

SYMPOSIUM SM8

Advanced Polymers
April 18 - April 21, 2017

Symposium Organizers

Kevin Cavicchi, University of Akron
LaShanda Korley, Case Western Reserve University
Andreas Lendlein, Helmholtz-Zentrum Geesthacht
Bernd Rehm, Massey University

Symposium Support

MedShape, Inc.
MilliporeSigma

Proceedings Statement

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* Invited Paper

SESSION SM8.1: Stimuli-Sensitive Polymers I
Session Chair: Kevin Cavicchi
Tuesday Morning, April 18, 2017
PCC North, 100 Level, Room 124 A

10:30 AM SM8.1.01

Rubber-Like Hydrogel Adhesives [Malav S. Desai](#)^{1,3,2}; ¹University of California, Berkeley, United States; ²University of California, San Francisco, United States; ³Lawrence Berkeley National Laboratory, United States.

10:45 AM *SM8.1.02

Evolution of Self-Oscillating Polymer Gels as Advanced Materials [Ryo Yoshida](#); University of Tokyo, Japan.

11:15 AM SM8.1.03

Ultra-Stable and Refrigeration-Free Antibody Ionic Liquids [Joseph Slocik](#); Air Force Research Laboratory, United States.

11:30 AM SM8.1.04

Functional Hydrogels and Particles from Crosslinked Polymeric Telechelics [Christian Wischke](#); Helmholtz-Zentrum Geesthacht, Germany.

11:45 AM SM8.1.05

Enzymatic Polymerization of High Molecular Weight ssDNA [Stefan Zauscher](#); Duke University, United States.

SESSION SM8.2: Advanced Structured Materials
Session Chair: Andreas Lendlein
Tuesday Afternoon, April 18, 2017
PCC North, 100 Level, Room 124 A

1:30 PM SM8.2.01

Self-Assembling Nanocomposite Tectons [Robert J. Macfarlane](#); Massachusetts Institute of Technology, United States.

1:45 PM *SM8.2.02

Advanced Materials from Polymer Hybrids Self-Assembly [Ulrich Wiesner](#); Cornell University, United States.

2:15 PM SM8.2.03

DNA-Inspired Self-Assembly of Nanoscale Electronic Devices [Kuo Yao Lin](#); University of Texas at Dallas, United States.

2:30 PM SM8.2.04

Designing Nanostructured Functional Gels for Smart Electronics and Electrochemical Energy Devices [Ye Shi](#); University of Texas at Austin, United States.

2:45 PM SM8.2.05

Assembly of Ligand Stripped Nanocrystals of Arbitrary Composition into Block Copolymer Phase Separated Morphologies in Thin Film at Both Low and High Inorganic Loading Fractions [Gary K. Ong](#)^{2,1}; ¹University of Texas at Austin, United States; ²University of California, Berkeley, United States.

3:00 PM BREAK

SESSION SM8.3: Stimuli-Sensitive Polymers II

Session Chair: Nan Ma
Tuesday Afternoon, April 18, 2017
PCC North, 100 Level, Room 124 A

3:30 PM SM8.3.01

Onion-Like Multilayered Capsules Based on Stimuli-Responsive Polymers—Synthesis by a Bioinspired “Inside-Out” Technique [Brady C. Zarket](#); University of Maryland, College Park, United States.

3:45 PM SM8.3.02

Stimuli-Responsive Coaxial Electrospun Membranes Using Self-Immolative Polymers [Daewoo Han](#); University of Cincinnati, United States.

4:00 PM SM8.3.03

Electrochemical Redox Stimuli-Responsive Polymers [Jinying Yuan](#); Tsinghua University, China.

4:15 PM *SM8.3.04

Relations between Response Kinetics and Macromolecular Architecture in Oxidation-Sensitive Materials [Nicola Tirelli](#); University of Manchester, United Kingdom.

4:45 PM SM8.3.05

Photoresponsive Multicompartment Capsules for Controlled Release [Kerry C. DeMella](#); University of Maryland, United States.

