

ACS Division of Environmental Chemistry

35th Northeast Regional Meeting of the American Chemical Society

NERM 2008

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Sunday, June 29, 2008

10:00 AM - 12:30 PM

POGIL Symposium I

Emerald I

Organizer: David W. Parkin, Adelphi University

- 10:00** **1** POGIL and the POGIL Project. **Frank J. Creegan**, Washington College
- 10:30** **2** Research Perspectives on POGIL: Theoretical Underpinnings and Empirical Evidence. **Christopher F. Bauer**, University of New Hampshire
- 11:00** **3** Learning to Teach. **Sue Greenfield**, University of Vermont
- 11:30** **4** Reflections on Active Learning. **Robert Lippman**, Adelphi University
- 12:00** **5** Use of "Clickers" to Increase Engagement and Student Learning. **Daniel B. King**, Drexel University

1:00 PM - 4:30 PM

Organometallic Chemistry of the Group 15 Elements I

Diamond I

Organizer: Rory Waterman, University of Vermont

Presider: Rory Waterman, University of Vermont

- 1:00** **6** Metals and Group 15 Elements: Together at Last. **Rory Waterman**, University of Vermont
- 1:10** **7** Building Organic Molecules from Molecular Nitrogen. **Paul J. Chirik**, Doris Pun and Donald Knobloch, Cornell University
- 1:40** **8** Iron Coordination Chemistry Inspired by Nitrogenase. **Patrick L. Holland**, University of Rochester
- 2:10** **9** Unsaturated Phosphorus Intermediates. **Christopher Cummins**, Nicholas Piro, Brandi Cossairt and Heather Spinney, Massachusetts Institute of Technology
- 2:40** Break.

- 3:00** **10** Metal-Catalyzed Asymmetric Synthesis of P-Stereogenic Phosphines. **David S. Glueck**, Dartmouth College
- 3:30** **11** Synthesis of Primary and Secondary Phosphines from Grignard Reagents. **Carl A. Busacca**, Boehringer-Ingelheim Pharmaceuticals, Inc.
- 4:00** **12** Cyclo- and Poly(alkynylphosphazenes). **Christopher W. Allen**, University of Vermont

1:00 PM - 5:00 PM

Scanning Probe Microscopy In Modern Nanotechnology I

Diamond II

Organizer: Igor Sokolov, Clarkson University

Presider: Nancy A. Burnham, Worcester Polytechnic Institute

- 1:00** **13** General Introduction. **Igor Sokolov**, Clarkson University
- 1:05** **14** Measuring Molecular Forces with Ultrasmall-Amplitude AFM. **Peter M. Hoffmann**, Wayne State University
- 1:35** **15** Local Thermomechanical Characterization of Phase Transitions in Polymers Using Band Excitation Atomic Force Acoustic Microscopy with Heated Probe. **Maxim Nikiforov**¹, Peter Maksymovych², Stephen Jesse², Nina Balke³, Arthur P. Baddorf², Ramamoorthy Ramesh², Mark Huijben³ and Sergei V. Kalinin², (1)University of Pennsylvania, (2)Oak Ridge National Laboratory, (3)University of California Berkeley
- 2:05** **16** Low-Wear Variable-Slope Method of Lateral Force Calibration. **Saonti Chakraborty**, Derek Eggiman, Colin DeGraf, Keeley Stevens, Deli Liu and Nancy A. Burnham, Worcester Polytechnic Institute
- 2:25** **17** Adhesion Forces Between Polymer Surfaces and Self-Assembled Monolayers Investigated by Atomic Force Microscopy. **Jagdeep Singh** and James E. Whitten, Department of Chemistry and Center for High-Rate Nanomanufacturing, University of Massachusetts Lowell
- 2:45** Break.
- 3:15** **18** Detection of Process-Induced Dielectric Constant Gradients In Low K Dielectric

Materials. **Todd Gross**, University of New Hampshire

- 3:45** **19** Does Continuum Mechanics Break down In Interpreting Nanoscale Adhesion Data?. **Nancy A. Burnham**, Worcester Polytechnic Institute
- 4:15** **20** AFM Method of Measurement of Adhesion of Ceria Nanoparticles to Silica Wafers. **Dmitro Volkov**, Clarkson University
- 4:35** **21** Influence of the Roughness Exponent on Adhesion. **Deli Liu**¹, Jack Martin² and Nancy A. Burnham¹, (1)Worcester Polytechnic Institute, (2)Analog Devices Incorporated

2:00 PM - 4:40 PM

Chemistry Enthusiasts and History of Chemistry Joint Session

Emerald II

Organizer: Fiona Case, Case Scientific

Presiders: Fiona Case, Case Scientific, Marjorie E. Adams, ACS Green Mountain Local Section

- 2:00** **22** Glow! Green Fluorescent Protein. **Marc Zimmer**, Connecticut College
- 2:30** **23** History Lesson for 21st Century Chemists/Americans. **Donald G. Hicks**, Georgia State University
- 3:00** Break.
- 3:20** **24** Women Chemists In the National Inventors' Hall of Fame: Telling Their Stories. **Mary Virginia Orna**, College of New Rochelle
- 4:00** **25** There Has Never Been a Better Time to Be a Chemist. **John Warner**, Warner Babcock Institute

2:00 PM - 3:50 PM

Medicinal Chemistry and Synthetic Organic Methods across the Border (SOMAB) Joint Session

Amphitheater

Organizers: Scott Cowen, AstraZeneca
Victor Snieckus, Queen's University

- 2:00** **26** Synthetic Organic Methods across the Border. **Stephen Hanessian**, Université de Montréal

- 2:40** **27** Non-Covalent Inhibitors of Cathepsin L. **Enrico O. Purisima**¹, Shafinaz F. Chowdhury¹, Traian Sulea¹, Robert Menard¹, Mirek Cygler¹, Yasuo Konishi¹, Lissa Joseph² and Jayaram Sivaraman², (1)National Research Council Canada, (2)National University of Singapore
- 3:10** **28** Aspirin and Breast Cancer: Studies In Mice. **Vinay Likhite** and William D. Bush, Baroda Cancer Research Center
- 3:30** **29** Synthesis of Enantiomerically Pure (S)-Methanocarbaribo Uracil Nucleoside Derivatives. **Artem Melman**¹, Kenneth Jacobson², Victor E. Marquez³ and Minghong Zhong³, (1)Clarkson University, (2)NIH, NIDDK, (3)National Cancer Institute

2:00 PM - 5:20 PM

POGIL Symposium II

Emerald I

Organizer: David W. Parkin, Adelphi University

- 2:00** **30** POGIL In the High School Chemistry Classroom. **David M. Hanson** and Linda Padwa, Stony Brook University
- 2:30** **31** Creating a Meaningful Learning Environment for Nursing/Allied Health Students Using POGIL. **David W. Parkin**, Adelphi University
- 3:00** **32** POGIL in the Analytical Chemistry Class. **Anne Falke**, Worcester State College
- 3:30** Break.
- 3:50** **33** The Use of the POGIL Method in An Introductory Biochemistry Course. **Kathleen Cornely**, Providence College
- 4:20** **34** Designing POGIL-IC Activities. **Thomas R. Gilbert**, Northeastern University
- 4:50** **35** Implementation and Assessment of POGIL-IC Activities. **David M. Hanson**, Stony Brook University

6:00 PM - 7:30 PM

Opening Reception

Emerald III

Monday, June 30, 2008

8:30 AM - 12:00 PM

Environmental Chemistry I

Emerald III

Organizer: Theodore S. Dibble, SUNY-ESF

- 8:30 36** Major Findings from the PM2.5 Technology Assessment and Characterization Study In New York (PMTACS-NY) – a U.S. EPA “Supersite” Program. **Kenneth L. Demerjian**, University at Albany - State University of New York
- 9:00 37** The Application of Photo-Electron Resonance Capture Ionization Aerosol Mass Spectrometry (PERCI-AMS) to Organic Nitrogen Components of Atmospheric Particulate Matter. **Scott Geddes**, James Zahardis and Giuseppe A. Petrucci, University of Vermont
- 9:20 38** The Importance of Mass Loading on the Cloud Activation Potential of SOA. **Stephanie M. King**, Thomas Rosenoern, John E. Shilling, Qi Chen and Scot T. Martin, Harvard University
- 9:40 39** Bridging the Gap between Micro- and Macro-Scales Atmospheric Chemistry at Interfaces. **Parisa A. Ariya**, McGill University
- 10:10** Break.
- 10:30 40** Interaction of Oxalic Acid on Ice. **Liang T. Chu**, R. Jin and Hui Yan, Wadsworth Center, New York State Department of Health
- 10:50 41** Emissions of Biogenic Volatile Organic Compounds and Observations of VOC Oxidation at Harvard Forest. **Karena A. McKinney**¹, Andrew Vasta¹ and Hwan Lee², (1)Amherst College, (2)Harvard University
- 11:10 42** Quantum Chemical Studies of Atmospheric Chemistry. **Theodore S. Dibble**, SUNY-ESF
- 11:40 43** Spatial-Temporal Variability of Air Pollutants In Syracuse, NY. **Jennifer Ehrhardt**¹, Philip K. Hopke¹, Thomas Holsen¹, Edmund McAddy¹, Xing Wang², K. Max Zhang² and Myron J. Mitchell³, (1)Clarkson University, (2)Cornell University, (3)SUNY College of Environmental Science & Forestry

8:30 AM - 12:00 PM

Green Chemistry and SOMAB Joint Session on C-H Bond Activation

Emerald I

Organizers: Martin A. Walker, State University of New York College at Potsdam, Victor Snieckus, Queen's University

- 8:30 44** What Is Green Chemistry?. **Martin A. Walker**, State University of New York
- 8:45 45** Regioselective Functionalization of Unreactive C-H Bonds. **Olafs Daugulis**, University of Houston
- 9:20 46** Pd-Catalyzed Carbon-Carbon Bond Formation from C-H Bonds: Catalysis, Diastereoselectivity and Enantioselectivity. **Jin-Quan Yu**, Scripps Research Institute
- 9:55** Break.
- 10:25 47** Strategy to Form C-C Bond from the Reaction of CH and CH Bonds. **Chao-Jun Li**, McGill University
- 11:00 48** Minimizing Substrate Pre-Activation In Carbon-Carbon Bond Formation. **Keith Fagnou**, University of Ottawa
- 11:35 49** C-C Bond Formation Via Double C-H Functionalization: Aerobic Oxidative Coupling as a Method for Synthesizing Bisarenes. **Brenton DeBoef**, University of Rhode Island

8:30 AM - 12:10 PM

Medicinal Chemistry I

Amphitheater

Organizer: Scott Cowen, AstraZeneca

- 8:30 50** Diversity Oriented Synthesis of Small Molecule Heterocyclic Compound Libraries. **Brian T. Gregg**, John F. Quinn, Dmytro O. Tymoshenko, Kathryn C. Golden and Dana A. Razzano, AMRI
- 9:00 51** Aspects of Hit to Lead. **Adrian Hobson**, Abbott Bioresearch Center
- 9:30 52** Probing the Mechanism of Scheinfurthin Action: Synthesis and Biological Action of Fluorescent Schweinfurthin Analogs. **Jeffrey D. Neighbors**, Craig H. Kuder,

- Joseph J. Topczewski, Raymond J. Hohl and David F. Wiemer, University of Iowa
- 9:50 53** The Discovery of α -Carbolines as Peripherally-Restricted CB1 Agonists for the Treatment of Pain – Hit Generation and Hit to Lead. **Mirek Tomaszewski**, AstraZeneca R&D Montreal
- 10:10** Break.
- 10:30 54** Tetramic Acids and More: Discovery of Potent & Selective Leads Inhibiting Undecaprenyl Pyrophosphate Synthase (UPPS). **Stefan Peukert**, Novartis
- 11:00 55** The Path to a Potent, Selective and Orally Bioavailable C-Met Inhibitor with Antitumor Activity. **David Bauer**, Amgen Inc.
- 11:30 56** Discovery of Potent Calcitonin Gene-Related Peptide Receptor Antagonists for the Treatment of Migraine. **Prasad Chaturvedula**, Bristol-Myers Squibb Pharmaceutical Research Institute
- 11:50 57** Effective Reaction Screening, Development, and Scale-up Using Statistical Design of Experiments (DoE). **Andrei A. Zlota**, The Zlota Co., LLC

8:30 AM - 12:10 PM

Scanning Probe Microscopy In Modern Nanotechnology II

Diamond II

Organizer: Igor Sokolov, Clarkson University

Presider: Todd Gross, University of New Hampshire

- 8:30 58** Scanning near-Field Microwave Microscopy. Wenhai Han, Hassan Tanbakuchi and **Gilbert Min**, Agilent Technologies, Inc.
- 9:00 59** Piezoresponse Force Microscopy of Functional Materials. **Alexei Gruverman**, University of Nebraska-Lincoln
- 9:30 316** Characterization of Nanostructure of Polyurethane Biomaterials Under Aqueous Environment and Protein Adsorption on Surfaces by AFM. **Li-Chong Xu** and Christopher A. Siedlecki, Pennsylvania State University College of Medicine
- 9:50 61** Confined-Liquid Nanomechanics Measured by Combined Atomic Force Microscopy and Fluorescence Correlation Spectroscopy. **Venkatesh Subba-Rao**,

Mircea Pantea, Ashis Mukhopadhyay, Christopher Grabowski and Peter Hoffmann, Wayne State University

10:10 Break.

