

## Technical program schedule-at-a-glance

### Posters

Posters will all be exhibited from 7:30 – 9:30 pm on **Wednesday, June 2nd**, as part of the opening reception, poster session and recruitment fair in the Barrington Multipurpose Room.

### Oral symposia

K= Kellas, D=Dunn, S=Stowell, T=Timerman

Room	Thursday a.m.	Thursday p.m.	Friday a.m.	Friday p.m.
K101	Oxidative stress and antioxidants: diagnosis and therapy	Scanning probe microscopy in modern nanotechnology	Scanning probe microscopy in modern nanotechnology	Scanning probe microscopy in modern nanotechnology
K102	Nanotechnology: Emerging Analytical/Bioanalytical ...	New Trends in Chromatography	Nanotechnology: Emerging Analytical/Bioanalytical...	
K103	Detection of protein biomarkers for medical applications	Detection of protein biomarkers for medical applications	Analytical chemistry for emerging contaminants in the envmt.	Analytical chemistry for emerging contaminants in the envmt.
K104	Metals in organic synthesis	Drug development and design	Biology and physiology of stem cells in the CNS	Chemistry and the war against cancer Keynote: Prof. William Bonnez
K105	Smart polymer materials & hybrid systems	Smart polymer materials & hybrid systems	Bioelectronics and biosensors	Bioelectronics and biosensors
K106	Green chemistry in industry for a sustainable world	Green chemistry in industry for a sustainable world	Synthetic organic chemistry: the next generation	Cope Scholar Symposium honoring John A. Porco, Jr.
K217	Nanotechnology & the environment	Novel materials /nanomaterials for energy conversion		
K218	Career workshops	Careers, vendor symposium		
D202			General papers	
D206	Inorganic chemistry	Organometallics and main group chemistry	Environmental chemistry	Chemical Education in the Northeast: looking back and projecting forward
D208	Organic chemistry	The chemistry of natural products	Analytical chemistry	Physical chemistry
T131	Metals in living systems	Metal ion complexes in biological imaging	Metal ions and metalloproteins	Biochemistry and biophysics of proteins and membranes
S211		Biofuel Combustion		

Wednesday, June 2, 2010

## Poster Sessions

Wednesday, June 2, 2010, 7:30 PM - 9:30 PM

*Analytical Chemistry, Posters*

*Barrington MPR*

Organizer: Ewa Pater

- 1 Determination of Creatinine and Uric Acid in Human Urine Samples by Hydrophilic Interaction High Performance Liquid Chromatography. Yang Yang and **Yuegang Zuo**, University of Massachusetts Dartmouth
- 2 GC-MS Separation and Determination of Cocaine and Benzoyllecgonine in Paper Currencies and Sewage Water. **Yuegang Zuo**, Zhao Luo, Tian Shi, Melissa Pavlik and Michael Cicoria, University of Massachusetts Dartmouth
- 3 Study Sorption of Oxytetracycline on Aluminum Based Drinking-Water Treatment Residuals and Its Degradation Using Liquid Chromatography–tandem Mass Spectrometry. **Pravin Punamiya**<sup>1</sup>, Dil Ramanathan<sup>2</sup>, Dibyendu Sarkar<sup>1</sup> and Rupali Datta<sup>3</sup>, (1)Montclair State University, (2)Kean University, (3)Michigan Technological University
- 4 Metal Oxide Affinity Chromatography (MOAC) Using Group IV Metals: Enrichment of Phosphorylated Peptides. **Stefan Vujcic**, Lisandra Santiago-Capeles, Jose G. Rivera and Luis A. Colon, SUNY at Buffalo
- 5 Ultrasensitive Biosensors Based on Site-Specific Immobilization of Proteins on Metal Nanoparticles. **Mallikarjunarao Ganesana**<sup>1</sup>, Georges Istamboulie<sup>2</sup>, Thierry Noguer<sup>2</sup>, Linda A. Luck<sup>3</sup> and Silvana Andreescu<sup>1</sup>, (1)Clarkson University, (2)University of Perpignan, (3)SUNY-Plattsburgh
- 6 Counter Ions Effects on Solid Supported Analytical Derivatizations. **Sanka N. Atapattu**, Andy Liu, Fulan Cui and Jack Rosenfeld, McMaster University
- 7 Application of Inverse Gas Chromatography Method on Surface Thermodynamic Studies of Conducting Polymers: Polyaniline. **Ruoqiu Wu**, Danni Que and Zeki Y. Al-Saigh, State University of New York College at Buffalo
- 8 Critical Evaluation of the New Generation of Superficially Porous Chromatographic Packing Material. **Jared S. Baker**, Cody Vinci, Amber D. Moore and Luis A. Colón, The State University of New York at Buffalo
- 9 Flow-Cell Nanogravimetric Immunosensing for the Detection of Glutathione. Magdalena Stobiecka, **Zachary Reed**, **Justine Barcomb** and Maria Hepel, State University of New York at Potsdam
- 10 Novel Detection Methods for Nitrotyrosine Based on Plasmonic Coupling and FRET. **Magdalena Stobiecka**, Nicholas Trombley and Maria Hepel, State University of New York at Potsdam