SESSION SM8.4: Poster Session I: Advanced Polymers

Session Chairs: Kevin Cavicchi and Nan Ma
Tuesday Afternoon, April 18, 2017
8:00 PM - 10:00 PM
Sheraton, Third Level, Phoenix Ballroom

SM8.4.01

Synthesis and Characterization of Photo-Cleavable Nucleotides [Haikang Yang](#); University of Alberta, Canada.

SM8.4.02

Highly Specific In Vivo Gene Delivery for p53-Mediated Apoptosis and Genetic Photodynamic Therapies of Tumour [S. Ja Tseng](#); Graduate Institute of Oncology, National Taiwan University College of Medicine, Taiwan.

SM8.4.03

Exploring Relaxation Dynamics in Azobenzene Functionalized Polyimides Using Cantilever Bending Experiments and Finite Element Modeling [Matthew L. Smith](#); Hope College, United States.

SM8.4.04

Incorporating Longer Wavelength Azo Dyes in Polymer Networks for Photomechanical Applications [Brandon C. Derstine](#)¹, [Sean R. Gitter](#)^{1,2} and [Jessica A. Korte](#)²; ¹Hope College, United States; ²Hope College, United States.

SM8.4.05

Continuous Fabrication of Polymeric Microstencil by Using Dewetting Phenomenon [Moonkyu Kwak](#); Kyungpook National University, Korea (the Republic of).

SM8.4.06

4D Printing Bio Functional Materials [Anu Stella Mathews](#); University of Alberta, Canada.

SM8.4.07

Advancing the Knowledge on the Structural Properties of the Biocompatible and Biodegradable Electroactive Eumelanin Polymer [Dominic Boisvert](#); Polytechnique Montréal, Canada.

SM8.4.08

Fluorescent Potassium Ion Sensors [Yanqing Tian](#); South University of Science and Technology of China, China.

SM8.4.09

Nanodiamond-Embedded Polymeric Thermogels and Hydrogels— Properties and Applications [Kangyi Zhang](#); Institute of Materials Research and Engineering, Singapore.

SM8.4.10

Controlling the Pore Size of Mesoporous Carbon Thin Films through Thermal and Solvent Annealing [Guoliang Liu](#); Virginia Polytechnic Institute and State University, United States.

SM8.4.11

Long-Range Ionic Conductivity of Saturated Bacterial Cellulose-Based Solid Biopolymer Electrolyte Offers Insights into the Transport Mechanism of Bulk Nanofibers [Robert Ccorahua](#); Pontificia Universidad Catolica del Peru, Peru.

SM8.4.12

Ultrasonic Cavitation Induced Shape-Memory Effect in Porous Polymer Networks [Xingzhou Peng](#)^{1,2,3}; ¹Institute of Biomaterial Science and Berlin-Brandenburg Centre for Regenerative Therapies, Helmholtz-Zentrum Geesthacht, Germany; ²Institute of Chemistry, University Potsdam, Germany; ³Tianjin University-Helmholtz-Zentrum Geesthacht Joint Laboratory for Biomaterials and Regenerative Medicine, Germany.

SM8.4.13

Surface Functionalization and Finishing of 3D Printed Objects with Inkjet Printing and Nanoimprint Lithography [Michael Haslinger](#); Profactor GmbH, Austria.

SM8.4.14

Super Stretchable Gas Barrier of Hydrogen-Bonded Multilayer Nanobrick Wall Thin Films [Shuang Qin](#); Texas A&M University, United States.

SM8.4.15

Highly Stretchable Electrical Conductive Composites Fabricated from Conducting Polymer Networks and Silver Nanostructures for Wearable Electronics [Bo Song](#); Georgia Institute of Technology, United States.

SM8.4.16

Matrix Regenerative Polymer Nanoparticles to Improve the Tumor Microenvironment in Non-Small Cell Lung Cancer [Dhruv R. Seshadri](#)^{1,2}; ¹Case Western Reserve University, United States; ²Cleveland Clinic, United States.

SM8.4.17

Cyclodextrin Stabilised Emulsions, Cyclodextrinosomes and Cyborg Cells [Vesselin Paunov](#); University of Hull, United Kingdom.

SM8.4.18

Laser Direct-Write Fabrication of Core-Shell Microspheres [Benjamin Vinson](#); Tulane University, United States.