10:30 62 Scanning Probe Microscopy for Soft Materials: From Single Molecule Elasticity to Surface Forces. **Stefan Zauscher**, Duke University

11:00 63 Unravelling the Architecture and Structure-Function Relationships of Single Pathogens by *In Vitro* Atomic Force Microscopy. **Alexander J. Malkin**, Lawrence Livermore National Laboratory

11:30 64 Templating Gold Nanoparticles Via Self-Assembled Monolayers. **Xiaoliang Wei** and Matthew B. Zimmt, Brown University

11:50 65 Atomic Force Microscopy Detects Differences In the Surface Brush on Normal and Cancerous Cervical Cells. **Ravi M. Gaikwad**, Swaminathan Iyer, Venkatesh Subba-Rao, Craig D. Woodworth and Igor Sokolov, Clarkson University

8:40 AM - 10:00 AM

Organometallic Chemistry of the Group 15 Elements II

Diamond I

Organizer: Rory Waterman, University of Vermont

- 8:40 66** Zirconium Catalyzed Hydrophosphination of Terminal Alkynes. **Andrew J. Roering** and Rory Waterman, University of Vermont
- 9:00 67** Catalytic Nitrene Transfer from An Imidoiron(III) Complex. **Ryan E. Cowley**¹, Nathan A. Eckert¹, Jérôme Elhaïk¹, Serena DeBeer George² and Patrick L. Holland¹, (1)University of Rochester, (2)Stanford Synchrotron Radiation Laboratory
- 9:20 68** Insertion Reactivity of Zirconium-Arsenic Bonds. **Jillian J. Davidson**, Andrew J. Roering and Rory Waterman, University of Vermont
- 9:40 69** A New Route to Heterobimetallic Catalysts: The Deliberate Use of Bismuth(II) Trifluoroacetate as a Metalloligand toward Transition Metal Complexes. Evgeny V. Dikarev¹, Bo Li² and **Haitao Zhang**¹, (1)University at Albany, (2)Boston College

9:00 AM - 12:00 PM

Careers Symposium

Shelburne Room

Organizer: Fiona Case, Case Scientific

Presider: Fiona Case, Case Scientific

- 9:00** **75** Humor and Its Role In Chemistry. **Pete Ludovice**, Georgia Institute of Technology
- 9:40** **76** The Art of Networking and Tools to Aid In Rebuilding Your Broken Network. **Bill Suits**, ACS Careers Advisor
- 10:20** Break.
- 10:40** **77** The Seven Steps for Success In the Chemical Industry. **Peter R. Lantos**, The Target Group
- 11:20** **78** Nontraditional Career for Chemists: New Formulas for Chemistry Careers. **Lisa M. Balbes**, Balbes Consultants

9:00 AM - 11:50 AM

Chemistry Education

Valcour Room

Organizer: Martha McBride, Norwich University

- 9:00** **79** Using Structural Equation Modeling (SEM) to Diagnose Readiness and Predict Success In Gen-Chem at UNH, with a Chem-Math Problem-Solving Recitation to Serve at-Risk Students. **W. Cary Kilner**, University of New Hampshire
- 9:20** **80** Do Students Have Different Laboratory Learning Styles In General Chemistry?. **Mitchell Bruce**, François Amar, Barbara Stewart and Alice Bruce, University of Maine
- 9:40** **81** The Whole Is Better Than the Parts: Organic and General Chemistry Integrated through a Four Course Sequence, Using the Research Literature, Experimental Projects, and Student Exploration as a Vehicle. **John P. Bullock** and Janet B. Foley, Bennington College
- 10:00** **82** Study Abroad Opportunities for American Science Undergraduates. **Morton Z. Hoffman**, Boston University

10:20 Break.

10:40 **83** Analogical Demonstrations and Pictures Which Help Teach Chemical Concepts. **John J. Fortman**, Wright State University

11:20 **84** The Challenge of "Quant". **Robert de Levie**, Bowdoin College

9:00 AM - 12:05 PM

Peptides as Tools to Study Protein Function I

Kingsland Room

Organizer: Robert J. Hondal, University of Vermont, College of Medicine

- 9:00** **85** Folding of a Beta-Clam Protein: From the Test Tube to the Cell. **Lila M. Gierasch**¹, Kenneth S Rotondi¹, Anne Marie Marcelino¹, Beena Krishnan¹, Jiang Hong¹, Ivan Budyak¹, Harekrushnoo Sahoo¹, Qinghua Wang¹ and Zoya Ignatova², (1)University of Massachusetts Amherst, (2)Max Planck Institute of Biochemistry
- 9:45** **86** Native Chemical Ligation as An Important Tool in Protein Engineering. **Stevenson Flemer Jr.** and Robert J. Hondal, University of Vermont
- 10:15** Break.
- 10:35** **87** Understanding the Mechanism of SH3 Domain Binding to Peptide Using NMR Spectroscopy. **Jean-Philippe Demers** and Anthony Mittermaier, McGill University
- 11:05** **88** Conformational Analysis of N-Me Vicinal Disulfide Rings and Vicinal Diselenide Ring Reveal B-Turn Mimics. **Erik Ruggles** and Robert Hondal, University of Vermont
- 11:35** **89** Advances In 1) the Development of New Deprotection Chemistry for Cysteine and Selenocysteine Side Chain Protecting Groups and 2) the Synthesis of a New Selenocysteine Derivative That Have Applications In Peptide Synthesis. **Alayne Schroll**, Saint Michael's College and Robert Hondal, University of Vermont

9:15 AM - 11:55 AM

Chemistry Enthusiasts II: Modern Materials

Emerald II

Organizer: Fiona Case, Case Scientific

Presider: George K. Weller Jr., ACS Green Mountain Local Section

- 9:15 72** Polyester: You Wear It, You Love It, but Do You Know It? **Christopher W. Allen**, University of Vermont
- 9:50 71** The Nanocomposites Magic Show. **Thomas Twardowski**, Twardowski Scientific
- 10:25** Break.
- 10:45 73** Fiber Spinning: The Science behind Toothbrush Bristles, Cosmetic Brushes, Climbing Ropes, and Clothing. **Ray Mainer**, Monahan Filaments
- 11:20 74** The Chemistry of Film Capacitors. **Andrew E. Dequasie**, Retired

10:30 AM - 11:50 AM

Inorganic Chemistry General Sessions I

Diamond I

Organizer: Rory Waterman, University of Vermont

Presider: Michael J. Knapp, UMass Amherst

- 10:30 90** Molecular Modeling of Ebselen and Other Mimics of the Selenoprotein Glutathione Peroxidase. **Craig A. Bayse** and Sonia Antony, Old Dominion University
- 10:50 91** Tris(5-methylpyrazolyl)Methane: Synthesis and Its Iron(II) Complex. **M. Scott Goodman**¹, Margaret A. Goodman², Alexander Y. Nazarenko¹, William W. Brennessel³ and Zhanjie Li⁴, (1)SUNY College at Buffalo, (2)D'Youville College, (3)University of Rochester, (4)SUNY Buffalo
- 11:10 92** Novel Sensors That Selectively Detect Zn(II) Over Cd(II) and Hg(II). **Roy P. Planalp**¹, Daniel P. Kennedy¹, Antonio G. DiPasquale² and Arnie L Rheingold², (1)University of New Hampshire, (2)University of California - San Diego
- 11:30 93** Enhanced Electron-Transfer In Nanoparticle:Cytochrome C Hybrids. **Michael J. Knapp**, UMass Amherst

1:30 PM - 3:50 PM

Chemistry Enthusiasts III: Chemistry in Life

Diamond II

Organizer: Fiona Case, Case Scientific

Presider: Vinay Likhite, Baroda Cancer Research Center

- 1:30 94** The Production of Pharmaceuticals In Africa. **Rolande R. Hodel**, AIDSfreeAFRICA
- 2:05 95** The Diabetes Epidemic, Contributions of Chemistry to the Quality of Life. **Helen M. Free**, Bayer HealthCare, Diabetes Care (retired)
- 2:40 96** Love, Pain, and Chocolate. **Jeff Byers**, Middlebury College
- 3:15 97** Chemistry on the Internet. A Revolution In Chemical Information. **Martin A. Walker**, State University of New York

1:30 PM - 3:50 PM

Computers in Chemistry

Valcour Room

Organizer: Fiona Case, Case Scientific

Presider: Lisa M. Balbes, Balbes Consultants

- 1:30 98** Importance of Vibrational Zero-Point Energy to Relative Polymorph Energies for Hydrogen Bonded Species. **Bruce Hudson**, Sharon A. Rivera and Damian G. Allis, Syracuse University
- 1:50 99** Docking Studies of Dipeptides to Metabotropic Glutamate Receptors. **Sunanda Sukumar**¹, Benjamin Woo¹, N. Sukumar², Arshad S. Kokardekar², Judith Klein-Seetharaman³ and Kalyan C. Tirupula³, (1)Albany College of Pharmacy, (2)Rensselaer Polytechnic Institute, (3)University of Pittsburgh
- 2:10 100** Computation of Deuterium Isotope Effects on Proton Chemical Shift for Hydrocarbons. **Bruce Hudson**¹, Damian G Allis¹, John Baldwin¹, Shelly James¹, Katherine Morgera¹ and Daniel O'Leary², (1)Syracuse University, (2)Pomona College
- 2:30 101** Structures and Thermochemical Properties of Methyl Sulfinic Acid and Methyl

Sulfinic Methyl Ester and Radicals. Joseph W. Bozzelli and **Anjani Gunturu**, New Jersey Institute of Technology

- 2:50** **102** Enthalpy, Entropy, Heat Capacities, Internal Rotor Potentials and Bond Energies of Nitroalkanes and Alkyl Nitrites and Their Radicals. **Yui Snitsiriwat, Suarwee**, Rubik Asatryan and Joseph W. Bozzelli, New Jersey Institute of Technology
- 3:10** **103** Constructive Enumeration and Encoding of An Alkane-Series Dictionary Ordered by Side-Chain Complexity. **J. Scott Davidson**, retired
- 3:30** **104** Excel Add-Ins for College and Industry. **Robert de Levie**, Bowdoin College

1:30 PM - 3:30 PM

Environmental Chemistry II

Emerald III

Organizer: Theodore S. Dibble, SUNY-ESF

- 1:30** **105** How Are Changing Solar Ultraviolet Radiation and Climate Affecting Light-Induced Chemical Processes In Aquatic Environments?. **Richard G. Zepp**, US Environmental Protection Agency
- 2:00** **106** Oceanic Photochemistry: Particles Vs. Solutes. **Oliver C. Zafiriou**, Woods Hole Oceanographic Institution and Huixiang Xie, Universite de Quebec a Rimouski
- 2:20** **107** Elemental Carbon Concentrations In the Northeastern United States: Long-Term Trends and Implications to Global Warming. **Tanveer Ahmed**¹, A. J. Khan², Abdul Bari³, Kamal Swami⁴ and Liaquat Husain¹, (1)State University of New York, (2)Wadsworth Center, (3)Wadsworth Center, New York State Department of Health, (4)NYS Dept. of Health
- 2:40** **108** Regional Radiative Forcing by Elemental Carbon and Sulfate Aerosols at Northeastern United States from 1978-2007. **A. J. Khan**, Wadsworth Center and Liaquat Husain, State University of New York
- 3:00** **109** Sensitivity of U.S. Air Quality to Climate Change In the Recent Past (1980-2006) and Future (until 2050). **Loretta J. Mickley**, Eric M. Leibensperger, Shiliang Wu and Daniel J. Jacob, Harvard University

1:30 PM - 3:30 PM

Green Chemistry In Chemistry Education

Emerald I

Organizers: Martha McBride, Norwich University, Martin A. Walker, State University of New York
Presider: Martha McBride, Norwich University

- 1:30** **110** Green Chemistry In Education. **Amy S. Cannon**, Beyond Benign: A Warner Babcock Foundation
- 2:00** **111** Using Biodiesel to Teach General Chemistry Principles. **Richard W. Hartmann**, Nazareth College
- 2:30** **112** Solar Hydrogen Fuel Cell Labs in General Chemistry. **Scott J. Donnelly**, Arizona Western College
- 2:50** **173** Green Chemistry Labs; An Ongoing Process at Siena College. **Alicia B. Todaro** and Michael O'Brien, Siena College
- 3:10** **114** NOAA Teacher at Sea: Experiences In Marine Science In the Pacific Ocean. **Scott J. Donnelly**, Arizona Western College

