Physics and Astronomy, University of Pennsylvania, USA.
- 9:00 – 9:30** **BIOINSPIRED POLYELECTROLYTE COMPLEXES WITH METAL IONS;** ASTHA MALHOTRA, XIAOYAN LU, **LEI ZHAI**, NanoScience Technology Center and Department of Chemistry, University of Central Florida, Orlando, USA.
- 9:30 – 10:00** **TRIGGERED pH RESPONSIVE DEGRADATION OF POLY (THIOETHER ACETAL) NETWORKS VIA THIOL-ENE PHOTOPOLYMERIZATION;** DAHLIA N. AMATO,¹ DOUGLAS V. AMATO,¹ OLGA V. MAVRODI,² WILLIAM B. MARTIN,¹ SARAH SWILLEY,¹ KEITH L. PARSONS,¹ DMITRI V. MAVRODI,² AND **DEREK L. PATTON**;¹ ¹School of Polymers and High Performance Materials, ²Department of Biological Sciences, The University of Southern Mississippi, Hattiesburg, USA.

AM SESSION: Crosslinked and Supramolecular Networks

Session Chair: Shu Yang, University of Pennsylvania, USA.

- 10:30 – 11:00** **OPTO-MECHANICAL AZO MATERIALS: NEW LIGHT ON MECHANISM AND OPTIMIZATION;** **CHRISTOPHER J. BARRETT**, OLEKSANDR S. BUSHUYEV, TOMISLAV FRIŠČIĆ, McGill University, Montreal, Canada.
- 11:00 – 11:30** **STIMULI-RESPONSIVE SUPRAMOLECULAR POLYMERS;** **CHRISTOPH WEDER**, Adolphe Merkle Institute, University of Fribourg, Fribourg, Switzerland.
- 11:30 – 12:00** **SUPRAMOLECULAR BIOMATERIALS: FROM FUNDAMENTALS TO ADVANCED HEALTHCARE SOLUTIONS;** **ERIC A. APPEL**, Department of Materials Science & Engineering, Stanford University, Stanford, USA.
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TUESDAY, OCTOBER 25, 2016

PM SESSION Responsive Biomaterials I

Session Chairs: Jon Pokorski, Case Western Reserve University, USA.

1:30 – 2:00 SELF-ASSEMBLY AND RESPONSIVENESS OF POLYPEPTIDE-BASED STAR AND TRIBLOCK COPOLYMERS; IAN SMITH, CRAIG MACHADO, BROOKE BARNES, ALEX SHISHLOV, **DANIEL SAVIN**, Department of Chemistry, University of Florida, Gainesville, USA.

2:00 – 2:30 WHEN HPMA-BASED POLYMER MEETS ANTIBODY-DRUG CONJUGATES; **JIYUAN YANG**,¹ LIBIN ZHANG,¹ YIXIN FANG,¹ JINDŘICH KOPEČEK,^{1,2} Departments of ¹Pharmaceutics and Pharmaceutical Chemistry, and ²Bioengineering, University of Utah, Salt Lake City, USA.

2:30 – 3:00 STIMULI-RESPONSIVE POLYMER-BASED OPTICAL DEVICES FOR BIOSENSING; **MICHAEL J. SERPE**, Department of Chemistry, University of Alberta, Edmonton, Alberta, Canada.

PM SESSION Responsive Biomaterials II

Session Chair: Lei Zhai, University of Central Florida, USA.

3:30 – 4:00 SULPHUR. MORE THAN THE DEVIL'S SMELL; **NICOLA TIRELLI**, North West Centre of Advanced Drug Delivery (NoWCADD), School of Health Sciences, University of Manchester, Oxford Road, Manchester, United Kingdom.

4:00 – 4:30 FROM DRUG DELIVERY TO SOMANAUTICS; **GIUSEPPE BATTAGLIA**; Department of Chemistry, University College London, London, United Kingdom.

4:30 – 5:00 RESPONSIVE COEXTRUDED POLYMERIC NANOFIBERS TO DIRECT CELL GROWTH; **JONATHAN K. POKORSKI**, Case Western Reserve University, Department of Macromolecular Science and Engineering, Cleveland, USA.

6:00 – 7:30 POSTER SESSION

BEST RESEARCH POSTER AWARD PRESENTATION

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