

# 2011 MIT POLYMER POSTER CONTEST

## SORTED BY TITLE

<u>Title</u>	<u>Name</u>	<u>Prize</u>
<i>Biodegradable Microfluidic Scaffolds for Biodegradable Microfluidic Scaffolds for Tissue Engineering from Amino Alcohol-based Poly(ester amide) Elastomers</i>	Jane Wang	
<i>Blood Clotting-Inspired Single-Chain Manipulation in Fluid Flows</i>	Charles E. Sing	
<i>Bonding of Thin Films for Tablet Manufacturing</i>	Nikhil Padhye	
<i>Characterization and Assembly of Monolayer Protected Gold Nanoparticles</i>	Hyewon Kim	
<i>Co-Continuous Polymer Composites for Stiffness, Strength, Energy Dissipation, and Damage Tolerance</i>	Lifeng Wang	
<i>Combinations of 3D Direct Write and Large Area Patterning Techniques for Rapid Fabrication of Hierarchical and Complex Structures</i>	Jonathan P. Singer	Second-Early
<i>Composite Layer-by-Layer/Electrospun Nanofiber Membranes for use in Direct Methanol Fuel Cells</i>	Matthew M. Mannarino	Honorable Mention-Early
<i>Design, Synthesis, and Fabrication of New Materials for Water Splitting Solar Cell Membrane</i>	Junying Liu	
<i>Determination of Young's Moduli for Amorphous Nylon Single Fibers and Relation to Their Nonwoven</i>	Chia-Ling Pai	

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<u>Title</u>	<u>Name</u>	<u>Prize</u>
<i>Diffusion in Polyelectrolyte Multilayers</i>	<i>Jonathan B. Gilbert</i>	
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<i>Dual functional polyelectrolyte multilayer coatings for implants: permanent microbicidal base with controlled release of therapeutic agents</i>	<i>Jessie Wong</i>	
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<i>Dynamics of Rod-Coil Block Copolymers</i>	<i>Muzhou Wang</i>	
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<i>Electrical Engineering and Computer Science</i>	<i>Halil Tekin</i>	
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<i>Electrostatic Assemblies of Virus-templated Titania Nanowires for Dye Sensitized Solar Cells</i>	<i>Rebecca L. Ladewski</i>	
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<i>Engineering Surfaces with Reduced Liquid Wettability and Ice Adhesion</i>	<i>Adam J. Meuler</i>	
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<i>Engineering the responsive behavior of self-oscillating gels</i>	<i>Irene C. Chen</i>	
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<i>Epoxy-MWNT for Enhanced Adhesives</i>	<i>Stefanie A. Sydlik</i>	
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<i>Exerting precise control over growth factor delivery from Layer-by-layer films for orthopedic applications</i>	<i>Nisarg J. Shah</i>	
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<u>Title</u>	<u>Name</u>	<u>Prize</u>
<i>Fabrication of 30nm Inverted Pyramids using Block Copolymer Self-Assembly</i>	<i>Kevin W Gotrik</i>	
<i>Fabrication of Nitroaromatic Sensors via Initiated Chemical Vapor Deposition</i>	<i>Christy D. Petruczok</i>	<i>Honorable Mention-Early</i>
<i>Formulating Poly(<math>\beta</math>-amino Ester)s as Delivery Agents for siRNA</i>	<i>Abigail K. Lytton-Jean</i>	
<i>Free Surface Electrospinning from a Wire Electrode</i>	<i>Keith M. Forward</i>	
<i>High Impact Polymer Microdomain Structures</i>	<i>Jae-Hwang Lee</i>	
<i>High Surface Area and Label-Free Chemiresistive Biosensor</i>	<i>Dhiman Bhattacharyya</i>	
<i>Hyaluronic Acid mediated B Lymphocyte Polyelectrolyte Multilayers stack</i>	<i>Girma T. Endale</i>	
<i>Hydrate-phobic surfaces</i>	<i>Jonathan D. Smith</i>	
<i>Hydrogen-bonded layer-by-layer films composed of poly(vinyl alcohol) and poly(acrylic acid)</i>	<i>Hyomin Lee</i>	