1:30 PM - 3:50 PM

Inorganic Chemistry General Sessions II

Diamond I

Organizer: Rory Waterman, University of Vermont
Presiders: Michael C. Kimble, Reactive Innovations, LLC, Maureen A. Fagan, Smith College

- 1:30** **116** Chemical Models of DNA Binding Based on Ruthenium Compounds with Organic Side Chains. **Samantha Glazier**, Stephanie Walter and Kristin Berretta, St. Lawrence University
- 1:50** **117** Dynamics of the Reactions of Some Pentakis(alkylisocyanide)Cobalt(II) Complexes with Triarylphosphines. **Olayinka A. Oyetunji**, Godiraone Ramokongwa and Clifford A. L. Becker, University of Botswana
- 2:10** **118** The Rational Design of Turn-on Fluorescent Sensors for Fe(III). **Daniel P. Kennedy** and Shawn C. Burdette, University of Connecticut

- 2:30** **119** Synthesis and Water-Solubilization of High Quality Nanocrystals. **William W. Yu**, Worcester Polytechnic Institute
- 2:50** **120** Intense NIR Emission from Nanoscale Lanthanide Fluoride Clusters. **Michael D. Romanelli**, G. A. Kumar, Thomas J. Emge, Richard E. Riman and John G. Brennan, Rutgers University
- 3:10** **121** Synthesis, Structure and Magnetic Properties of Pyrazine-Based Ladders. Robert T. Butcher, Christopher P. Landee and **Mark M. Turnbull**, Clark University

1:30 PM - 4:00 PM

Synthetic Organic Methods across the Border, SOMAB 2008

Amphitheater

Organizers: Victor Snieckus, Queen's University, Toni Rantanen, Queen's University

- 1:30** **122** Flatland Metalation. Aiming for New Synthetic Methodologies for Aromatics and Heteroaromatics. **Toni Rantanen** and Victor Snieckus, Queen's University
- 2:00** **123** Iridium- and Palladium-Catalyzed Syntheses of (S)(+) and (R)(-) Coniine from Enantiopure Allylic Alcohols. **R. Jason Herr**, Matthew S. Dowling, Amanda C. Scampini and Tiffany M. Smith, Albany Molecular Research, Inc. (AMRI)
- 2:30** **124** Electron- or Hydrogen-Rich Species and Their Reactivity In Non-Volatile Solvents. **Jason Clyburne** and Marissa Bender, Saint Mary's University
- 2:50** **125** Towards Synthesis of New Tröger's Base Derivatives. **Erhad Ascic**¹, Michael Harmata², Kenneth Wärnmark³, Kristoffer Månsson³ and Victor Snieckus¹, (1)Queens University, (2)University of Missouri-Columbia, (3)Lund's University
- 3:10** **126** Zinc Carbenoid-Mediated Chain Extension: Formation of Peptide Isosteres. **Charles K. Zercher**, University of New Hampshire
- 3:30** **127** New Approaches to Functionalize Glycine Derivatives Via Direct C-C Bond Formation from C-H Bonds. **Liang Zhao** and Chao-Jun Li, McGill University

1:45 PM - 4:00 PM

Peptides as Tools to Study Protein Function II

Kingsland Room

Organizer: Robert Hondal, University of Vermont

- 1:45** **128** Probing Peptide Self-Assembly with Nonnatural Amino Acids. **Bradley L. Nilsson**, Xianfeng Gu and Derek Ryan, University of Rochester
- 2:30** **129** Peptides Derived from Proprotein Convertase Subtilisin Kexin 9 (PCSK9) Can Regulate Cholesterol Level by Modulating Its Functional Activity to Degrade LDL-Receptor. **Ajoy Basak** and Heather Palmer, Ottawa Health Research Institute, U Ottawa
- 3:00** **130** Synergistic Binding of Nuclear Co-Regulator Peptide Models to the Ligand Binding Domain of the Retinoic Acid Receptor Alpha. **Christopher S. Francklyn**, Mindy Farris, Astrid Lague, Zara Manuelyan and Jacob Statnekov, College of Medicine, University of Vermont
- 3:30** **131** Insights into Protein Stability by the Directed Assembly of Peptides. **Martin Case**, University of Vermont

2:00 PM - 4:00 PM

Analytical Chemistry General Sessions

Shelburne Room

Organizer: Ewa M. Pater, Plattsburgh State University of New York

- 2:00** **132** 2-Dimensional Stimulated Raman Spectroscopy of Anharmonic Vibrational Coupling. **David McCamant**, Kristina Wilson and Brendon Lyons, University of Rochester
- 2:20** **133** Aging Behavior of Master Bond EP29LPSP as Determined by Thermal Analysis. **Iris B. K. Bloom**, C. S. Draper Laboratory
- 2:40** **134** Ignitable Liquid Detection Using a Fluorescence-Based Vapor-Sensitive Microsphere Array. **Matthew J. Aernecke** and David R. Walt, Tufts University

3:00 **135** Headspace Microextraction into a Drop of Aqueous Solution: A Novel Approach In Microdiffusion Technique. **Alexander Y. Nazarenko**, SUNY College at Buffalo

4:30 PM - 6:30 PM

21st Century Energy Posters

Emerald Grand Ballroom

Organizers: Martin Case, Universtiy of Vermont, Fiona Case, Case Scientific

- 136** Photovoltaics beyond Conventional Silicon: Innovative Processes and Materials for Improved Solar Cell Efficiency. **Raghu Das**, IDTechEx
- 137** A Century of Spent Nuclear Fuel Management: A View from the Halfway Mark. **Andrew Orrell**, Sandia National Laboratories
- 138** Introduction to Hydrogen Technology. **Massoud Miri**¹, K.S.V. Santhanam¹, Alla V. Bailey¹, Gerald A. Takacs¹ and Roman Press², (1)Rochester Institute of Technology, (2)Alphacon, LLC

4:30 PM - 6:30 PM

Analytical Chemistry Posters

Emerald Grand Ballroom

Organizer: Ewa M. Pater, Plattsburgh State University of New York

- 139** 2-Dimensional Stimulated Raman Spectroscopy of Anharmonic Vibrational Coupling. **David McCamant**, Kristina Wilson and Brendon Lyons, University of Rochester
- 140** Headspace Microextraction into a Drop of Aqueous Solution: A Novel Approach In Microdiffusion Technique. **Alexander Y. Nazarenko**, SUNY College at Buffalo
- 141** GC-Fid/ms Determination of Hydroxyanthraquinones in Traditional Chinese Herbal Medicine Radix Polygoni Multiflori. **Yuegang Zuo**¹, Chengjun Wang¹, Jinwen Guo¹, Yuejuan Lin¹ and Yiwei Deng², (1)University of Massachusetts Dartmouth, (2)University of Michigan-Dearborn
- 142** Ion-Pair HPLC Determination of Steroid Hormones and Their Conjugates in Human Fluids. **Yuegang Zuo**¹, Yuejuan Lin¹ and Yiwei Deng², (1)University of Massachusetts Dartmouth, (2)University of Michigan-Dearborn

143 Variations In Chemiluminescence and Fluorescence Signals Due to Water Quality. **Maricar Tarun** and Stephane Mabic, Millipore Corporation

144 Impedance Spectroscopy Studies of Ionic Conducting Glasses. **Pat Nandakumar**, University of Texas of the Permian Basin

4:30 PM - 6:30 PM

Analytical Interfacial Science Posters

Emerald Grand Ballroom

Organizer: R.S. Helburn, Pace University

- 145** Structures of Amino-Functionalized Organic Films on Silicon Substrates Studied by Fourier-Transform Infrared Spectroscopy, Ellipsometry, and Fluorescence Microscopy. **Lai Sze Wan**, Catherine Fill, Paul Seidler and Jamie Kim, State University of New York, Buffalo State
- 146** Effects of Curing Conditions on the Structure and Reactivity of Amino-Functionalized Organic Films on Silicon Substrates Studied by FTIR, Ellipsometry, and Fluorescence Microscopy. **Catherine Fill**, Lai Sze Wan, Paul Seidler and Jamie Kim, State University of New York, Buffalo State
- 147** Preparation and Characterization of Bonded Fused Silica Fibers Coated with Single-Wall Carbon Nanotubes. **Q. Lu**¹, V. Samuilov¹, N. Koirala¹, P. Subedi¹, C. Singh² and R.S. Helburn², (1)St. John's University, (2)Pace University
- 148** Preparative SFC: Method Development to Scale-up. **Leslie Leith**, Dauh-Rung Wu, Peng Li, Dawn Sun and Balu Balasubramanian, Bristol-Myers Squibb Company
- 149** Highly Sensitive Microbiosensors for Monitoring Clinically Important Analytes In An Oxygen-Free Environment: An Example of Selective Detection Dopamine. **John I. Njagi**, Cristina R. Ispas and Silvana Andreescu, Clarkson University

4:30 PM - 6:30 PM

Chemical Biology Posters

Emerald Grand Ballroom

Organizer: Anthony C. Bishop, Amherst College

- 150 Biocatalysts for Biodegradable Plastics Production. **Christopher T. Nomura**, SUNY-ESF
- 151 Structural Diversity and Similarity Amongst Sulfotransferases: Humans to Ticks and beyond. **Roberta S. King**, Emine Bihter Yalcin and Scott M. Struzik, University of Rhode Island, College of Pharmacy
- 152 Enzymatic Synthesis of N-Acyl Sialic Acid Analogs. Stephen R. Houghton, **Benjamin R. Lundgren** and Christopher N. Boddy, Syracuse University
- 153 Identification of Differentially Abundant Proteins In Elicited California Poppy Cell Cultures. John T. Oldham, Marina Hincapie, Tomas Rejtar and **Carolyn W.T. Lee-Parsons**, Northeastern University
- 154 Self-Assembled Monolayer Based Quartz Crystal Microbalance Biosensor for the Detection of Endocrine Disrupting Chemicals. **Linda A. Luck**, Adam Layhee and Courtney L. Sipe, State University of New York at Plattsburgh
- 155 Preparing Warriors to Battle Disease with a Trojan-Horse Attack on the Model Cysteine Protease Papain. **Maely Cabral** and Edward Brush, Bridgewater State College
- 156 Determining the Limiting Steps In Alkaloid Biosynthesis from *Catharanthus Roseus* Cultures Using Gene Expression Analysis and Precursor Feeding. Sheba Goklany, Ralph H. Loring and **Carolyn W.T. Lee-Parsons**, Northeastern University
- 157 Forensic Analysis of Canine DNA Samples in the Undergraduate Biochemistry Laboratory. **Sharonda Q. Bradley**, Tobin M. Carson, Brenda L. Fekete and Julie T. Millard, Colby College
- 158 Cell Cycle Effects on the Cytotoxicity of DNA Cross-Linking Agents. **Megan L. Watts** and Julie T. Millard, Colby College
- 159 DNA Cross-Linking Activity of (1-chloroethenyl)Oxirane with Synthetic DNA Oligomers. **Brian A. Wadugu**, Rebecca J. Rowe and Julie T. Millard, Colby College
- 160 Oral Cancer and Role of Alpha Emission from ^{210}Po In Smokeless Tobacco (SLT). **Umme-Farzana Syed**, Wadsworth Center, New York Department of Health, Liaquat Husain, State University of New York and Abdul Bari, Wadsworth Center, New York State Department of Health
- 161 Characterization of a Fungal Polyketide Synthase Thioesterase: Identification of New Cross-Coupling Enzymatic Activity. **Meng Wang**¹, Hui Zhou², Yi Tang² and Christopher N. Boddy¹, (1)Syracuse University, (2)University of California
- 162 Inhibition of Cellular Thioredoxin Reductase by the Anticancer Prodrug Cloretazine. **Christopher Buros**, Tyler Schleicher and Kevin Peter Rice, Colby College
- 163 DNA Repair Events Associated with the Anticancer Prodrug Cloretazine. **Kristina Langenberg** and Kevin Peter Rice, Colby College
- 164 Polyketide Substrate Analogs: Investigating the TE Regiochemistry of Cyclization. Christopher N. Boddy and **Atahualpa Pinto**, Syracuse University
- 165 Allosteric Modulation of SULT2A1 by Celecoxib and Nimesulide: Computational Analyses. **Emine Bihter Yalcin** and Roberta S. King, University of Rhode Island, College of Pharmacy
- 166 Novel Sulfotransferase from Black-Legged Tick Sulfonates Dopamine and Octopamine. **Emine Bihter Yalcin**, Sivakamasundari Pichu, Thomas N. Mather and Roberta S. King, University of Rhode Island
- 167 Effect of *D*-Cysteine Insertion on the Catalysis of *Drosophila Melanogaster* Thioredoxin Reductase. **Adam P. Lothrop** and Robert J. Hondal, University of Vermont, College of Medicine
- 168 Functional and Structural Characterization of Resurrected Ancestral Lysozyme and Alpha-Lactalbumin Proteins. **Margarita Viera** and Douglas L. Theobald, Brandeis University
- 169 Improving the Intracellular Delivery and Efficacy of FANA Oligonucleotides through Lipophilic Conjugation. **Núria Bayó-Puxan**¹, Francis Robert², Jeremy Lackey², Mahmoud Elsabahy¹, Nada Wazen¹, Jerry Pelletier², Masad J. Damha² and Jean-Christophe Leroux¹, (1)University of Montreal, (2)McGill University
- 170 Ethylene's Involvement In the Photoperiod-Induced Flowering of *Pharbitis Nil* 'Violet' (Japanese morning glory). **Alison Fisher**, Quinn Conklin and Hillary Waterhouse, Norwich University

and Daniel O'Leary², (1)Syracuse University,
(2)Pomona College

4:30 PM - 6:30 PM

Chemical Educators Posters

Emerald Grand Ballroom

Organizer: Martha McBride, Norwich University

- 171** Using Structural Equation Modeling (SEM) to Diagnose Readiness and Predict Success In Gen-Chem at UNH, with a Chem-Math Problem-Solving Recitation to Serve at-Risk Students. **W. Cary Kilner**, University of New Hampshire
- 172** Photobleaching: A Hands-on Experience for Young Schoolchildren. **Oliver C. Zafiriou**, Woods Hole Oceanographic Institution, Debra McRoberts, East Falmouth Elementary School and Bei Zhao, Ohio State University
- 173** Green Chemistry Labs; An Ongoing Process at Siena College. **Alicia B. Todaro** and Michael O'Brien, Siena College
- 174** From Primo Levi to HPLC: Oral and Written Assignments for Chemistry Undergraduates. **Joy M. Heising**, Massachusetts College of Pharmacy and Health Sciences