Wednesday, June 2, 7:30 PM - 9:30 PM

*Chemical Education, Posters*

*Barrington MPR*

Organizer: Julianne Smist

- 11 Is Regents Mastery a Predictor for Future Success in High School Science?. **David Collins**<sup>1</sup> and Carolyn Bauer<sup>1,2</sup>, (1)SUNY Cortland, (2)Honeoye Falls-Lima High School
- 12 Forensic Science at SUNY Potsdam. **Anthony A. Molinero**, SUNY Potsdam
- 13 Stereochemistry of Drug Action: Case Studies with Enantiomers. **Jessica L. Epstein**, Saint Peters College
- 14 Using Photography To Explore Math and Science in the “Building Bridges” GK-12 Program at Texas Tech University. **Jennifer D. Crawford**<sup>1</sup>, Gretchen Gurtler<sup>1</sup>, Jerry Lopez<sup>1</sup>, Joseph Olibas-Yanez<sup>2</sup>, Yesha Dyer<sup>2</sup>, Karen Carroll<sup>2</sup> and Dominick Casadonte<sup>1</sup>, (1)Texas Tech University, (2)Monterey High School

Wednesday, June 2, 7:30 PM - 9:30 PM

*Environmental Chemistry, Posters*

*Barrington MPR*

Organizers: Ning Gao, Anthony Molinero

- 15 Application of Nitron Spin Traps for Detection of Radical Species from  $\alpha$ -Pinene/Ozone Reaction. **Jelica Pavlovic** and Philip K. Hopke, Clarkson University
- 16 Gaseous, Particulate and Semi-Volatile Emission Rates from a High Efficiency Wood Pellet Boiler Using Three Fuels. **James Laing**, Suresh Raja, Thomas Holsen and Philip K. Hopke, Clarkson University
- 17 Spatio-Temporal Variability of Ultrafine Particle Number Concentrations in Urban Atmosphere. **Yungang Carl Wang**<sup>1</sup>, Philip K. Hopke<sup>1</sup>, David C. Chalupa<sup>2</sup> and Mark J. Utell<sup>2</sup>, (1)Clarkson University, (2)University of Rochester Medical Center

- 18 Real-Time Sensing and Time-Resolved Sampling of Organic Chemicals in Onondaga Lake. **Robyn L. Oakes**<sup>1</sup>, Jennifer Croskrey<sup>1</sup>, John P. Hassett<sup>1</sup> and Steven W. Effler<sup>2</sup>, (1)SUNY College of Environmental Science and Forestry, (2)Upstate Freshwater Institute
- 19 Spatial Variability of Coarse Particles in Urban Areas. **Uma Rames Krishna Lagudu**<sup>1</sup>, Suresh Raja<sup>1</sup>, Philip K. Hopke<sup>1</sup>, David C. Chalupa<sup>2</sup>, Mark J. Utell<sup>2</sup>, Gary Casuccio<sup>3</sup>, Traci L. Lersch<sup>3</sup> and Roger R. West<sup>3</sup>, (1)Clarkson University, (2)University of Rochester, (3)R.J. Lee Group