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<u>Title</u>	<u>Name</u>	<u>Prize</u>
<i>Influence of Macromolecular Crowding On Cytoskeletal and ECM Structure in Human Mesenchymal Stem Cells</i>	<i>Adam S. Zeiger</i>	
<i>Interactions of aquatic birds with water: wettability and robustness of feather structure</i>	<i>Jesus O. Guardado</i>	
<i>Intracellular Disassembly of Block Copolymer-DNA Micelles</i>	<i>Daniel K. Bonner</i>	<i>First-Senior</i>
<i>Layer-by-Layer Assembly in Confined Geometries</i>	<i>Jonathan P. DeRocher</i>	
<i>Layer-by-layer assembly of Conducting Membranes</i>	<i>Nicole Davis</i>	
<i>Layer-by-Layer Film of Polyaniline Nanofiber/Multiwalled Carbon Nanotube and its Electrochemical Properties</i>	<i>Md Nasim Hyder</i>	
<i>Layer-by-Layer Nanoparticles for Targeted Drug Delivery</i>	<i>Stephen Morton</i>	
<i>Linear-dendritic polymer micelle with different degree of EGFR ligands conjugation for anticancer drug delivery</i>	<i>Dongsook Chang</i>	
<i>Mathematical Modeling of Drug-Eluting Stents with Biodegradable Polymer Coating</i>	<i>Xiaoxiang Zhu</i>	

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<u>Title</u>	<u>Name</u>	<u>Prize</u>
<i>Modeling Membrane Penetration by Striped Nanoparticles</i>	<i>Reid C. Van Lehn</i>	
<i>New, Low Temperature, Reversible Photo-Responsive Liquid Crystal Polymer: Synthesis and Testing</i>	<i>Michael T. Petr</i>	
<i>Phase behavior of disk-coil molecules</i>	<i>YongJoo Kim</i>	
<i>Planarizing organosilicon polymer deposited by initiated plasma CVD for barrier application</i>	<i>Anna Maria Coclite</i>	
<i>Polymer-Based Catch-Bonds</i>	<i>Hsieh Chen</i>	
<i>Responsive block copolymer photonic gels: dynamic swelling / temperature responses</i>	<i>Yin Fan</i>	
<i>Reversibly swellable polymer nanotubes</i>	<i>Gary Chia</i>	
<i>Rheology of Globular Proteins</i>	<i>Aditya Jaishankar</i>	
<i>Rigid Hydrophilic Structures for Improved Properties of Conjugated Polymers in Water and Applications in Biosensing</i>	<i>Brett VanVeller</i>	<i>Honorable Mention-Senior</i>

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<u>Title</u>	<u>Name</u>	<u>Prize</u>
<i>Self Consistent Field Theory Modeling for Optimizing Block Copolymer Nanolithography</i>	<i>Adam F. Hannon</i>	
<i>Self-Assembly and Its Impact on Interfacial Charge Transfer in Carbon Nanotube/Poly(3-hexylthiophene) Solar Cells</i>	<i>Marco Bernardi</i>	
<i>Soft glassy rheology and the variation in cell mechanical behavior</i>	<i>John Maloney</i>	
<i>Solution Spraying of Poly(methyl methacrylate) Blends to Fabricate Micro-textured, Superoleophobic Surfaces</i>	<i>Siddarth Srinivasan</i>	
<i>Stagnation point extensional flow of a worm-like micellar solution in a microfluidic cross-slot device</i>	<i>Simon J. Haward</i>	
<i>Stop-flow Lithography: A Platform for Complex Particle Synthesis</i>	<i>Priyadarshi Panda</i>	<i>Second-Senior</i>
<i>Surface Charge Effect in Magnet-assisted Transfection</i>	<i>David Miranda-Nieves</i>	
<i>Surface-Tethered Zwitterionic Ultrathin Antifouling Coatings on Reverse Osmosis Membranes by initiated Chemical Vapor Deposition</i>	<i>Rong Yang</i>	
<i>Temperature Responsive Polymer Thin Films via LbL Assembly of Block Copolymers</i>	<i>Wui Siew Tan</i>	<i>Honorable Mention-Senior</i>

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<u>Title</u>	<u>Name</u>	<u>Prize</u>
<i>Templating with Colloids - Optical Properties of Hollow Silica Spheres and Patterning of Hetero-Structured Monolayers</i>	<i>Markus Retsch</i>	
<i>The Effects of Side Group Functionality and Molecular Weight on the Activity of Synthetic Antimicrobial Polypeptides</i>	<i>Srav Puranam</i>	
<i>The Functionalization of Graphitic Materials with Macrocyclic Ligands</i>	<i>Barney Walker</i>	
<i>The role of physicochemical property of liquid and textured surfaces on the rebound behavior of complex liquid droplets</i>	<i>Kyoo Chul Park</i>	
<i>Thin Film Shape Memory Polymers via Initiated Chemical Vapor Deposition</i>	<i>Derek M. Smith</i>	
<i>Toughening of Protein-Based Physical Hydrogels for Injectable Biomaterials</i>	<i>Matthew J. Glassman</i>	<i>First-Early</i>
<i>Understanding the phase behavior and equilibration kinetics of PDMS-containing block copolymers</i>	<i>Charlotte R. Stewart-Sloan</i>	