4:30 PM - 6:30 PM

Computers In Chemistry Posters

Emerald Grand Ballroom

Organizer: Fiona Case, Case Scientific

- 175** Constructive Enumeration and Encoding of An Alkane-Series Dictionary Ordered by Side-Chain Complexity. **J. Scott Davidson**, None-retired
- 176** Importance of Vibrational Zero-Point Energy to Relative Polymorph Energies for Hydrogen Bonded Species. **Bruce Hudson**, Sharon A. Rivera and Damian G. Allis, Syracuse University
- 177** Computation of Deuterium Isotope Effects on Proton Chemical Shift for Hydrocarbons. **Bruce Hudson**¹, Damian G Allis¹, John Baldwin¹, Shelly James¹, Katherine Morgera¹

- 178** Docking Studies of Dipeptides to Metabotropic Glutamate Receptors. **Sunanda Sukumar**¹, Benjamin Woo¹, N. Sukumar², Arshad S. Kokardekar², Judith Klein-Seetharaman³ and Kalyan C. Tirupula³, (1)Albany College of Pharmacy, (2)Rensselaer Polytechnic Institute, (3)University of Pittsburgh
- 179** Structures and Thermochemical Properties of Methyl Sulfinic Acid and Methyl Sulfinic Methyl Ester and Radicals. Joseph W. Bozzelli and **Anjani Gunturu**, New Jersey Institute of Technology
- 180** Enthalpy, Entropy, Heat Capacities, Internal Rotor Potentials and Bond Energies of Nitroalkanes and Alkyl Nitrites and Their Radicals. **Yui Snitsiriwat**, **Suarwee**, Rubik Asatryan and Joseph W. Bozzelli, New Jersey Institute of Technology
- 181** Structural Requirements for the Post-Translational Green Fluorescent Protein Chromophore Formation. **Alicia L. Morgan**, Luisa A. Dickson and Marc Zimmer, Connecticut College
- 182** Structural Investigation of $KCa_2Nb_3O_{10}$ and Its Acidic Form $HCa_2Nb_3O_{10}^-$ Using Density Functional Theory for Calculations of NMR Parameters. **Jhashanath Adhikari** and Luis J. Smith, Clark University

4:30 PM - 6:30 PM

Environmental Chemistry Posters

Emerald Grand Ballroom

Organizer: Theodore S. Dibble, SUNY-ESF

- 183** Acute Toxicity Effect of Textile Effluent and Bioaccumulation of Its Iron (Fe) Content by Tilapia Niloticus and Clibanarius Africanus. **Suziat Deolu-Sobogun**, Texas Southern University
- 184** Development of a Direct Method to Measure Mercury Deposition. **Jiaoyan Huang** and Thomas M. Holsen, Clarkson University

- 185 Mercury Inputs, Outputs, Cycling, and Ambient Concentrations Under the Forest Canopy In the Adirondacks of New York. **Hyun-Deok Choi** and Thomas M. Holsen, Clarkson University
- 186 Determining Treatment Effects of Copper Sulfate and Carbaryl on *Ankistrodesmus Falcatus* Fluorescence Chlorophyll Chemistry. **Jamie L. Pinto**, Collin S. Roesler, Howard H. Patterson and John M. Peckenhams, University of Maine
- 187 Greening the Campus at SUNY-ESF. **Theodore S. Dibble** and Cornelius B. Murphy, SUNY-ESF
- 188 ICP-MS Determination of Lead Isotope Ratios In Legal and Counterfeit Cigarette Tobacco Samples. **Christopher D. Judd** and Kamal Swami, NYS Dept. of Health
- 189 Isoprene and Monoterpene Emissions from Duke Forest: A Comparison of Ambient and Elevated CO₂ Environments. **Barkley C. Sive**, Yong Zhou, Rachel Russo, Marguerite White, Ruth Varner, Jesse Ambrose, Elizabeth Frinak, Huiting Mao and Robert Talbot, University of New Hampshire
- 190 Mercury Transport Following Storm Events from a Northern Forest Landscape. **Joseph T. Bushey**¹, Charles T. Driscoll², Myron J. Mitchell³, Pranesh Selvendiran² and Mario R. Montesdeoca², (1)University of Connecticut, (2)Syracuse University, (3)SUNY College of Environmental Science & Forestry
- 191 Nighttime Nitrate Radical Chemistry at Appledore Island, Maine during the 2004 International Consortium for Atmospheric Research on Transport and Transformation. **Jesse L. Ambrose**¹, Huiting Mao¹, Howard R. Mayne¹, Jochen Stutz², Robert Talbot¹ and Barkley C. Sive¹, (1)University of New Hampshire, (2)University of California, Los Angeles
- 192 Characterizing Benzene and Other Air Toxics In Akwesasne (NY). **Rui Li**¹, Philip K. Hopke², Sheila Kalenge² and Alan Rossner², (1)Clarkson University, (2)Clarkson University
- 193 A Multiyear Study of Ultrafine Particle Number Size Distributions and Growth Events In Rochester, NY. **John Kasumba**¹, Philip K. Hopke², Mark Utell³ and David Chalupa³, (1)Clarkson University, (2)Clarkson University, (3)University of Rochester
- 194 Diurnal Variability, Sources, and Sinks of Alkyl Nitrates In Coastal New England. **Rachel S. Russo**¹, Yong Zhou¹, Jesse Ambrose¹, Karl Haase¹, Robert Talbot¹, Barkley C. Sive¹ and Oliver W. Wingenter², (1)University of New Hampshire, (2)New Mexico Institute of Mining and Technology
- 195 Calibration of Acetic Acid for Atmospheric Measurement Using PTR-MS. **Karl Haase**, Barkley Sive, Howard Mayne, Alex Pszenny, Carsten Nielsen and Robert Talbot, University of New Hampshire
- 196 Volatile Organic Compounds In Northern New England Marine and Continental Environments. **Marguerite White**¹, Rachel Russo¹, Yong Zhou¹, Jesse Ambrose¹, Karl Haase¹, Leanna Conway¹, Elizabeth Frinak¹, Oliver W. Wingenter², Ruth Varner¹, Huiting Mao¹, Robert Talbot¹ and Barkley Sive¹, (1)University of New Hampshire, (2)New Mexico Institute of Mining and Technology
- 197 Atmospheric Aging of Biodiesel Exhaust Particles. **N. Tucker Stevens**, Dan Nielsen and Britt A. Holmen, The University of Vermont
- 198 Determination of Toxaphene In Fish Samples by GC/MS. **Xiaoyan Xia**¹, Bernard S. Crimmins¹, Philip K. Hopke¹, Thomas M. Holsen¹, James J. Pagano² and Michael S. Milligan³, (1)Clarkson University, (2)State University of New York at Oswego, (3)State University of New York at Fredonia
- 199 Comparison of Extraction Techniques for Size Resolved Analysis of Engine Combustion Particulate Matter with Ozone. **Dan Nielsen**, N. Tucker Stevens and Britt A. Holmen, The University of Vermont
- 200 Design and Construction of a Chemical Ionization Mass Spectrometer (CIMS) for Ambient Nitryl Chloride Analysis. **Leanna D. Conway**, Elizabeth K. Frinak, Robert W. Talbot, Barkley C. Sive and Howard R. Mayne, University of New Hampshire
- 201 PTR-MS Measurements of VOCs at Thompson Farm, NH, 2004-Present. **Elizabeth K. Frinak**, Carolyn E. Jordan, Tod K. Hagan, Karl B. Haase, Robert W. Talbot and Barkley C. Sive, University of New Hampshire
- 202 Isolation and Quantification of Elemental Carbon In Lake Sediments. **Kamal Swami**, A. J. Khan, Tanveer Ahmed, A. Bari and Liaquat Husain, NYS Dept. of Health

- 203 Studies of Phosphatases In Tioga and Hammond Lakes. **Brianna J. Welch** and Barry R. Ganong, Mansfield University of Pennsylvania
- 204 Initial Characterization of Acid Phosphatases from the Tioga River. **Beth A. Keck** and Barry R. Ganong, Mansfield University of Pennsylvania
- 205 Characterization of Phosphatases In Tioga River Sediments. **Jamie L. Pollot** and Barry R. Ganong, Mansfield University of Pennsylvania
- 206 Bromoform and Dibromomethane Measurements In the Seacoast Region of New Hampshire, 2002–2004. **Yong Zhou**¹, Huiting Mao¹, Rachel S. Russo¹, Donald Blake², Oliver W. Wingenter³, Karl Haase¹, Jesse Ambrose¹, Marguerite White¹, Ruth Varner¹, Robert Talbot¹ and Barkley C. Sive¹, (1)University of New Hampshire, (2)University of California, Irvine, (3)New Mexico Institute of Mining and Technology
- 207 Distinct Transport Mechanisms of Road Salt In New England Watersheds - Multivariate Statistical Analysis of Dissolved Constituents. Constantin Andronache, **Rudolph Hon**, Qing Xian, Newton Tedder and Barry Schaudt, Boston College
- 208 Characterization of Benzene and Other Air Toxics at Akwesasne. **Sheila Kalenge**, Philip K. Hopke and Alan Rossner, Clarkson University
- 209 Kinetic Modeling of Humid Air Chemistry during Electron Beam Exposure. **Karen L. Schmitt**, State University of New York College of Environmental Science and Forestry and Theodore S. Dibble, SUNY-ESF
- 210 Effect of Sediment Organic Carbon on Mercury Uptake by Aquatic Macrophytes. **Bernd G. Neumann**, University at Albany, State University of New York
- 211 Cross Effects Between Vapor Condensation and Brownian Coagulation In Marine Fog. **Marek A. Sitariski**, Husson College
- 212 Arsenic Testing of Private Groundwater Wells In New England. **Teresia Moller** and Dan Shepard, SolmeteX
- 213 ESEM-Eds Analysis of Heavy Metal Accumulation by Periphyton. **Garrett J. McGowan** and Erin Letovsky, Alfred University
- 214 Importance of Dimethylsulfoxide In the Marine Sulfur Cycle. **Christopher E. Spiess**¹, David J. Kieber¹, Daniella del Valle² and Ronald P. Kiene², (1)SUNY-ESF, (2)University of South Alabama
- 215 Spin Trapping for Identification and Characterization of Particle-Bound Reactive Radical Species. **Jelica Pavlovic**, Xi Chen and Philip K. Hopke, Clarkson University
- 216 Interactions and Reactivity of Hg(II) on Glutathione-Modified Gold Piezoelectrode Studied by EQCN Technique. **Julia Dallas** and Maria R. Hepel, State University of New York at Potsdam
- 4:30 PM - 6:30 PM
- Green Chemistry Posters**
Emerald Grand Ballroom
Organizer: Martin A. Walker, State University of New York
- 217 Development of Analytical Methods to Evaluate the Purity of Biodiesel Produced from Waste Vegetable Oils. **Julianne Martell** and Edward Brush, Bridgewater State College
- 218 Investigating the Cost-Benefit Feasibility of Producing Biodiesel from Waste Vegetable Oil. **Amanda Bragan** and Edward Brush, Bridgewater State College
- 219 Polymerization Using Acne Cream. **Jeffrey Lucas**, Alicia B. Todaro, Karen S. Quaal and Kevin Kittredge, Siena College
- 220 Solventless Microwave Reductions of Ketones. **Renee E. Fowble**, Alicia B. Todaro and Kevin Kittredge, Siena College
- 221 Red Cabbage Indicator as a Viable Natural Fabric Dye. **Daniel Henderson** and Christine H. Jaworek-Lopes, Emmanuel College
- 222 Have Greener Alternatives Reduced the Use of Formaldehyde In Copper Plating?. **Jack D. Fellman**, Greener Chemistry Associates LLC
- 4:30 PM - 6:30 PM
- Inorganic Chemistry Posters**
Emerald Grand Ballroom
Organizer: Rory Waterman, University of Vermont
- 224 Dynamics of the Reactions of Some Pentakis(alkylisocyanide)Cobalt(II) Complexes with Triarylphosphines. **Olayinka**