**Wednesday, June 2, 7:30 PM - 9:30 PM**

**General Session, Posters**

*Barrington MPR*

Organizers: Clifford Rossiter, Anthony Molinero

- 20 Stirring and Mixing for Chemists: Practical Control Methods. **Ingo H. Leubner**, Crystallization Consulting
- 21 Gold Nanoparticles for Imaging and Drug Delivery in the Central Nervous System. **Eliza Hutter**<sup>1,2</sup>, Sebastien Boridy<sup>1</sup>, Ghareb M. Soliman<sup>1,2</sup>, Simon Labrecque<sup>3</sup>, Melanie Lalancette-Hébert<sup>4</sup>, Jasna Kriz<sup>4</sup>, Françoise M. Winnik<sup>2</sup> and Dusica Maysinger<sup>1</sup>, (1)McGill University, (2)University of Montreal, (3)Centre de Recherche Université Laval Robert-Giffard, (4)Laval University, Centre de Recherche du Centre Hospitalier de l'Université Laval
- 22 Time Evolution of an Electron in a Simple System. **Hae-Won Kim**<sup>1</sup> and Karl Sohlberg<sup>2</sup>, (1)Penn State Abington, (2)Drexel University
- 23 Preparation and Characterization of CdS Quantum Dots in Polyvinyl Alcohol-Carboxyl Solution. **Alexandra A. P. Mansur** and Herman S. Mansur, Federal University of Minas Gerais
- 24 Characterization of SNAT2's (Sodium-Coupled Neutral Amino Acid Transporter) Fold and Function, Using Patch-Clamp Techniques, Mutagenesis and Inhibitor/Substrate Studies. **Catherine B. Zander**, Binghamton University
- 25 Simultaneous Evaluation of Multiple Injuries Using an Array of Biochemical Detection Systems with Built-In Logic. **Jian Zhou**<sup>1</sup>, Jan Halánek<sup>1</sup>, Guinevere Strack<sup>1</sup>, Mary A. Arugula<sup>1</sup>, Soujanya Chinnapareddy<sup>1</sup>, Vera Bocharova<sup>1</sup>, Joseph Wang<sup>2</sup> and Evgeny Katz<sup>1</sup>, (1)Clarkson University, (2)University of California
- 26 Enzymatic Reactions as Biochemical Tools for Mimicking an Electronic Multiplexer and Demultiplexer. **Mary A. Arugula**<sup>1</sup>, Vera Bocharova<sup>1</sup>, Jan Halánek<sup>1</sup>, Marcos Pita<sup>2</sup> and Evgeny Katz<sup>1</sup>, (1)Clarkson University, (2)Institute of Catalysis and Petroleochemistry
- 27 Development of "Sense and Treat" Biomedical Systems Employing Enzyme Logic Gates. **Soujanya Chinnapareddy**<sup>1</sup>, Jian Zhou<sup>1</sup>, Guinevere Strack<sup>1</sup>, Mary A. Arugula<sup>1</sup>, Jan Halánek<sup>1</sup>, Vera Bocharova<sup>1</sup>, Joseph Wang<sup>2</sup> and Evgeny Katz<sup>1</sup>, (1)Clarkson University, (2)University of California
- 28 Artificial Muscle Reversibly Controlled by Enzyme Reactions. **Guinevere M. Strack**<sup>1</sup>, Vera Bocharova<sup>1</sup>, Mary A. Arugula<sup>1</sup>, Jan Halánek<sup>1</sup>, Marcos Pita<sup>2</sup> and Evgeny Katz<sup>1</sup>, (1)Clarkson University, (2)Institute of Catalysis and Petroleochemistry
- 29 Functional Studies of Glutamate Transporter Excitatory Amino Acid Carrier 1 (EAAC1). **Juddy Mwaura** and Christof Grewer, State University of New York Binghamton University
- 30 Deposition Conditions of Titania into Block Copolymer Templates. **Qin Lou**, Pavan Chinthamanipeta and Devon A. Shipp, Clarkson University
- 31 Smart Polymer Therapy Based on the Hyperbranched Polyglycerol Platform. **Darlene K. Taylor** and Jerry O. Battle, North Carolina Central University
- 32 Studies on the Interaction of Water with Three Granular Biopesticide Formulations. **Margaret Lyn**<sup>1</sup>, Dan Burnett<sup>2</sup>, Armando R. Garcia<sup>2</sup> and Ron Gray<sup>2</sup>, (1)US Department of Agriculture, Agricultural Research Service, (2)Surface Measurement Systems Ltd.
- 33 Stimuli-Responsive and Multifunctional Thin Film Membranes from a Biopolymer Hydrogel. **Venkateshwarlu Gopishetty**, Ihor Tokarev, Yuri Roiter and Sergiy Minko, Clarkson University
- 34 Low Cost, Robust and Stable Nano Catalysts for PEM Fuel Cells. **Bin Fang, Bridgid Wanjala**, Jin Luo and Chuan-Jian Zhong, State University of New York at Binghamton
- 35 Synthesis, Structural Characterization, and Electronic Structure of Conductive Graphene Films. **Robert V. Dennis**, Vincent Lee, Kristen Baroudi and Sarbajit Banerjee, University at Buffalo, State University of New York
- 36 Mesoporous Silica Microparticles for Biomedical Applications: Delivery of Therapeutic Agents and Use as MRI Contrast Agents. **Jeremy L. Steinbacher**<sup>1,2</sup>, Sherrill A. Lathrop<sup>2</sup>, Kai Cheng<sup>1</sup>, Arti Shukla<sup>2</sup>, Jedd Hillegass<sup>2</sup>, Risto Kauppinen<sup>3</sup>, Brooke T. Mossman<sup>2</sup> and Christopher C. Landry<sup>1</sup>, (1)University of Vermont, (2)University of Vermont, (3)Dartmouth-Hitchcock Medical Center
- 37 Self-Assembled Polymer Microparticles for Sustained Oral Delivery of Hydrophilic Bioactives. **Venkat K. Vendra**<sup>1</sup>, **Sitaraman Krishnan**<sup>1</sup> and Frederick A. Sexton<sup>2</sup>, (1)Clarkson University, (2)New World Pharmaceuticals, LLC