SM8.4.19

Target-Specific Therapeutic Cell Delivery Systems Using Hyaluronic Acid Derivatives [Yun Seop Kim](#); Pohang University of Science and Technology, Korea (the Republic of).

SESSION SM8.5/NM10.4: Joint Session: Functional Materials for Cellular and Biotechnological Applications

Session Chairs: Xiaodong Chen and Andreas Lendlein

Wednesday Morning, April 19, 2017

PCC West, 100 Level, Room 102 AB

8:30 AM SM8.5.01/NM10.01

Regulation of Mesenchymal Stem Cell Behavior and Secretion via Microscale Surface Roughness [Nan Ma](#); Institute of Biomaterial Science and Berlin-Brandenburg Center for Regenerative Therapies, Helmholtz-Zentrum Geesthacht, Germany.

8:45 AM SM8.5.02/NM10.02

Fabrication of Crosslinked Sphere Structure of Biodegradable Polymer Nanoparticles for Efficient Controlled Drug Release [Ravichandran Honnavally Kollarigowda](#); University of Alberta, Canada.

9:00 AM SM8.5.03/NM10.03

Maintenance of Neural Progenitor Cell Stemness in 3D Hydrogels Requires Matrix Remodeling [Christopher M. Madl](#); Stanford University, United States.

9:15 AM SM8.5.04/NM10.04

Selective Packaging of pDNA into Rod- or Toroid-Shape within Polyplex Micelles [Kensuke Osada](#); University of Tokyo, Japan.

9:30 AM *SM8.5.05/NM10.05

Metal-Organic Frameworks for Biotechnology [Paolo Falcaro](#); TuGraz, Austria.

10:00 AM BREAK**10:30 AM SM8.5.06/NM10.06**

Mimicking Matrix Vesicles to Enhance Biomineralization of Osteoblast Cells [Fabian Itel](#); Aarhus University, Denmark.

10:45 AM SM8.5.07/NM10.07

Micro-Fabricated Thermoresponsive Polymer-Grafted Surface for Producing Contractile Muscle Tissue Construct [Hironobu Takahashi](#); Tokyo Women's Medical University, Japan.

11:00 AM *SM8.5.08/NM10.08

Mechanobiology, Pluripotent Stem Cells and Early Embryonic Development [Jianping Fu](#); University of Michigan, Ann Arbor, United States.

11:30 AM SM8.5.09/NM10.09

Stabilization of Enzymes Using a Protein Matrix Identified from Squid Sucker Ring Teeth [Chelsea C. Riegel](#)^{1,2}; ¹Air Force Research Laboratory, United States; ²UES Inc, United States.

11:45 AM SM8.5.10/NM10.10

Systemic Administration of Enzyme-Responsive Nanocapsules for Promoting Bone Repair [Hongzhao Qi](#); Tianjin University, China.

SESSION SM8.6: Bioinspired Materials

Session Chair: Axel Neffe

Wednesday Afternoon, April 19, 2017

PCC North, 100 Level, Room 124 A

1:30 PM SM8.6.01

Effect of Drug-Polymer Interaction on Mechanical and Release Behavior of Drug-Eluting Fibers [Shih-Feng Chou](#)^{1,2}; ¹University of Texas at Tyler, United States; ²University of Washington, United States.

1:45 PM SM8.6.02

pH-Responsive, Lysine-Based, Hyperbranched Polymers Mimicking Cell-Penetrating Peptides for Efficient Intracellular Delivery [Shiqi Wang](#); Imperial College London, United Kingdom.

2:00 PM SM8.6.03

Fluorescent Molecular Force Probe that Operates in Soft Materials [Shohei Saito](#); Kyoto University, Japan.

2:15 PM SM8.6.04

Rapid Electro-Formation of Robust and Transparent Biopolymer Gels in Prescribed 3D Shapes Ankit Gargava; University of Maryland College Park, United States.

2:30 PM BREAK

3:30 PM SM8.6.05

Self-Assembly of Repeat Polypeptides Isaac Weitzhandler; Duke University, United States.