- A. Oyetunji**, Godiraone Ramokongwa and Clifford A. L. Becker, University of Botswana
- 225** Molecular Modeling of Ebselen and Other Mimics of the Selenoprotein Glutathione Peroxidase. **Craig A. Bayse** and Sonia Antony, Old Dominion University
- 226** Synthesis and Water-Solubilization of High Quality Nanocrystals. **William W. Yu**, Worcester Polytechnic Institute
- 227** Tris(5-methylpyrazolyl)Methane: Synthesis and Its Iron(II) Complex. **M. Scott Goodman**¹, Margaret A. Goodman², Alexander Y. Nazarenko¹, William W. Brennessel³ and Zhanjie Li⁴, (1)SUNY College at Buffalo, (2)D'Youville College, (3)University of Rochester, (4)SUNY Buffalo
- 228** Selective Oxidation of Organic Compounds Using Mo/v Polyoxometalates Immobilized on Mesoporous Silica. **Rani Jha** and Christopher C. Landry, University of Vermont
- 229** Room Temperature Oxidation of 2-Chloroethyl-Ethylsulfide (CEES) Using Acid Prepared Mesoporous Silica (APMS) Supported Oxo Vanadium Catalysts. **Rahul S. Patel** and Christopher C. Landry, University of Vermont
- 230** Mechanistic Studies of the Lability of Palladium Enolate Ligands. **Maureen A. Fagan**, Katherine Kornecki and Paninya Masrangsang, Smith College
- 231** Synthesis, Structure, and Magnetic Properties of Bis(3-amino-2-chloropyridinium) Tetrahalocuprate (II) [Halogen= Cl or Br]. **Susan N. Herringer**, Robert T. Butcher, Christopher P. Landee and Mark M. Turnbull, Clark University
- 232** Copper Halide Complexes of 2,2'-Dimethyl-4,4'-Bipyridine. **David J. Carnevale**, Christopher P Landee and Mark M. Turnbull, Clark University
- 233** Coordination Chemistry of Group 12 Thiocyanate Complexes Containing the Pyrazine Moiety. Paula Secondo¹, **Anita Jayavikraman**¹ and Russell Baughman², (1)Western Connecticut State University, (2)Truman State University
- 234** Further Investigation of the Pd-Pd Bond. **Dan Graham**, Claudia M. Fafard, Chun-Hsing Chen, Bruce M. Foxman and Oleg V. Ozerov, Brandeis University
- 235** The Oxidation of Carbon Monoxide In Hydrogen by Zeolite-Supported Photocatalysts. **Robert Gomez** and Howard H. Patterson, University of Maine
- 236** Luminescence of Heterogeneous Nanoclusters Containing d⁸ and d¹⁰ Ions with Energy Transfer to Tb³⁺Lanthanide Acceptor Ions In Aqueous Solution. **Zhonghua Guo**, David Welch, Shaun Christian, Nathan Cookson and Howard H. Patterson, University of Maine at Orono
- 237** Anodic Electrochemistry of Tp*Re(CO)₃. **Kan Wu** and William E. Geiger, UNIVERSITY OF VERMONT
- 238** Photochemical Reactivity of Two Gold(I) Dinuclear Complex, *Cis/trans*-(Au ρ NBT)₂dppee. A Story with a Radical Twist. **Janet B. Foley** and Angela Herring, Bennington College
- 239** Preparation of Polymerizable Cu²⁺ Receptors for Use In Novel Fluorescent Sensors. **Nicholas E. Bencivenga**¹, Roy P. Planalp¹, Jie Du¹, Shaojun Yao¹, W. Rudolf Seitz¹, Randy K. Jackson², Daniel P. Kennedy² and Shawn C. Burdette², (1)University of New Hampshire, (2)University of Connecticut
- 240** Insight into Metal-Mediated Thiol-Disulfide Exchange. **Asela Chandrasoma**, Alice Bruce and Mitchell Bruce, University of Maine
- 241** Gold(I)-Mediated Disulfide Exchange Kinetics as a Function of Solvent Dielectric Constant. **Mostapha Aghamoosa**, Benjamin Briggs, Erik Harriman, Andrew Cashman, Alice Bruce and Mitchell Bruce, University of Maine
- 4:30 PM - 6:30 PM
- Layered Materials Posters**
Emerald Grand Ballroom
Organizer: Willem R. Leenstra, University of Vermont
- 242** Organosilicon Polymer Nanocomposites. **Michelle A. Boucher**¹, Brendon Miller¹, Aaron Crandall¹ and Malcolm E. Kenney², (1)Utica College, (2)Case Western Reserve University
- 243** Exploring the Local Structure of Layered Niobate Materials by ⁹³Nb Solid State NMR. **Xuefeng Wang** and Luis J. Smith, Clark University
- 244** Fabrication and Characterization of Self-Assembled Thin Film Materials for Colorimetric Sensing of Organic Pollutants. **Jason P. Marion**, Amanda C. Paske and Jodi L. O'Donnell, Siena College

4:30 PM - 6:30 PM

Medicinal Chemistry Posters

Emerald Grand Ballroom

Organizer: Scott Cowen, AstraZeneca

- 245** Investigating the Mode of Action for Leucascandrolide a and Neopeltolide Using Expression Profiling and Gene Networks. **Melissa M. C. Dominguez** and Scott E. Schaus, Boston University
- 246** Analyze Drug Metabolites by D-IR-Ect Profiling. A New Technology Combining Deuterium Labeling and Infrared (IR) Detection. **Zhaohui Sunny Zhou** and Bobby WK Lee, Northeastern University
- 247** Applying Isotopic Pattern Matching Algorithms to Identify Metabolites Using High Mass Accuracy MSn Analysis. **Robert E. Buco II**¹, Simon Ashton², John Warrander² and Neil Loftus², (1)Shimadzu Scientific Instruments, Inc., (2)Shimadzu Corporation
- 248** Probing the Mechanism of Scheinfurthin Action: Synthesis and Biological Action of Fluorescent Schweinfurthin Analogs. **Jeffrey D. Neighbors**, Craig H. Kuder, Joseph J. Topczewski, Raymond J. Hohl and David F. Wiemer, University of Iowa
- 249** Antimycobacterial Properties of Novel Derivatives of Para-Aminosalicylic Acid. Activities against Drug-Resistant Mycobacterium Tuberculosis. **Michael J. Hearn**¹, Michael H. Cynamon², Michaeline F. Chen¹, Claire Schlemme¹ and Ruth Wang'ondu¹, (1)Wellesley College, (2)Veterans Affairs Medical Center
- 250** Preparative Supercritical Fluid Chromatography: From Method Development to Scale-up. **Leslie Leith**, Bristol-Myers Squibb Company
- 251** 2,3-Diaminopyrazines as Inhibitors of Rho Kinase. **Alan J. Henderson**¹, Mark Hadden¹, Cheng Guo¹, Neema Douglas¹, Helene Y. Decornez¹, Mark R. Hellberg², Andrew Rusinko²,

Martin B. Wax², Marsha McLaughlin², Naj Sharif², Colene Drace² and Raj Patil², (1)AMRI, (2)Alcon Research, Ltd.

- 252** Androgen Mediated Prevention of Breast Cancer. **Vinay Likhite**, Baroda Cancer Research Center
- 253** Studies toward the Synthesis of Viridin Analogs. **Teather J. Sundstrom** and Dennis L. Wright, University of Connecticut
- 254** Structure-Activity Relationship of Steroid D-Ring Mimetics In Nonsteroidal Dissociated Glucocorticoid Agonists. **Pingrong Liu**, Boehringer Ingelheim Pharmaceuticals, Inc.
- 255** Design, Synthesis, and Evaluation of Imidazole-Dioxolane Compounds as Selective Heme Oxygenase Inhibitors. **Jason Z. Vlahakis**, Maaiké Hum, Kanji Nakatsu and Walter A. Szarek, Queen's University
- 256** Combinatorial Synthesis of Glycosylated Flavonols. **Zhitao Li**, George Ngojeh, Zhi Zheng and Min Chen, Binghamton University
- 257** Synthesis of Ketolide Analogs Using Methyl Nonactate Scaffolds. **Yuliya Sumskaya** and Dennis L. Wright, University of Connecticut

4:30 PM - 6:30 PM

Organic Chemistry Posters

Emerald Grand Ballroom

Organizer: Thomas S. Hughes, University of Vermont

- 258** Palladium-Catalyzed Reactions with Gaseous Reagents: Carbonylation with Carbon Monoxide, Heck Reaction with Ethene. **Chad M. Kormos**, The University of Connecticut and Nicholas Leadbeater, University of Connecticut
- 259** Cyclopropanation of Alkenes with Diazomalonates Using Rh₂esp₂ as Catalyst. **Susanne Kiau**, Francisco González-Bobes, Michaël D. B. Fenster, Sergei Kolotuchin, Laxma Kolla and Maxime Soumeillant, Bristol-Myers Squibb Pharmaceutical Company
- 260** Copper(II)-Catalyzed Enantioselective Intramolecular Aminohydroxylation of Olefins. **Peter H. Fuller**, Jin Woo Kim and Sherry R. Chemler, State University of New York at Buffalo
- 261** Substituted Phenylene Ethynylene Macrocycles: Precursors of Carbon Nanotubes. **Andrew L. Korich**¹, Ian A.

- McBee² and Thomas S. Hughes¹,
(1)University of Vermont, (2)Boston University
- 262** A Synthesis of N-Bridged 5,6-Bicyclic Pyridines Via a Mild Cyclodehydration Using the Burgess Reagent and Discovery of a Novel Carbamylsulfonylation Reaction. **Ashok K. Trehan**, Jie Jack Li, James J. Li, Jun Li and Henry S. Won, Bristol Myers Squibb Co.
- 263** Flatland Metalation. Aiming for New Synthetic Methodologies for Aromatics and Heteroaromatics. **Toni Ratanen** and Victor Snieckus, Queen's University
- 264** Preparation of Derivatives of An Isomer of Glycerol Menthonide. **Amber McCloskey** and Anthony J. Kiessling, Mansfield University
- 265** Synthesis and Biological Evaluation of Novel Fluorinated Pyrazolone Nucleosides. **Ibrahim M. Abdou**¹, Salma A. Merghanib², Hussein F. Zohdia¹ and Ahmed Al-Marzouqi², (1)College of Science, UAE University, (2)College of Medicine & Health Science, UAE University
- 266** Chromatograms from TLC Data: A New Tool for the Optimization of Flash Chromatographic Separations. **Justin Fair** and Chad M. Kormos, The University of Connecticut
- 267** Friedel-Crafts Acylation of Indoles and Azaindoles in Acidic Imidazolium Chloroaluminate Ionic Liquid at Room Temperature. **Kap-Sun Yeung**, Michelle E. Farkas, Zhilei Qiu, Zhong Yang, Qiufen Xue, John A. Bender, Alicia Regueiro-Ren, Andrew Good and John F. Kadow, Bristol-Myers Squibb
- 268** Resolution of Chiral Pharmaceuticals Via Crystallization on Self-Assembled Monolayers. **Pranoti S. Navare**, Timothy J. Lawton and John C. MacDonald, Worcester Polytechnic Institute
- 269** Investigations into the Equilibrium Mixture of Glycerol Menthonides. **Ashley L. Johnson** and Anthony J. Kiessling, Mansfield University
- 270** Studies towards An Efficient Synthesis of Pterocellins. Fehmi Damkaci, **Michael Bovino**, Drew Camelio and Adam Stringer, State University of New York at Oswego
- 271** Palladium-Catalyzed C-H Insertion of N-Iminopyridinium Ylides. **James J. Mousseau**, Alexandre Larivée and André B. Charette, Université de Montréal
- 272** My Ongoing Undergraduate Research Project: Model Studies towards the Synthesis of N-Vanillyl Bis (E-8-methyl-6-nonen)Imide. **Kent S. Marshall** and Anthony J Latella, Quinnipiac University
- 273** Synthesis of Novel Carbohydrate Fused Macrolactams. **Richard T. Desmond**, W. Sean Fyvie and Mark W. Peczuh, University of Connecticut
- 274** Ring-Contraction of Lactams: A New Methodology for the Synthesis of Nitrogen Heterocycles. **Alexandre Drouin**, Dana Winter, Jean Lessard and Claude Spino, Université de Sherbrooke
- 275** Prins Cyclization Under Mild Conditions: Formation of Cyclic Ethers from Unsaturated Alpha-Haloether. **Patrice Arpin**¹, Bryan Hill² and Claude Spino¹, (1)Université de Sherbrooke, (2)Brandon University
- 276** Efficient Syntheses of 8-Substituted Xanthine Adenosine Receptor Antagonists. Dong Ma, Graham B. Jones and **Amy E. Kallmerten**, Northeastern University
- 277** Microwave Expedited Fluorodenitrations as a Route to Novel PET Imaging Agents. **Patrick Ng**, Krista Wager, Elizabeth V. Jones and Amy E. Kallmerten, Northeastern University
- 278** The Tandem Hiyama Coupling-Nucleophilic Displacement Route to Fluoroalkylated Arenes. **Luke Harris**, Patrick Ng, Amy E. Kallmerten and Graham B. Jones, Northeastern University
- 279** Electronic Effects of the 1,3-Diza Claisen Rearrangement. **Rachel Aranha** and José S. Madalengoitia, University of Vermont
- 280** Cationic Cobalt Catalysis: Improving upon Alpha-Olefin Dimerization. **Michael J. Ardolino** and Richard D. Broene, Bowdoin College
- 281** Stereochemical Control of Regioselectivity and Structure of Non-Planar Aromatics: Synthesis and Resolution of Amino Acid-Derivatized Trioxatricornan with C3 Symmetry. **Sri Kamesh Narasimhan**, Lei Wu, Akshay Shah, Rosina Lombardi, Teresa B Freedman, Deborah J Kerwood and Yan-Yeung Luk, Syracuse University
- 282** Palladium Catalyzed Direct Heck Coupling at C-5 of Imidazo[1,5-a]Pyrazines. Jian-Xin Wang¹, J. Adam McCubbin¹, Meizhong Jin², Andrew P. Crew², Radoslaw S. Laufer², Mark J. Mulvihill², Victor Snieckus¹ and **Johnathan Board**³,