- 38 Mechanical Testing and State of Ease Analysis of Dynamic Elastomers. **Jiahui Li**, Christopher L. Lewis and Mitchell Anthamatten, University of Rochester
- 39 Characterization of Organic Precipitate from Hot-Water Extraction of Hardwoods. **Mangesh J. Goundalkar**, Biljana Bujanovic, Chen Gong and Thomas E. Amidon, State University of New York College of Environmental Science and Forestry (SUNY-ESF)
- 40 PEGylated and Fluorinated Ionic Salts for Dye-Sensitized Solar Cells. **Lalitha V. N. R. Ganapatibhotla<sup>1</sup>**, **Sitaraman Krishnan<sup>1</sup>**, Jianping Zheng<sup>2</sup> and Dipankar Roy<sup>2</sup>, (1)Clarkson University, (2)Clarkson University
- 41 Surface Wettability and Anti-Biofouling Properties of Ionic Block Copolymer Coatings. **Lin Wu** and **Sitaraman Krishnan**, Clarkson University
- 42 Nucleation and Growth of Semiconducting MoO<sub>3</sub> Films Studied by AFM. **Indee Dela** and Maria Hepel, State University of New York at Potsdam
- 43 Development of Site-Selective Metal Ion Prochelators for Investigation of Metal Ion Homeostasis in Bacteria. Matthew E. McCabe and **Clifford S. Rossiter**, SUNY Potsdam
- 44 Towards Paraphenylene Scaffolds with Ruthenium (II) Containing Side Chains. **Colette R. Griffin** and Darlene K. Taylor, North Carolina Central University
- 45 PEM Fuel Cell Studies Based on Mixed Methanol and Ethanol Liquid Fuel. **Oumarou Savadogo** and Huimin Tian, Ecole Polytechnique de Montreal
- 46 Sulfonated Nanoporous Polymer Electrolyte Membrane. **Sarjit Kaur<sup>1</sup>**, (1)Vassar College, (2)University of Minnesota
- 47 Performance of Dye Sensitized Solar Cells (DSSC) Based on TiO<sub>2</sub> Nanoparticles Prepared with and without Silicotunstic Acid (STA). **Oumarou Savadogo** and Minyu Li, Ecole Polytechnique de Montréal
- 48 Anthrax Spore-Laden Particle Detachment and Resuspension Due to Human Walking. **Xinyu Zhang<sup>1</sup>**, Andrea Ferro<sup>2</sup> and Goodarz Ahmadi<sup>1</sup>, (1)Clarkson University, (2)Clarkson University
- 49 Evaluation of Particle Resuspension Due to Human Walking. **Yilin Tian<sup>1</sup>**, Xinyu Zhang<sup>2</sup>, Sasikala Manthena<sup>3</sup> and Andrea Ferro<sup>3</sup>, (1)Clarkson University, (2)Clarkson University, (3)Clarkson University
- 50 Poly(oxazoline)-Poly(ethylene Glycol)-Poly(oxazoline) Amphiphilic Triblock Copolymers: From Synthesis to Self-Assembly of a Biocompatible and Thermoresponsive System. Machida Shinjiro<sup>2</sup>, **Adeline Lafon<sup>1</sup>** and Francoise M. Winnik<sup>1</sup>, (1)Universite of Montreal, (2)Kyoto Institute of Technology
- 51 Nanoparticle Technology for Computer Chip Manufacture. **Lifeng Chen**, Deborah Shipp and R. Partch, Clarkson University
- 52 Evaluation of Inorganic Lubricants for Gun Barrels. **Deborah Shipp**, Devon Shipp, Don Rasmussen, David Morrison, Ted Ritzko and R. Partch, Clarkson University
- 53 Functional Assessment of Neurons: Applicability to Stem Cell-Derived Neurons and Glia. **Melinda K. Kutzing**, Christopher G. Langhammer and Bonnie L. Firestein, Rutgers University
- 54 Inkjet Printing of High Density Electrochemiluminescent Microarrays for Genotoxicity Screening. **John C. Barron** and James F. Rusling, University of Connecticut