3:45 PM SM8.6.06

Artificially Engineered Protein Polymer Materials for Selective Biomolecular Separation Minkyu Kim^{1,2,3}; ¹The University of Arizona, United States; ²The University of Arizona, United States; ³Massachusetts Institute of Technology, United States.

4:00 PM *SM8.6.07

Protein-Engineered, Self-Assembling Bio-Inks for Cell-Based 3D Printing Sarah C. Heilshorn; Stanford University, United States.

4:30 PM SM8.6.08

Materials Construction through Peptide Design and Solution Assembly into 1D or 2D Physical Polymers Darrin J. Pochan; University of Delaware, United States.

SESSION SM8.7: Poster Session II: Advanced Polymers
Session Chairs: LaShanda Korley and Muhammad Yasar Razzazq
Wednesday Afternoon, April 19, 2017
8:00 PM - 10:00 PM
Sheraton, Third Level, Phoenix Ballroom

SM8.7.01

Laser Writing Assembly of Block Copolymer on Chemically Modified Graphene Hyeon Min Jin^{1,2}; ¹KAIST, Korea (the Republic of); ²National Creative Research Initiative Center for Multi-Dimensional Directed Nanoscale Assembly, Korea (the Republic of).

SM8.7.02

Amyloid Structures Produced from Recombinant Gas Vesicle Proteins Joseph K. Tang^{1,2}; ¹Air Force Research Laboratory, United States; ²UES, Inc., United States.

SM8.7.03

Study of Protein-Carbohydrate Covalent Linkage in Gelling Arabinoxlyans Mayra Mendez-Encinas; CIAD, Mexico.

SM8.7.04

Polymer-Industrial Waste Fly Ash Cenosphere (FAC) Composite Film for Electromagnetic Interference Shielding Pritom J. Bora; Indian Institute of Science, India.

SM8.7.05

Syneresis in Arabinoxylan Gels—Rheology and Microstructure Ana Maria Morales-Burgos; CIAD, Mexico.

SM8.7.06

Molecular Identity and Viscoelastic Properties of Gelling Arabinoxlyans Isolated by a Semi-Pilot Scale Procedure Jose M. Fierro-Islas; CIAD, Mexico.

SM8.7.07

Photocrosslinking of Methacrylated Pectin—pH Stability and Gelling Capability Yaeel I. Cornejo-Ramirez; Centro de Investigacion en Alimentacion, Mexico.

SM8.7.08

Sugary Interfaces Mitigate Contact Damage Where Stiff Meets Soft Sangchul Rho; POSTECH, Korea (the Republic of).

SM8.7.09

One-Step Fabrication of Multi-Scale Diffractive Gratings by Directional Photofluidized Surface Relief of Azo Polymers Yong-Cheol Jeong; KITECH, Korea (the Republic of).

SM8.7.10

Functionalization of Carbon Particles by Atom Transfer Radical Polymerization Nurettin Sahiner; Canakkale Onsekiz Mart Univ, Turkey.

SM8.7.11

Microgels Derived from Different Forms of Carrageenans, Kappa, Iota and Lambda for Biomedical Applications Nurettin Sahiner; Canakkale Onsekiz Mart University, Turkey.

SM8.7.12

Copper-Chitosan Transparent Antimicrobial Coatings Debirupa Mitra; NUS, Singapore.

SM8.7.13

Poly(lactic acid)/Cellulose Nanofibril/Epoxidized Soybean Oil Ternary System towards Tougher and Stiffer Nanocomposites Xiangtao Meng; Oak Ridge National Laboratory, United States.

SM8.7.14

Ratiometric Fluorescent Microspheres for Sensing Oxygen Gang Li; Southern University of Science and Technology, China.

SM8.7.15

Microstructured Substrates Modulate Interleukin-6 Secretion in Human Mesenchymal Stem Cells Xun Xu; Institute of Biomaterial Science and Berlin-Brandenburg Center for Regenerative Therapies, Helmholtz-Zentrum Geesthacht, Germany.

SM8.7.16

Synthetic Routes for Metal-Bearing Hydrophobic Graphite Sponges Andrew J. Patalano; University of California, Riverside, United States.