(1)Queens University, (2)OSI Pharmaceuticals Inc, (3)Queen's University

- 283** C-H Activation Versus Directed Ortho Metalation (DoM) . Complementarity of Ir-Catalysed Borylation of Aromatics and Heteroaromatics. **Maike Becker**, Timothy Hurst and Victor Snieckus, Queen's University

- 284** Advances In Directed Ortho Metalation Chemistry. towards the Development of a Boron Based Directing Metal Group. **Hendrik Wagner**, Johnathan Board and Victor Snieckus, Queen's University

- 285** Transacylation of Acetate Esters. **John C. Proetta**, Martin A. Walker and Matthew Hudson, State University of New York

- 286** Microwave-Interfaced Raman Spectroscopy: A Quantitative Tool to Obtain Kinetic Data for Organic Reactions. **Jason Schmink** and Nicholas Leadbeater, University of Connecticut

- 287** Computations on Two Diastereomeric α -Bromoamide Derivatives of Chiral Oxazolidinones (Evans' chiral auxiliaries). **Kim Yang**, Teresa B Freedman and Donald C Dittmer, Syracuse University

- 288** Calculations on Enolate Structures of 3-Acyltetramic Acids. **Daniel C. Langevin**, Teresa B. Freedman and Donald C. Dittmer, Syracuse University

- 289** Application of Tellurium Chemistry to the Anionic Oxy-Cope Rearrangement and to the Synthesis of Tetramic Acids. **Venkata Subbarao Kandula**, Dmitry Avilov, Arthur Carminucci, Matthew Purzycki and Donald C. Dittmer, Syracuse University

- 290** Methodology for the Synthesis of α -Chloroazoalkanes. **Jodi M. Wyman**, The University of Vermont and Matthias Brewer, University of Vermont

- 291** Tethered Aldehyde Ynones Via Lewis Acid Promoted Ring Fragmentation of γ -Silyloxy- β -Hydroxy- α -Diazoketones. **Ali Bayir**, The University of Vermont and Matthias Brewer, University of Vermont

- 292** Novel Substituted Pentacenequinones and Pentacenes Via Cava Reactions. Jeffrey S. Rawson¹, Vidya Krishnamurthy² and **Thomas S. Hughes**¹, (1)University of Vermont, (2)University of California Riverside

4:30 PM - 6:30 PM

Particles and Composites Posters

Emerald Grand Ballroom

Organizer: Thomas Twardowski, Twardowski Scientific

- 293** Electrochemically Modulated Intercalation and Reduction Processes of Nanostructured WO₃ Films. **Haley Redmond** and Maria R. Hepel, State University of New York at Potsdam

- 294** The Crystal Nucleation Phase: Comparison of Two Models. **Ingo H. Leubner**, Crystallization Consulting

- 295** Improved Stability of Reverse Polymeric Micelles Via Core Cross-Linking. **Hui Gao**, Marie-Christine Jones, Jian Chen, Robert E. Prud'homme and Jean-Christophe Leroux, University of Montreal

- 296** Developments in Physical Characterization of Powdered Materials. **Mike Strickland**, Micromeritics Instrument Corporation

- 297** Modified Calcium Carbonate - Microparticles with nano-functionality. **George Saunders**, OMYA inc.

- 298** Automated Sampling System for Particle Bound Reactive Oxygen Species. **Liping Sun**, Jelica Pavlovic, Xi Chen and Philip K. Hopke, Clarkson University

- 299** Secondary Organic Aerosol from α -Pinene Ozonolysis In a Dynamic Chamber System: Density and Particle Bound Reactive Oxygen Species (ROS) Measurements. **Xi Chen**, Clarkson University and Philip K. Hopke, Clarkson University

4:30 PM - 6:30 PM

Peptides as Tools to Study Protein Function Posters

Emerald Grand Ballroom

Organizer: Robert Hondal, University of Vermont

- 300** Native Chemical Ligation as An Important Tool in Protein Engineering. **Stevenson Flemer Jr.** and Robert J. Hondal, University of Vermont
- 301** Advances In 1) the Development of New Deprotection Chemistry for Cysteine and Selenocysteine Side Chain Protecting Groups and 2) the Synthesis of a New Selenocysteine Derivative That Have Applications In Peptide Synthesis. **Alayne Schroll**, Saint Michael's College and Robert Hondal, Univ. of Vermont
- 302** Peptides Derived from Proprotein Convertase Subtilisin Kexin 9 (PCSK9) Can Regulate Cholesterol Level by Modulating Its Functional Activity to Degrade LDL-Receptor. **Ajoy Basak** and Heather Palmer, Ottawa Health Research Institute, U. Ottawa
- 303** Understanding the Mechanism of SH3 Domain Binding to Peptide Using NMR Spectroscopy. **Jean-Philippe Demers** and Anthony Mittermaier, McGill University
- 304** Comparison of Different Oxidation Methods for Forming Disulfide Bonds In Peptides. Robert J. Hondal and **Christine K. Fitzsimmons**, University of Vermont

4:30 PM - 6:30 PM

Physical Chemistry Posters

Emerald Grand Ballroom

Organizer: Daniel A. Savin, University of Vermont

- 305** Investigation of Binary-Solution Critical Opalescence Using Vernier Technology. **Timothy Gehan** and Jason D. Hofstein, Siena College
- 306** Component Diffusion In LiTFSI Doped Polymer Blend of PEGDME and PMMA Measured by Multinuclear PFG NMR. **Yan Meng** and Luis J. Smith, Clark University
- 307** Modeling Hydrogen Bond Driven Molecular Pattern Formation on Au(111). **Greg Bubnis** and Howard Mayne, University of New Hampshire

4:30 PM - 6:30 PM

Responsive Polymers and Self Assembly Posters

Emerald Grand Ballroom

Organizer: Daniel Savin, University of Vermont

- 308** The Formation, Structure, and Reactivity of Amine-Terminated Organic Films on Silicon Substrates. **Joonyeong Kim**, Paul Seidler, Lai S. Wan and Catherine Fill, State University of New York, Buffalo State
- 309** Rheology and Light Scattering of Micellar Solutions and Gels of Diblock Copolymers of Styrene and N-t-Butylacrylamide in an Organic Solvent. **Nitin Sharma** and Rajeswari M. Kasi, University of Connecticut
- 310** Branched PEG-Caffeine Conjugates for Detoxification Applications. **Jeanne Leblond**¹, Hui Gao¹, Raji Al-Kurdi¹, Céline Bouvet¹, Anne Petitjean², Pierre Moreau¹ and Jean-Christophe Leroux¹, (1)University of Montreal, (2)Queen's University
- 311** One-Pot Preparation of Functional Alkoxyamines for Use In Nitroxide-Mediated Radical Polymerization. **Anna C. Greene** and Robert B. Grubbs, Dartmouth College
- 312** Synthesis and Characterization of Liquid Crystalline Polymers Bearing Cholesterol Side-Chains: Towards Temperature-Responsive Polymers. **Suk-kyun Ahn** and Rajeswari M. Kasi, University of Connecticut
- 313** Neuron Growth on Surfaces Coated with Photo-Tuneable Chemical Materials. **Xiaoyu Lu** and Christopher Barrett, McGill University
- 314** Polyion Complex Micelles for Targeted Intracellular Delivery of Antisense Oligonucleotides. **Nada Wazen**¹, Marie-Hélène Dufresne¹, Jonathan K. Watts², Núria Bayó-Puxan¹, Anna Kalota³, Masad J. Damha², Alan Gewirtz³ and Jean-Christophe Leroux¹, (1)University of Montreal, (2)McGill University, (3)University of Pennsylvania
- 315** Applying "Green" Chemistry to Materials Development: Using Microwave Synthetic Methods In the Fabrication of Self-Assembled Monolayers. Charles B. Hall, Jack Fuller and **Clifford B. Murphy**, Roger Williams University

4:30 PM - 6:30 PM

SPM In Modern Nanotechnology Posters

Emerald Grand Ballroom

Organizer: Igor Sokolov, Clarkson University

316 Characterization of Nanostructure of Polyurethane Biomaterials Under Aqueous Environment and Protein Adsorption on Surfaces by AFM. **Li-Chong Xu** and Christopher A. Siedlecki, Pennsylvania State University College of Medicine

(1)Dartmouth College, (2)Resource Development International

11:20 325 Bioaccumulating Halogenated Organic Compounds: Natural Vs. Anthropogenic. **Kristin C. Pangallo**, MIT/WHOI Joint Program in Oceanography/Applied Ocean Science and Engineering and Christopher M. Reddy, Woods Hole Oceanographic Institution

Tuesday, July 1, 2008

8:30 AM - 12:00 PM

Environmental Chemistry III

Emerald III

Organizer: Theodore S. Dibble, SUNY-ESF

8:30 319 Hemispheric-Scale Cycling of Hg(0) in the Atmosphere. **Robert Talbot** and Huiting Mao, University of New Hampshire

9:00 320 The Effects of UV Radiation on the Gaseous Mercury Emissions from Unsterilized and Sterilized Soils. **Hyun-Deok Choi** and Thomas M. Holsen, Clarkson University

9:20 321 Mercury Transport Following Storm Events from a Northern Forest Landscape. **Joseph T. Bushey**¹, Charles T. Driscoll², Myron J. Mitchell³, Pranesh Selvendiran² and Mario R. Montesdeoca², (1)University of Connecticut, (2)Syracuse University, (3)SUNY College of Environmental Science & Forestry

9:40 322 Seasonal and Diurnal Variations of Hg⁰ Over New England. **Huiting Mao**, Robert W. Talbot, Jeffery M. Sigler, Barkley C. Sive and Jennifer D. Hegarty, University of New Hampshire

10:00 Break.