**Wednesday, June 2, 7:30 PM - 9:30 PM**

***Inorganic Chemistry, Posters***

*Barrington MPR*

Organizer: Mathew Maye

- 55 Morphology Controlled Colloidal Synthesis of Lanthanide Oxide and Oxochloride Nanocrystals. **Kenneth R. Kort** and Sarbajit Banerjee, Universty at Buffalo, The State University of New York
- 56 Structure and Magnetism of Copper Pyrazine Chains Separated by Dicyanoaurate. **Sarah J. Ludy**, Mark M. Turnbull and Jan Wikaira, Clark University
- 57 Alkali-, Alkaline Earth- and Lanthanide- Tosylates as Inexpensive Salt Metathesis Source Compounds. **Peter J. Rosado<sup>1</sup>**, William D. Buchanan<sup>1</sup>, Karin Ruhlandt-Senge<sup>1</sup>, Michael F. Lappert<sup>2</sup>, Andrew Frankland<sup>2</sup> and Adam Brooks<sup>1</sup>, (1)Syracuse University, (2)University of Sussex
- 58 Synthetic Attempts towards Heavy Alkaline Earth Pentafluorophenyl Complexes. **Abhilasha Verma<sup>1</sup>**, Julia Hitzbleck<sup>1,2</sup>, Glen B. Deacon<sup>2</sup> and Karin Ruhlandt-Senge<sup>1</sup>, (1)Syracuse University, (2)Monash University
- 59 Examination of Nanostructured Platinum-Based Catalytic Research for the Direct Methanol Fuel Cell: An Environmental Argument for Their Adaptation into Power Sources for Small Electronics. **Margaret M. Dobbins**, Bard College at Simon's Rock
- 60 Design of Novel Amine Ligands for the Synthesis Alkaline Earth Metal Compounds. **Alan G. Goos**, Ana Torvisco and Karin Ruhlandt-Senge, Syracuse University

- 61 Three-Dimensional Magnesium and Calcium Phosphonates and Carboxylates – New Avenues towards Bioactive Materials. **Yuriko Takahashi**, Victoria Bampoh and Karin Ruhlandt-Senge, Syracuse University
- 62 Nanostructured Vanadium Oxides by Chemical Vapor Transport and Hydrothermal Synthesis. **Jesus M. Velazquez**<sup>1</sup>, Cherno Jaye<sup>2</sup>, Daniel A. Fischer<sup>2</sup> and Sarbajit Banerjee<sup>1</sup>, (1)University at Buffalo, The State University of New York, (2)National Institute of Standards and Technology
- 63 Cell Targeting in Combination Chemotherapy. **Yi Shi**, Deepali Prashar, Dawei Cui, Yan-Yeung Luk and James C. Dabrowiak, Syracuse University