SM8.7.17

Self-Folding Behavior of Smart Biopolymers in Detection of Aromatic Alcohol Amrita Rath; Indian Institute of Technology Madras, India.

SM8.7.18

Planar Phase Separation of Weak Polyelectrolyte Brushes in Poor Solvent Kai Gao; Purdue University, United States.

SESSION SM8.8: Advanced Functional Materials I
Session Chair: LaShanda Korley
Thursday Morning, April 20, 2017
PCC North, 100 Level, Room 124 A

8:15 AM SM8.8.01

Structure and Dopant Engineering in PEDOT Thin Films—Dramatic Conductivity Enhancement and Application to Thermoelectric Devices Jean-Pierre Simonato; CEA, France.

8:30 AM SM8.8.02

Structure and Morphology of Biosynthesized and Biodegradable Polymer Nanofibers, Ultrathin Films and Single Crystals Using AFM-IR and Selected Area Electron Diffraction (SAED) John F. Rabolt; University of Delaware, United States.

8:45 AM *SM8.8.03

Chemical Shaping: Synthesizing Complex Polymeric Nano and Microstructures Stefan Seeger; University of Zurich, Switzerland.

9:15 AM SM8.8.04

Thermally Active Liquid Crystal Network Gripper Mimicking the Self-Peeling of Gecko Toe Pads Hamed Shahsavan; University of Waterloo, Canada.

9:30 AM SM8.8.05

Membranes with Functional Nanopores from the Assembly of Random Copolymer Micelles Ayse Asatekin; Tufts University, United States.

9:45 AM BREAK

10:15 AM SM8.8.06

Synthesis and Characterization of Zwitterionic Polymer Brush Functionalized Hydrogels Allen Osaheni; Syracuse University, United States.

10:30 AM SM8.8.07

Incorporation of Glucose in Triblock Copolymers to Create Sustainable Adhesive and Elastomeric Materials [Mohammadreza Nasiri](#); University of Minnesota, United States.

10:45 AM SM8.8.08

Modulating the Size and Mechanical Properties of Squid Protein Hydrogels with Anions [Patrick B. Dennis](#); Air Force Research Laboratories, United States.

11:00 AM SM8.8.09

Bio-Derived Polymers for Sustainable Lithium-Ion Batteries [Tyler B. Schon](#); The University of Toronto, Canada.

11:15 AM SM8.8.10

Hierarchical Ion Effects in Tuning Mechanical Properties of Marine Biopolymers [Maneesh K. Gupta](#); Air Force Research Laboratory, United States.

11:30 AM *SM8.8.11

Rheology of Living Bioinks Used in 3D Printing [Patrick A. Ruchs](#); ETH Zürich, Switzerland.

SESSION SM8.9: Shape-Memory and Shape-Changing Polymers
Session Chairs: Karl Kratz and Muhammad Yasar Razzaq
Thursday Afternoon, April 20, 2017
PCC North, 100 Level, Room 124 A

1:30 PM SM8.9.01

Thermally-Induced Reversible Bidirectional Shape-Memory Effect of Hybrid Nanocomposites [Muhammad Yasar Razzaq](#); Helmholtz-Zentrum Geesthacht, Germany.

1:45 PM SM8.9.02

Photopolymerizable and Robust Liquid Crystal Elastomers [Nicholas P. Godman](#); Air Force Research Laboratory, United States.

2:00 PM *SM8.9.03

Micromachined Shape Memory Polymers Actuators for Flexible Haptic Displays [Herbert R. Shea](#); EPFL, Switzerland.

2:30 PM SM8.9.04

Reconfigurable Nanooptics Enabled by Multi-Stimuli-Responsive Shape Memory Polymers Possessing Unconventional Room Temperature Shape Processability [Yin Fang](#)^{1,2}; ¹University of Florida, United States; ²University of Chicago, United States.

2:45 PM SM8.9.05

Extrusion of UV-Responsive Thermoplastic Liquid Crystal Elastomers [Laura Beckett](#); University of Bristol, United Kingdom.