10:30 323 Species Specific Enriched Stable Isotope Spikes Elucidate the Concentration and Geochemistry of Methylmercury In NE Waters. **Brian P. Jackson** and Vivien Taylor, Dartmouth College

11:00 324 Factors Affecting the Precipitation of Authigenic Arsenic Sulfides and the Limits They Place on Groundwater Arsenic Levels. **Benjamin C. Bostick**¹, Andrew N. Quicksall¹, Samantha L. Saalfeld¹ and M. L. Sampson²,

11:40 326 Partitioning of Metals within the Blood Plasma of the Marine Mussel, *Mytilus Edulis*. **Matthew J. Woodcock** and David K. Ryan, University of Massachusetts Lowell

8:30 AM - 10:00 AM

Green Chemistry

Valcour Room

Organizer: Martin A. Walker, SUNY Potsdam

8:30 327 Opportunities Offered by Green Processing. **Roshan Jachuck**, Clarkson University

9:00 328 Have Greener Alternatives Reduced the Use of Formaldehyde In Copper Plating?. **Jack D. Fellman**, Greener Chemistry Associates LLC

9:30 329 Synthesis, Self-Assembly and Adsorption of Biomass-Derived Block Copolymers. Jessica M. Eisenhauer, Karen A. Murphy, Yanling Gao, Mingrui Guo and **Daniel A. Savin**, University of Vermont

8:30 AM - 11:50 AM

Inorganic Chemistry General Sessions III

Diamond I

Organizer: Rory Waterman, University of Vermont

Presider: Christopher C. Landry, University of Vermont

8:30 330 Reactivity of Electrogenerated $[W(CO)_5L]^+$ (L = pyridine). **John P. Bullock**, Elisabeth Yenidjeian and Ryan Smith, Bennington College

8:50 331 Electrocatalyzed Coupling of Unactivated Cyclic Olefins by $[ReCp(CO)_3]^+$. **Michael P. Stewart**, Daesung Chong and William E. Geiger, University of Vermont

9:10 **332** Room Temperature Oxidation of 2-Chloroethyl-Ethylsulfide (CEES) Using Acid Prepared Mesoporous Silica (APMS) Supported Oxo Vanadium Catalysts. **Rahul S. Patel** and Christopher C. Landry, University of Vermont

9:30 **333** Selective Oxidation of Organic Compounds Using Mo/v Polyoxometalates Immobilized on Mesoporous Silica. **Rani Jha** and Christopher C. Landry, University of Vermont

9:50 **334** Superacid Complexes of Chlorophosphazenes. **Claire A. Tessier**¹, Zin-Min Tun¹, Matthew J. Panzner¹, Doug A. Medvetz¹, Amy J. Heston², Deepa Savant¹, Peter Rinaldi¹ and Wiley Youngs¹, (1)University of Akron, (2)Walsh University

10:10 Break.

10:30 **335** Electrochemical CO₂ Separation In Multi-Phase Systems. **Karen D. Jayne**¹, Michael Durando² and Michael C. Kimble¹, (1)Reactive Innovations, LLC, (2)Boston University

10:50 **336** Synthesis of Polymethyl Acrylate Using Single-Site Catalysts. **Massoud Miri**, Matthew Fullana and S. Vadhavkar, Rochester Institute of Technology

11:10 **337** Electrochemical Conversion of Carbon Dioxide to Oxygen In Ionic Liquid Media. **Michael C. Kimble**, Thomas J. Blakley, Daniel R. Carr and Karen D. Jayne, Reactive Innovations, LLC

11:30 **338** Mechanistic Studies of the Lability of Palladium Enolate Ligands. **Maureen A. Fagan**, Katherine Kornecki and Paninya Masrangsang, Smith College

8:45 AM - 12:00 PM

Chemical Biology I

Diamond II

Organizer: Anthony C. Bishop, Amherst College

8:45 Welcoming Remarks, Anthony C. Bishop

8:50 **339** Development of Protein Chemistry Methods for the Global Analysis of Protein Post-Translational Modifications. **Zhaohui Sunny Zhou**, Northeastern University

9:15 **340** Phosphoproteomic Analysis of Cellular Signaling. **Arthur R. Salomon**, Brown University

9:30 **341** Regulation of Cell Adhesion and Aggregation. **Vladimir Voynov**, MIT and Gerald R. Fink, MIT/Whitehead Institute

9:45 **342** Identification of Differentially Abundant Proteins In Elicited California Poppy Cell Cultures. John T. Oldham, Marina Hincapie, Tomas Rejtar and **Carolyn W.T. Lee-Parsons**, Northeastern University

10:00 Break.

10:30 **343** Alkaloid Biosynthesis. **Sarah E. O'Connor**, MIT

10:55 **344** Chemistry of Peptide Natural Product Biosynthetic Pathways. **Steven Bruner**, Boston College

11:20 **345** Enzymatic Synthesis of N-Acyl Sialic Acid Analogs. Stephen R. Houghton, **Benjamin R. Lundgren** and Christopher N. Boddy, Syracuse University

11:35 **346** Protein-Septanose Interactions: Principles and Applications. **Mark W. Pecuh**, University of Connecticut

9:00 AM - 11:50 AM

Particles and Composites

Kingsland Room

Organizer: Thomas Twardowski, Twardowski Scientific

9:00 **347** Modified Calcium Carbonate - Microparticles with nano-functionality. **George Saunders**, OMYA inc.

9:30 **348** Developments in Physical Characterization of Powdered Materials. **Mike Strickland**, Micromeritics Instrument Corporation

10:00 **349** Improved Stability of Reverse Polymeric Micelles Via Core Cross-Linking. **Hui Gao**, Marie-Christine Jones, Jian Chen, Robert E. Prud'homme and Jean-Christophe Leroux, University of Montreal

10:20 Break.

10:40 **350** Four Crystal Nucleation Models: An Evaluation for Practical Applications. **Ingo H. Leubner**, Crystallization Consulting

11:00 **351** Size across Five Orders of Magnitude: Nylon 11/ceramic Nanocomposite Structure

and Performance. **Thomas Twardowski**,
Twardowski Scientific

9:05 AM - 12:00 PM

History of Chemistry

Emerald II

Presiders: Fiona Case, Case Scientific, Marjorie E.
Adams, ACS Green Mountain Local Section

- 9:05** **352** John Adams, Saltpeter, and Black Powder. A Lighthearted Look at Some Colonial Chemistry. **John J. Fortman**, Wright State University
- 9:50** **353** Green Fluorescent Protein: From Basic Science to Biotechnology. **Marc Zimmer**, Connecticut College
- 10:20** Break.
- 10:40** **354** A Brief and Personal History of Instrumentation as a Key Driver for Progress In Chemistry and Related Disciplines. **Irving Goldman**, Organic Chemist, Retired
- 11:20** **355** History of African American Women Chemists Project the Unknown Work of These Women. **Jeannette E. Brown**, 2004 Société Fellow Chemical Heritage Foundation

9:15 AM - 9:35 PM

The Arthur C. Cope Scholar Award Symposium

Amphitheater

Organizer: Matthias Brewer, University of Vermont

Morning Session

- 9:15** Welcoming Remarks, Matthias Brewer
- 9:20** **356** Recent Advances In Asymmetric Bronsted Acid Catalysis. **Jimmy Wu**, Dartmouth College
- 9:50** **357** Hammett Studies of Phosphinooxazoline Chiral Ligands In η^5 -Allyl

Palladium Catalysis. **Richard C. Bunt**,
Middlebury College

- 10:20** **358** Ring-Expanding Enyne Metathesis: Approach to Bicyclic Cycloheptadienes. **Steven T. Diver** and Daniel A. Clark, SUNY at Buffalo
- 10:45** Break.
- 11:10** **359** Cyclopropanation of Alkenes with Diazomalonates Using Rh_2esp_2 as Catalyst. **Susanne Kiau**, Francisco González-Bobes, Michaël D. B. Fenster, Sergei Kolotuchin, Laxma Kolla and Maxime Soumeillant, Bristol-Myers Squibb Pharmaceutical Company
- 11:35** **360** Copper(II)-Catalyzed Enantioselective Intramolecular Aminohydroxylation of Olefins. **Peter H. Fuller**, Jin Woo Kim and Sherry R. Chemler, State University of New York at Buffalo
- 12:00** Break until the evening session

Evening Session

- 7:15** Welcoming Remarks, Matthias Brewer
- 7:20** **361** Asymmetric Catalysis Inspired by Natural Product Synthesis. **Shawn K. Collins**, Université de Montréal
- 7:50** **362** Catalytic, Asymmetric Reactions of Enolates. **Michael A. Calter**, Ryan M. Phillips, Jun Wang, Alexander Korotkov and Na Li, Wesleyan University
- 8:20** Break.
- 8:30** **363** Asymmetric Synthesis of Cyclopropanes Bearing *Gem*-Dicarboxylic Groups. **André B. Charette**, Université de Montréal
- 9:30** Concluding Remarks, Matthias Brewer

9:20 AM - 12:00 PM

Analytical Interfacial Science

Shelburne Room

Organizer: R.S. Helburn, Pace University

- 9:20** **364** Tunable G-Quadruplex Gels for Bioseparations. **Linda B. McGown**, William Sterling Case and Yingying Wang, Rensselaer Polytechnic Institute
- 9:50** **365** Using Solvatochromic Probes to Study the Properties of Micelles and Lipid Bilayers.

Mark F. Vitha, Drake University, Peter W. Carr, University of Minnesota and Ronald J. Clarke, University of Sydney

- 10:20 366** Separation of Membrane Components Using Solid-Supported Bilayer Electrophoresis. **Susan Daniel**, Cornell University
- 10:40** Break.
- 11:00 367** Sorption Reinforced Self-Decontaminating Substrates against Chemical Nerve Agents. **Yongwoo Lee**, Tomasz Modzelewski, Cheryl A. Gomes and John P. Puglia, Foster-Miller, Inc.
- 11:20 368** New Approaches to Monolithic Columns for HPLC. **Luis A. Colon**, Jose G. Rivera, Stefan Vujcic and Wenjuan Guo, University at Buffalo
- 11:40 369** Development of a Highly Selective Implantable Electrochemical Sensor for In-Vivo and In-Vitro Monitoring of NO. **John I. Njagi**¹, Guodong Zhang¹, Charlie Robinson¹, Joseph S. Erlichman² and Silvana Andreescu¹, (1)Clarkson University, (2)St. Lawrence University

6:00 PM - 8:00 PM

Chemistry and Policy Forum

Valcour Room

Organizers: Sarah Locknar, BioTek Instruments, Inc., Ralph Stuart, University of Vermont

- 6:00 370** Moving Green Chemistry through Congress. **Patricia Coates**, Assistant to Peter Welch and Peter Welch, US Congress
- 6:40 371** What Does a Local Government Relations Committee Do?. **Sarah Locknar**, BioTek Instruments, Inc.
- 6:55 372** Navigating the Regulatory Reinvention Maze. **Ralph Stuart**, University of Vermont
- 7:15 373** Getting Chemistry into Congress. **Brad Smith**, American Chemical Society

7:00 PM - 9:40 PM

21st Century Energy

Diamond I

Organizers: Fiona Case, Case Scientific, Martin Case, University of Vermont

- 7:00 374** The DOE Hydrogen Program. **James F. Miller**, Argonne National Laboratory
- 7:30 375** Photovoltaics beyond Conventional Silicon: Innovative Processes and Materials for Improved Solar Cell Efficiency. **Raghu Das**, IDTechEx
- 8:00 376** A Century of Spent Nuclear Fuel Management: A View from the Halfway Mark. **Andrew Orrell**, Sandia National Laboratories
- 8:30 377** Flexible Tubular Alkaline Fuel Cells. **Michael C. Kimble** and Thomas J. Blakley, Reactive Innovations, LLC
- 8:50 378** Micro-Biodiesel. **Scott Gordon**, Green Technologies, LLC
- 9:20** Panel Discussion.

7:00 PM - 9:30 PM

Layered Materials - a Symposium in Honor of Abraham Clearfield

Kingsland Room

Organizer: Willem R. Leenstra, University of Vermont

- 7:00** Introductory Remarks, Willem Leenstra
- 7:10 379** Layered Zirconium Phosphates for Artificial Photosynthesis, Amperometric Biosensors, Vapochromic Materials, and Drug Delivery Systems. **Jorge L. Colón**, University of Puerto Rico
- 7:30 380** Layered Metal Oxides Synthesis, Characterization, and Catalysis. **Steven L. Suib**, University of Connecticut
- 7:50 381** Organosilicon Polymer Nanocomposites. **Michelle A. Boucher**¹, Brendon Miller¹, Aaron Crandall¹ and Malcolm E. Kenney², (1)Utica College, (2)Case Western Reserve University
- 8:10 382** NMR Studies of Proton Exchange Induced Structural Changes In Layered and Mesoporous Niobates. **Luis J. Smith** and Xuefeng Wang, Clark University
- 8:30 383** Enzyme/DNA/inorganic Materials. A New Generation of Biocatalytic Nanomaterials. **C.V. Kumar**, University of Connecticut

8:50 **384** Layered Materials: From Phosphates to Porous Phosphonates. **Abraham Clearfield**, Texas A&M University

Jani², John Kath², Susan LaGreca², Jing Lin², Marianne Lorenzen², Eric Marr², Luis Martinez-Alsina², Nandini Patel², Daniel Richter², Ethan Ung², Felix Vajdos², Mathew Wessel², Pamela Whalen², Lili Yao² and W Gregory Roberts², (1)Novartis Institutes for Biomedical Research, (2)Pfizer Central Research

8:45 **392** PET Radiochemistry: Synthesis Using Short-Lived Isotopes. **Terence G. Hamill**, Merck Research Laboratories

7:15 PM - 9:00 PM

Environmental Chemistry IV

Emerald III

Organizer: Theodore S. Dibble, SUNY-ESF

7:30 PM - 9:05 PM

Chemical Biology II

Diamond II

Organizer: Anthony C. Bishop, Amherst College

7:15 **385** Managing Phosphorus In the Lake Champlain Basin – the Importance of An Adaptive Management Approach. **Mary C. Watzin**, Univeristy of Vermont

