Program

8 a.m.	***Registration & Continental Breakfast***			
8:40 a.m.	***3-210: Opening Remarks by William Tolman, Department Chair***			
	Session I 3-111	**Session II 3-115**	**Session III 3-125**	**Session IV 3-210**
Judges	Andrew Magee Michael Bowser Steven Kass	Joseph Schroeder Thomas Hoye Lawrence Que Jr.	Karen Schultz Doreen Leopold Timothy Lodge	Kristi Fjare Sandy Lipsky Donald Truhlar
9-9:30 a.m.	**Adam Dittmer** *Potentiometric Stir Tests to Investigate Biofouling of ISE Membranes* (Philippe Buhlmann, adviser)	**Reed J. Eisenhart** *Exposing the Metal-Metal Bond in Low-Coordinate Systems* (Connie Lu, adviser)	**Victoria Chemistruck** *Examining the Structure-Property Relationship of Single-Crystal Organic Semiconductors* (Christopher Douglas & C. Daniel Frisbie, advisers)	**Angel D. Cortés-Morales** *Exploring Double Retrograde Vaporization Using Monte Carlo Simulations and Equations of State* (J. Ilja Siepmann, adviser)
9:30-10 a.m.	**Antonio Campos** *Detection of Ricin B Chain in Whole-Human Blood Using Surface-Enhanced Raman Spectroscopy* (Christy Haynes, adviser)	**Scott T. Kleespies** *Oxidation of Strong C-H Bonds by a Powerful O_2-Derived Iron(IV)-Oxo Species* (Lawrence Que Jr., adviser)	**Andrew R. Michel** *Highly Loaded PEG-b-PLGA Nanoparticles of Taxane Silicates to Optimize the Therapeutic Window of the Chemotherapy* (Thomas Hoye, adviser)	**Eric M. Nordland** *Ultrafast Studies of Rhodium-Isocyanide Complexes* (David Blank, adviser)
10-10:30 a.m.	**Jesse L. Carey III** *Fluorous Polymers for Ion-Selective Electrodes* (Philippe Buhlmann, adviser)	**Jeffrey S. Vervacke** *Design and Synthesis of Functionalized Peptides to Study Lsoprenylcysteine Carboxyl Methyltransferase* (Mark Distefano, adviser)	**Joshua P. Halverson** *Hetero-Valent Doping of CdSe* (Wayne Gladfelter, adviser)	**Jonggul J Kim** *Allosteric Regulation of Protein Kinase A* (Gianluidi Veglia, adviser)
10:30-11 a.m.	**Solaire Finkenstaedt-Quinn** *Fluorescence Imaging to Elucidate the Role of the Cytoskeleton in Platelet Activation* (Christy Haynes, adviser)	**Nicholas G. Moon** *I^{III} Promoted Oxidative Cyclization of N-allylamides and the Development of a Viable Synthetic Route to Symmetric E-Divinylcarbinols with Terminal Allylic Acetates* (Andrew Harned, adviser)	**John W. McAllister** *Fibrillar Structure of Methylcellulose Hydrogels* (Frank Bates & Timothy Lodge, advisers)	**Rebecca K. Lindsey** *A New Approach to Column Pair Selection for Two-Dimensional Liquid Chromatography* (J. Ilja Siepmann, adviser)
11-11:30 a.m.	**Matthew L. Geiger** *Nano-liquid Chromatography Coupled with Micro Free-Flow Electrophoresis for Multi-Dimensional Separations of Peptides* (Michael Bowser, adviser)	**Zhongda Pan** *Developing Catalytic Transformations via the Activation and Functionalization of C–CN, N–CN and C–O Bonds* (Christopher Douglas, adviser)	**Davood Taherinia** *Electrical Characterization of π-conjugated Molecular Wires by Conductive Probe Atomic Force Microscopy (CP-AFM)* (C. Daniel Frisbie, adviser)	**William C. Isley III** *Relationship between ^1H Paramagnetic Chemical Shifts and Coordination Environments in FeN_6 Compounds* (Christopher Cramer, adviser)
11:30 a.m.-noon	**Michelle M. Henderson** *Comparing the Proteomes of Control and Autophagy-Inhibited Myoblasts Using Atg7 siRNA and Quantitative Proteomics* (Edgar Arriaga, adviser)	**Mayank Puri** *Mechanistic Insights into the Oxygen-Atom Exchange Reaction Between H_2O and Non-Heme Iron(IV)-Oxo Complexes* (Lawrence Que Jr., adviser)	**Benjamin Wilson** *Effects of Pore Architecture on Capacitance of Mesoporous Carbon-Based Supercapacitors* (Andreas Stein, adviser)	**Christopher J. Huber** *2D-IR Vibrational Spectroscopy: An Investigation of Confined Solvent Dynamics within Silica Glass* (Aaron Massari, adviser)

Program

noon-1 p.m.	*Lunch*			
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1-1:30 p.m.	**Amy L. Hogerton** *In Vitro-Microdialysis Coupled with High-Speed Capillary Electrophoresis to Monitor Neurochemical Signaling from Astrocytes* (Michael Bowser, adviser)		**Yaoying Wu** *Structural Impact and Targeting Effect of Diblock Glycopolymer pDNA Delivery System* (Theresa Reineke, adviser)	
1:30-2 p.m.	**Katie R. Hurley** *Imaging, Drug Delivery, and Magnetic Fluid Hyperthermia with Iron Oxide and Mesoporous Silica Nanoparticles* (Christy Haynes, adviser)	**Christopher J. Roberts** *Recent Progress in Highly Reduced Arene and Polyarene Complexes of Niobium and Copper* (John Ellis, adviser)	**Ellis J. Warner** *Atomic Layer Deposition of ZnO, SnO_2, and Zinc Tin Oxide Films Using Organometallic Precursors and Ozone: A Combined Computational and Experimental Approach* (Wayne Gladfelter, adviser)	**Pavel L. Rehak** *Dynamics of Ionic Liquid 1-ethyl-3-nmethylimidazolium Acetate: Comparison between CHARMM and XPOL Force Fields* (Jiali Gao, adviser)
2-2:30 p.m.	**Deirdre Manion-Fischer** *Identifying and Quantifying Mitochondrial DNA Damage and Mutations with the Progression of Age-Related Macular Degeneration* (Edgar Arriaga, adviser)	**Kenneth J. Tritch** *Condensations of Indole with Cyclic Ketones* (Wayland Noland, adviser)	**Zhen Ren** *Toughening Polylactide with Castor Oil Derivatives* (Marc Hillmyer, adviser)	**Jennifer A. Soltiis** *Iron Oxide Nanocrystal Growth by Oriented Aggregation* (R. Lee Penn, adviser)
2:30-3 p.m.	**Maral P.S. Mousavi** *Characterization of Silver Ion Dissolution from Silver Nanoparticles Using Fluorous-Phase Ion-Selective Electrodes and Assessment of Resultant Toxicity to Shewanella Oneidensis* (Philippe Buhlmann, adviser)	**Mohammad Mohsen Mahmoodi** *Development of Light Activable Cysteine Protected Peptides to Study Protein Prenylation* (Mark Distefano, adviser)	**Dustin Sprouse** *Block vs. Statistical Copolymers for Gene Delivery* (Theresa Reineke, adviser)	**Amanda M. Stemig** *Evolving Reactivity of Iron Oxide Nanoparticles: Effects of Changes in Aggregation State on the Kinetics of Pollutant Degradation* (R. Lee Penn & Bill A. Arnold, advisers)
3 p.m.	***Reception***			
3:30 p.m.	***3-210: Awards Presentations***			