3:00 PM BREAK

3:30 PM SM8.9.06

Programming Stimulus Response in Chromonic Liquid Crystal Hydrogels [Taylor H. Ware](#); University of Texas at Dallas, United States.

3:45 PM SM8.9.07

Shape-Memory Cryogels Based on Conformational Transition of Peptides [Zewang You](#)^{1,2,3}; ¹Institute of Biomaterial Science, Helmholtz-Zentrum Geesthacht, Germany; ²University of Potsdam, Germany; ³Joint Laboratory for Biomaterials and Regenerative Medicine, Tianjin University-Helmholtz-Zentrum Geesthacht, Germany.

4:00 PM *SM8.9.08

Macromolecular Metamorphosis [Brent Sumerlin](#); University of Florida, United States.

4:30 PM SM8.9.09

Programming Temporal Shapeshifting [Xiaobo Hu](#); University of North Carolina at Chapel Hill, United States.

4:45 PM SM8.9.10

Characterizing Shape-Memory Effects of Polymeric Micro-Scale Objects [Karl Kratz](#); Helmholtz-Zentrum Geesthacht, Germany.

SESSION SM8.10: Poster Session III: Advanced Polymers

Session Chairs: Axel Neffe and Nicola Tirelli

Thursday Afternoon, April 20, 2017

8:00 PM - 10:00 PM

Sheraton, Third Level, Phoenix Ballroom

SM8.10.01

Micellization and Phase Separation of Poly(ethylene oxide)-Poly(propylene oxide) Alternating Multiblock Copolymers in Water [Yukiteru Katsumoto](#); Fukuoka University, Japan.

SM8.10.02

Stress-Sensing Thermoset Polymer Network via Grafted Cinnamoyl/Cyclobutane Mechanophore Units in Epoxy [Ryan P. Gunckel](#); Arizona State University, United States.

SM8.10.03

Early Damage Detection of Epoxy via Poly(vinyl Cinnamate) Mechanophore Using Fourier Transform Infrared Spectroscopy [Ryan P. Gunckel](#); Arizona State University, United States.

SM8.10.04

Mechanical Properties of Poly(Lactic Acid) Composites Reinforced with CaCO₃ Eggshell Based Fillers [Duncan Cree](#); University of Saskatchewan, Canada.

SM8.10.05

Vapor Phase Synthesis of Nanoparticles in Fluoropolymers—Connections between Particle Size Distribution and Polymer Free Volume [Fan W. Zeng](#); Johns Hopkins University, United States.

SM8.10.06

Low Bandgap Poly(Fluorinated Metallophthalocyanine-Alt-diketopyrrolopyrrole)s with Outstanding Thermal Stability [Sunmi Hong](#); Department of Organic Material Science and Engineering, Korea (the Republic of).

SM8.10.07

The Pigment Eumelanin as a UV-Protection Enhancer of Packaging Films—A First Screening [Eduardo Di Mauro](#); Polytechnique Montreal, Canada.

SM8.10.08

Acoustic Characteristics and Thermal Conductivity of Polycarbonate/Graphite Intercalation Compound [Sung-Ryong Kim](#); Korea National University of Transportation, Korea (the Republic of).

SM8.10.09

Electrospun Nanofibrous Scaffolds—Towards Enhanced Tissue-Engineered Heart Valves [Dina M. Ibrahim](#); American University in Cairo, Egypt.

SM8.10.10

Processing Agarose Films and Foams for Biomedical Applications [Mishal Patel](#); University of Central Florida, United States.

SM8.10.11

Structural, Thermal, Mechanical and Microbiological Properties of PMMA-Ag Nanocomposites [Francisco N. Souza Neto](#); Federal University of Sao Carlos, Brazil.

SM8.10.12

Biodegradable Poly(3-hydroxybutyrate-co-3-hydroxyhexanote)(PHBHx) Single Crystals as Template to Immobilize Nanoparticles—From One-Dimensional Fibrous Single Crystal to Two-Dimensional Single Crystal Sheet [Changhao Liu](#); University of Delaware, United States.

SM8.10.13

Nanomechanical Behavior of Clay and Graphene Reinforced Polymers Multilayers [Andreas A. Polycarpou](#); Texas A&M, United States.