**Wednesday, June 2, 7:30 PM - 9:30 PM**

**Organic Chemistry, Posters**

*Barrington MPR*

Organizers: Steven Diver, Fehmi Damkaci

- 64 Synthesis of Aminosaccharides as a Core Compound for Constructing a Library. **Huang Chia-Wen**<sup>1</sup>, **Pang Cheng-Tse**<sup>1</sup>, **Chen Shao-Wei**<sup>1</sup>, **Chiang Li-Wu**<sup>1</sup> and Yu Chung-Shan<sup>1</sup>, (1)National Tsing Hua University, (2)Institute of Nuclear Energy Research, (3)Chang Gung Memorial Hospital
- 65 Palladium-Catalyzed Preparation of Weinreb Amides from Boronic Acids and Commercially Available *N*-Methyl-*N*-Methoxycarbonyl Chloride. Ravi Krishnamoorthy, Sang Q. Lam, Christopher M. Manley and **R. Jason Herr**, Albany Molecular Research, Inc (AMRI)
- 66 Efficient One-Pot Synthesis of 2-Aminobenzo[b]thiophene-3-Carbonitrile Derivatives. **Subramaniam Krishnananthan**<sup>1</sup>, Daniel Smith<sup>1</sup>, Jack Li<sup>1</sup>, Gregory D. Vite<sup>2</sup>, Bang-Chi Chen<sup>2</sup> and Jianqing Li<sup>1</sup>, (1)Bristol-Myers Squibb Company, (2)Bristol-Myers Squibb Company
- 67 Identification of a Second Glycerol Menthonide Isomer by X-ray Diffraction Crystallography of the 4-Bromobenzoate Derivative. **Anthony J. Kiessling**<sup>1</sup> and Matthias Zeller<sup>2</sup>, (1)Mansfield University, (2)Youngstown State University
- 68 Total Synthesis of a Series of Carbohydrate-Modified Analogues of KRN7000. **Maryam Khalili**, Kaddy Camara and Amy R. Howell, University of Connecticut
- 69 A Study of Vitamin D<sub>3</sub> Uptake by Microcrustaceans (*Daphnia*). **Pam Major** and Jeremy Cody, Rochester Institute of Technology
- 70 New Strategies for the Palladium-Catalyzed Direct Arylation Allowing Milder and More Broadly Applicable Reaction Conditions. **Olivier René** and Keith Fagnou, University of Ottawa
- 71 Carbon-Chlorine Bonds as Activating and Protecting Groups in Palladium-Catalyzed Direct Arylation of Heteroaromatics. **Benoit Liegault**, Ivan Petrov, Serge I. Gorelsky and Keith Fagnou, University of Ottawa
- 72 Model Studies toward the Synthesis of *N*-Vanillyl di(8-Methyl-6-Nonen)imide: An Undergraduate Research Project. **Kent S. Marshall** and Matthew W. Di Carmine, Quinnipiac University
- 73 New Ligand for Ullmann Type Aryl Halide Couplings. **Fehmi Damkaci** and Esra Altay, SUNY at Oswego
- 74 Electro-Optical Properties of Novel, Highly Twisted Triarylaminines for Organic Photovoltaics. **John M. Chudomel** and Paul M. Lahti, University of Massachusetts Amherst
- 75 2-Methylenetetrahydropyrans as Coupling Partners in the Carbonyl-Ene Reaction. **Dakin T. Sharum** and Nancy I. Totah, Syracuse University
- 76 Bidirectional Synthesis of Pyranyl Diketides Via Carbonyl-ene Reactions of 2-Methylenetetrahydropyrans. **Laura J. Bateman** and Nancy I. Totah, Syracuse University
- 77 Investigation of the Mechanism of C(sp<sup>3</sup>)-H Bond Cleavage in Pd(0)-Catalyzed Intramolecular Alkane Arylation. **Sophie Rousseaux**, Benjamin Chung, Serge Gorelsky and Keith Fagnou, University of Ottawa
- 78 Synthesis and Application of New Monomers for Thiol-Ene Polymerization. **Kate Murphy**, Elizabeth Stairs, Broden Rutherglen, Ryan McBath and Devon Shipp, Clarkson University
- 79 Esterification of Carboxylic Acids Using Alkoxyasilanes in the Presence of Dysprosium(III) Triflate. **Jeffrey C. Snyder** and Martin A. Walker, SUNY Potsdam
- 80 Cleavage of Ketones in the Presence of a Hydrated Lanthanide Triflate. **John A. Montgomery** and Martin A. Walker, SUNY Potsdam
- 81 Organic Radical Alloys as Magnetic Materials. **Gonca Seber** and Paul M. Lahti, University of Massachusetts Amherst