7:30 **393** Biocatalysts for Biodegradable Plastics Production. **Christopher T. Nomura**, SUNY-ESF

7:45 **386** Chloride Contamination of New England Rivers by De-Icing Chemicals. **Rudolph Hon**¹, Newton Tedder¹, Constantin Andronache¹, Peter Dillon¹, John R. McInnis² and Barry Schaudt¹, (1)Boston College, (2)Town of Norwell

7:45 **394** Chemical Probes for the Study of NAD-Metabolizing Enzymes. **Hening Lin**, Cornell University

8:10 **387** Photochemistry of the Cyanobacteria Neurotoxin Anatoxin-a: What That Means for Lake Champlain. **Gregory L. Boyer**, SUNY ESF and Xingye Yang, SUNY-ESF

8:10 **395** Allosteric Control of Protein Tyrosine Phosphatase Activity. **Anthony C. Bishop** and Xin-Yu Zhang, Amherst College

8:35 **396** Asymmetric Catalysis In Amino Acid Activation by a Class II Aminoacyl-tRNA Synthetase: Support for An Alternating Site Model. **Ethan C. Guth**, Mindy Farris, Michael L Bovee and Chris S Francklyn, University of Vermont

7:15 PM - 9:15 PM

Medicinal Chemistry II

Emerald II

Organizer: Scott Cowen, AstraZeneca

8:50 **397** Structural Diversity and Similarity Amongst Sulfotransferases: Humans to Ticks and beyond. **Roberta S. King**, Emine Bihter Yalcin and Scott M. Struzik, University of Rhode Island, College of Pharmacy

7:15 **389** Lead Optimization and Candidate Selection of Novel Allosteric MEK Inhibitors for the Treatment of Cancer. **Andreas Goutopoulos**, EMD Serono

7:45 **390** The Discovery and Early Development of ARQ 197, a Selective C-Met Inhibitor. **Mark A. Ashwell**, ArQule

8:15 **391** Design, Synthesis and Activity of Inhibitors of Focal Adhesion Kinase: Discovery of PF-562271 Currently In Clinical Trials. **Michael J. Luzzio**¹, Christopher Autry², Martin Berliner², Kevin Coleman², Beth Cooper², Erika Desrosiers², Erling Emerson², Matt Griffor², Catherine Hulford², Jitesh P.

- 11:20 404** Persistent Organic Pollutants as Compounds of Emerging Concern. **Gary T. Hunt**, TRC Environmental Corporation
- 11:40 405** Characterizing Benzene and Other Air Toxics In Akwesasne (NY). **Rui Li**¹, Philip K. Hopke², Sheila Kalenge² and Alan Rossner², (1)Clarkson University, (2)Clarkson University

Wednesday, July 2, 2008

8:30 AM - 12:00 PM

Environmental Chemistry V

Emerald II

Organizer: Theodore S. Dibble, SUNY-ESF

- 8:30 398** Sorption of Tetracycline and Fluoroquinolone Zwitterions to Soils and Soil Minerals: Influence of Compound Structure. **Dharni Vasudevan**¹, Anthony Carrasquillo¹ and Allison MacKay², (1)Bowdoin College, (2)University of Connecticut
- 9:00 399** X-Ray Microtomography Determination of Air-Water Interfacial Area-Water Saturation Relationships In Sandy Porous Media. **Molly S. Costanza-Robinson**, Katherine H. Harrold and Ross M. Lieb-Lappen, Middlebury College
- 9:20 400** Redox Chemistry and Internal Nutrient Loading Mechanisms across the Sediment-Water Interface In Lake Champlain Bays. **Greg K. Druschel**, Lydia G. Smith, Maartje Melchioris and Mary C. Watzin, University of Vermont
- 9:40 401** Influence of Sulphide on the Degradation Pathways of Chlorinated Ethenes by Iron. **Lai Gui**, Lorretta D. Pinder and Robert W. Gillham, University of Waterloo
- 10:00** Break.
- 10:30 402** Identification of Emission Sources for VOCs In Lake Champlain Basin. **Ning Gao** and Kacey Anderson, St. Lawrence University
- 11:00 403** Water Chemistry of the Saratoga Lake Watershed. **Judith A. Halstead**, Alicea Cock-Esteb, Alexandra Furman, Lukiana Anka-Lufford and Kimberly Marsella, Skidmore College

9:00 AM - 12:05 PM

Responsive Polymers and Self Assembly I

Emerald I

Organizer: Daniel Savin, University of Vermont

- 9:00 406** Responsive Polymers and Self-Assembly. **Daniel A. Savin**, University of Vermont
- 9:15 407** Responsive Assemblies from Copolymers with Adjustable Amphiphilicity. **Robert B. Grubbs**, Dartmouth College
- 9:45 408** New Stimuli-Responsive Macromolecules– Smart Hyperbranches, Bioconjugates, and “Sweet Tooth” Micelles. **Brent S. Sumerlin**, Southern Methodist University
- 10:15** Break.
- 10:45 409** Branched PEG-Caffeine Conjugates for Detoxification Applications. **Jeanne Leblond**¹, Hui Gao¹, Raji Al-Kurdi¹, Céline Bouvet¹, Anne Petitjean², Pierre Moreau¹ and Jean-Christophe Leroux¹, (1)University of Montreal, (2)Queen's University
- 11:05 410** Synthesis, Functionalization and Directed Self-Assembly of Polymer Coated Ferromagnetic Nanoparticles. **Jeffrey Pyun**, University of Arizona
- 11:35 411** Photo-Mechanical Polymer Assemblies: From Reflectometry to Robotics. **Christopher Barrett**, McGill University

9:00 AM - 11:40 AM

The Chemistry of Foods and Beverages

Diamond I

Organizer: Fiona Case, Case Scientific

- 9:00** **412** Cheese Chemistry. **Paul Kindstedt**, University of Vermont
- 9:30** **413** The Electronic Tongue Applied to Bitterness Inhibition of Acesulfame and Saccharin. **Glenn Roy**, Pepsi-Cola Co. R&D
- 10:00** Break.
- 10:20** **414** Elemental Analyses: Instrumentation and Applications for the Analysis of Metals In the Food Industry. **Douglas C. Sears Jr.**, Thermo Scientific
- 10:50** **415** Phase Behavior of the Alcohol-Aldehyde Complex. **Timothy J. Young**, International Flavors and Fragrances
- 11:10** **416** Nanotechnology In Foods. **Fiona Case**, Nano Science and Technology Institute (NSTI)

10:00 AM - 12:00 PM

Medicinal Chemistry III

Amphitheater

Organizer: Scott Cowen, AstraZeneca

- 10:00** **417** Success and Failure In Structure-Based Drug Design. A Personal Perspective. **Mark Murcko**, Vertex Pharmaceuticals
- 10:40** **418** Investigating the Mode of Action for Leucascandrolide a and Neopeltolide Using Expression Profiling and Gene Networks. **Melissa M. C. Dominguez** and Scott E. Schaus, Boston University
- 11:00** **419** Analyze Drug Metabolites by D-IR-Ect Profiling. A New Technology Combining Deuterium Labeling and Infrared (IR) Detection. **Zhaohui Sunny Zhou** and Bobby WK Lee, Northeastern University
- 11:20** **420** Applying Isotopic Pattern Matching Algorithms to Identify Metabolites Using High Mass Accuracy MSn Analysis. **Robert E. Buco II**¹, Simon Ashton², John Warrander² and Neil Loftus², (1)Shimadzu Scientific Instruments, Inc., (2)Shimadzu Corporation
- 11:40** **421** Iron Coordination Chemistry of Curcumin and Metabolites. **Roy P. Planalp**¹, Joonhyung Cho¹ and Fadi Bou-Abdallah², (1)University of New Hampshire, (2)SUNY at Potsdam

1:00 PM - 4:15 PM

Awards Symposium on Industrial Chemistry and Innovation

Emerald II

President: Sunandan Banerjee, University of Vermont

- 1:00** Introductory Remarks, Joy Titus-Young, ACS Office of Corporation Associates.
- 1:05** **70** How Small Can You Go? Molecular Wires and Devices In the Modern World. **Wayne E. Jones**, State University of New York at Binghamton
- 1:35** **422** Phosphonium Salts as Solubility Control Group – Impact of SCG Soluble Support Technology on Chemistry. **Marc K. Jones**¹, Jean-Christophe Poupon², Marie-Noelle Roy², Federica Stazi², Maryon Ginisty², David Marcoux², Jean-Manuel Cloarec², Anne Picard² and André B. Charette², (1)Soluphase, (2)Université de Montréal
- 1:55** **423** The Development and Applications of Triosyn. A Highly Versatile Iodinated Ion-Exchange Resin. **David Ohayon**, Kathy Low, Pierre Jean Messier, Stéphane Bourget, Joe Tanelli and Scott Brown, Triosyn Corp,
- 2:25** **424** Development of a Handheld Probe for Chemically Reactive Surfaces. **Michael C. Kimble** and Thomas J. Blakley, Reactive Innovations, LLC
- 2:45** **425** Precursor Development for the Next-Generation of Electronic Devices. **Ronald Spohn**, Scott Meiere, John Peck, Michael Litwin, James Natwora and James Wager, Praxair Electronics
- 3:15** **426** The Corning ClearCurve Optical Fiber. **Dana Bookbinder**, Corning Incorporated
- 3:45** Industrial Innovation Award Reception.

1:30 PM - 4:00 PM

Chemistry Education Award Symposium

Diamond II

Organizer: Martha McBride, Norwich University

- 1:30** **427** History of African American Women Chemists Project. **Jeannette E. Brown**, 2004 Société Fellow Chemical Heritage Foundation
- 2:00** **428** Photobleaching: A Hands-on Experience for Young Schoolchildren. **Oliver C. Zafiriou**, Woods Hole Oceanographic Institution, Debra McRoberts, East Falmouth

Elementary School and Bei Zhao, Ohio State University

2:20 429 Developing a Lewis Structure Drawing Process Using a LEGO®-Assisted, Hands-on Activity. **Christopher Masi**, Westfield State College

2:40 430 Journal Writing and Critical Thinking In the Chemistry Classroom. **Todd Pagano**, Rochester Institute of Technology and Jonathan E. Kenny, Tufts University

3:00 431 Fog, Fire, Color, and Light. A Novel Introductory Course for Non-Scientists. **Kathryn M. Wagner**, Princeton University

1:30 PM - 3:30 PM

Responsive Polymers and Self Assembly II

Emerald I

Organizer: Daniel Savin, University of Vermont

1:30 PM - 3:30 PM

Organic Chemistry General Sessions

Amphitheater

Organizer: Thomas S. Hughes, University of Vermont

1:30 432 Structure, Bonding, and Aggregation of Lithium Selenoesters and Related Species. **Lawrence M. Pratt**, Fisk University and Shin-ichi Fujiwara, Osaka Dental University

1:50 433 External Alkene-Promoted Ring-Closing Enyne Metathesis. **Steven T. Diver** and Nana Osei-Kwabena, SUNY at Buffalo

2:10 434 Substituted Phenylene Ethynylene Macrocycles: Precursors of Carbon Nanotubes. **Andrew L. Korich**¹, Ian A. McBee² and Thomas S. Hughes¹, (1)University of Vermont, (2)Boston University

2:30 435 Preparation of Tethered Aldehyde Ynoates and Polycyclic N-Containing Heterocycles from Cyclic γ -Silyloxy- β -Hydroxy- α -Diazoesters. **Cristian Draghici** and Matthias Brewer, University of Vermont

2:50 436 Synthetic Manipulation of Hydrazones to Alkyl Chlorides, Diazo Compounds or Diazenium Salts. **Muhammad I. Javed** and Matthias Brewer, University of Vermont

3:10 437 Palladium-Catalyzed Reactions with Gaseous Reagents: Carbonylation with Carbon Monoxide, Heck Reaction with Ethene. **Chad M. Kormos**, The University of Connecticut and Nicholas Leadbeater, University of Connecticut

1:30 438 Network Polymers Bearing Reversibly Associating Side-Groups. **Mitchell Anthamatten**, University of Rochester

2:00 439 Responsive Polymer Gel Membranes. **Sergiy Minko**, Clarkson University

2:30 440 Rheology and Light Scattering of Micellar Solutions and Gels of Diblock Copolymers of Styrene and N-Tert-Butylacrylamide in an Organic Solvent. **Nitin Sharma** and Rajeswari M. Kasi, University of Connecticut

2:50 441 Temperature and pH-Responsive Polypeptide-Based Block Copolymers. **Sandeep S. Naik**, John D. Stempien, Gopal Venkatachalam and Daniel A. Savin, University of Vermont

3:10 442 Simulation of Self Assembly Processes. **Fiona Case**, Case Scientific