SM8.10.14

Design and Characterization of sub-10 nm Metal Nanoparticle-PVDF Nanocomposite Based Solid-State Dielectric Material [Anju Toor](#); University of California, Berkeley, United States.

SM8.10.15

Self-Immobilized Dendrimer as a Hypoxia-Sensitive Fluorescent Imaging Probe Cheol-Hee Ahn; Seoul National University, Korea (the Republic of).

SM8.10.16

Effect of Siloxane-Terminated Side-Chains on the Electrochromic Properties of Benzotriazole-Bearing Donor-Acceptor Type Conjugated Polymers Namhyeon Kim; Department of Organic Material Science and Engineering, Korea (the Republic of).

SM8.10.17

Biosensors Based on Conducting Polymer Scaffolds Targeting Carbohydrate-Protein Interactions Abdul Rehman; KFUPM, Canada.

SM8.10.18

Decrease of T_g of Polymers from Morpholinediones by Modification with Hexyl Groups Xingzhou Peng^{1,2,3}; ¹Institute of Biomaterial Science and Berlin-Brandenburg Centre for Regenerative Therapies, Helmholtz-Zentrum Geesthacht, Germany; ²University Potsdam, Germany; ³Tianjin University-Helmholtz-Zentrum Geesthacht Joint Laboratory for Biomaterials and Regenerative Medicine, Germany.

SM8.10.19

Organic Polyimide—Organometallic Tin Polyester Multicomponent Hybrid as Dielectric Materials Shamima Nasreen^{1,2}; ¹University of Connecticut, United States; ²University of Connecticut, United States.

SM8.10.20

Porous Fe-Mn-HA Biocomposites for Degradable Fracture Fixation Devices Michael Heiden; Purdue University, United States.

11:30 AM SM8.11.09

Electrically-Induced Shape Change in Patterned Carbon Nanotube-Containing Liquid Crystal Elastomers Tyler Guin^{1,2}; ¹Air Force Research Labs, United States; ²Azimuth Corporation, United States.

11:45 AM SM8.11.10

Influence of Metal Softness on the Ring-Opening Polymerization of 2,5-Morpholinediones and Lactones Axel T. Neffe; Institute of Biomaterial Science and Berlin-Brandenburg Center for Regenerative Therapies, Helmholtz-Zentrum Geesthacht, Germany.

SESSION SM8.11: Advanced Functional Materials II

Session Chair: Christian Wischke

Friday Morning, April 21, 2017

PCC North, 100 Level, Room 124 A

8:30 AM SM8.11.01

Superabsorbing Polymers for Breathable and Self-Sealing Smart Hazmat Suits Konrad Rykaczewski; Arizona State University, United States.

8:45 AM *SM8.11.02

3D Printing of Shape-Memory Polymers for Pediatric Medical Devices David Saffranski^{1,2}; ¹MedShape, Inc., United States; ²Georgia Institute of Technology, United States.

9:15 AM SM8.11.03

Fully Biodegradable Shape Change Soft-Gripping Devices Kunihiko Kobayashi^{1,3}; ¹JSR Corporation, Japan; ³Johns Hopkins University, United States.

9:30 AM SM8.11.04

Crosslinkable, Electrospinnable, Biodegradable Polyurethane Wenbin Kuang^{1,2}; ¹Syracuse Biomaterials Inst, United States; ²Syracuse University, United States.

9:45 AM SM8.11.05

Shape Memory Polymer Blends Kevin Cavicchi; University of Akron, United States.

10:00 AM BREAK**10:30 AM SM8.11.06**

Reversible Shape-Memory Effect of Crosslinked Thermoplastic Polymer Blends Muhammad Farhan^{1,2}; ¹Helmholtz-Zentrum Geesthacht, Germany; ²University of Potsdam, Germany.

10:45 AM *SM8.11.07

Artificial Rotary Nanomachines Assembled from Nanoscale Building Blocks Donglei (Emma) Fan; University of Texas at Austin, United States.

11:15 AM SM8.11.08

Synthesis and Characterization of Novel Glucaric Acid-Based Hydrogels Erik R. Johnston; The University of Montana, United States.