**Wednesday, June 2, 7:30 PM - 9:30 PM**

**Physical Chemistry, Posters**

*Barrington MPR*

Organizer: Nikolay Dimitrov

- 82 A Model Study of Adlayer Pattern Formation on Hexagonal and Square Substrates. **Gennadiy Berezutskiy**, Lucas Lawrence-Hurt, Greg Bubnis and Howard Mayne, University of New Hampshire
- 83 Testing the Mpemba Effect: Comparing the Freezing Times of Hard and Pure Water. **Amber Schnure Yoder** and **Paul J. Wendel**, Mansfield University
- 84 Structure and Function of Quinones in Photosynthesis: Differential Pulsed Voltammetry, *cw* EPR and HYSCORE Spectroscopy Studies of Substituent Effects on the Electronic Properties of Benzoquinone Models. **Ruchira Chatterjee**<sup>1,2</sup>, Sergey Milikisiyants<sup>1,2</sup>, Amanda Weyers<sup>1,2</sup> and K. V. Lakshmi<sup>1,2</sup>, (1)Rensselaer Polytechnic Institute, (2)Rensselaer Polytechnic Institute
- 85 Ligand Environment of the S<sub>2</sub> State of Photosystem II: A Study of the Hyperfine Interactions of the Tetranuclear Manganese Cluster by 2D HYSCORE Spectroscopy. **Jason P. Marion**<sup>1,2</sup>, Sergey Milikisiyants<sup>1,2</sup>, Ruchira Chatterjee<sup>1,2</sup>, Christopher Coates<sup>1,2</sup>, Ashley Meenaghan<sup>1,2</sup> and K. V. Lakshmi<sup>1,2</sup>, (1)Rensselaer Polytechnic Institute, (2)Rensselaer Polytechnic Institute
- 86 Nanomaterial Surface Energy Transfer (NSET) between Multiple Fluorescent Dyes and Gold Nanoparticles. **Kaitlin Coopersmith**, Magdalena Stobiecka and Maria Hepel, State University of New York at Potsdam
- 87 Interaction between Brilliant Yellow Dye and Bovine Serum Albumin. **Hui Xu**, Robert Wallace and Maria Hepel, State University of New York at Potsdam
- 88 Phase Transitions in Copper Succinate Related to Adsorbed Molecules. **Berenice Torruco**<sup>1</sup>, Paula Vera-Cruz<sup>1</sup>, Luis Felipe del Castillo<sup>1</sup>, Mario Basterrechea<sup>2</sup> and Jorge Balmaseda<sup>1</sup>, (1)Instituto de Investigaciones en Materiales, Universidad Autónoma de México, (2)Instituto de Ciencia y Tecnología de Materiales, Universidad de La Habana
- 89 Effect of Alignment on the Smectic A to Nematic Phase Transition of the Aligned Octylcyanobiphenyl Liquid Crystal. **Dipti Sharma**, UML
- 90 Replica Exchange Monte Carlo Simulations of Derivatized Fullerenes on Au(111). **Greg Bubnis** and Howard Mayne, University of New Hampshire

**Wednesday, June 2, 7:30 PM - 9:30 PM**

**Undergraduate Student Poster Session**

*Barrington MPR*

Organizer: Emanuela Andreescu, Andrea Ferro

- 91 Fluorescent Detection of Chemical Warfare Agents. **Deborah A. Barkley**, Ian M. Walton and Michael T. Huggins, University of West Florida
- 92 Withdrawn
- 93 Synthesis and Antiproliferating Activity of Iron Chelators of Hydroxyamino-1,3,5-Triazine Family. Daekyu Sun<sup>2</sup>, Galina Melman<sup>1</sup>, **Nicolas Letourneau**<sup>1</sup>, Allison M. Hays<sup>2</sup> and Artem Melman<sup>1</sup>, (1)Clarkson University, (2)College of Pharmacy, University of Arizona
- 94 Synthesis of Isoquinolones and Oxazoles *Via* Modified Pomeranz-Fritsch Cyclizations. **Kyle W. Rugg**, Kelly M. Walling and Jeremy A. Cody, Rochester Institute of Technology
- 95 Synthesis and Antiproliferating Activity of Iron Chelators of Hydroxyamino-1, 3, 5-Triazine Family. **Nicolas J. LeTourneau**<sup>1</sup>, Artem Melman<sup>1</sup>, Daekyu Sun<sup>2</sup> and Allison M. Hays<sup>2</sup>, (1)Clarkson University, (2)University of Arizona
- 96 Bio-Analyte Detection with Restriction Endonucleases Complexes. Lei Yan, **Saronn Yitbarek** and Herman O. Sintim, University of Maryland
- 97 Electrostatic Particulate Dosage and Exposure System (EPDEXS): A Method for Quantifiable and Controlled Dosage of Respirable Size Particles for In Vitro Studies. **Jake Brutman**, James Zahardis and Giuseppe A. Petrucci, University of Vermont
- 98 Neuroprotective Properties of Cerium Oxide Nanoparticles. **William Mosenthal**<sup>1</sup>, Abigail Lynch<sup>1</sup>, E. Silvana Andreescu<sup>2</sup>, Joe Erlichman<sup>1</sup> and Ana Estevez<sup>1</sup>, (1)St. Lawrence University, (2)Clarkson University
- 99 Biocatalytic Alginate Microreactors for Simultaneous Hydrolysis and Fermentation of Starch for Biofuel Ethanol. **Olivia Durham**, Guang Yang, Maryna Ornatska, Phillip Christiansen and Silvana Andreescu, Clarkson University
- 100 Chemical Screening of Cellulosic Biomass: Direct Combustion Energy Crops for Northern New York – Canada Goldenrod. **Juliana Canale**, Steven Delmonaco, Matthew Kay, Sydney Laramie, Adam Murling, Benjamin Ritz, Alyssa Rockwell and Phillip Christiansen, Clarkson University

- 101 Biocatalytic Alginate Microreactors for Simultaneous Isomerization and Fermentation of D-Xylose for Fuel Ethanol. **Jessica Nuwer**, Jilliane Benedetto, Joshua Knapp, Maryna Ornatska, Silvana Andreescu and Phillip Christiansen, Clarkson University
- 102 Clarkson NSF REU Site Program in Environmental Sciences and Engineering: Investigating Air Pollution and Atmospheric Chemistry Topics (Part 1). **Theresa Long**, Abigail Small, Rachel Runtas, Jamiann Wilcox, Sahil Singla, Silvana Andreescu and Andrea R. Ferro, Clarkson University
- 103 Clarkson NSF REU Site Program in Environmental Sciences and Engineering: Investigating Energy Solutions (Part 2). **William Arlington**, Yamairy Rivera Rivera, Bianca Garcia, Eileen Stachowski, Andrea R. Ferro and Silvana Andreescu, Clarkson University
- 104 Clarkson NSF REU Site Program in Environmental Sciences and Engineering: Impacts on Natural Systems and Engineering Solutions (Part 3). **George Apau**, Samantha Arnold, Katie Carroll, Kallen Frey, Ryan Ziels, Silvana Andreescu and Andrea R. Ferro, Clarkson University
- 105 Oxygen Catalyzed Mobilization of Iron from Ferritin by Chelate Ligands. **Justin McNally**<sup>1</sup>, Xing Xin Liu<sup>2</sup>, Artem Melman<sup>2</sup> and Fadi Bou-Abdallah<sup>1</sup>, (1)State University of New York, (2)Clarkson University
- 106 Iron Oxidation and Mineral Core Formation in the Non-Heme *Escherichia coli* Ferritin, EcFtnA. **Adeola Awomolo**<sup>1</sup>, Huidong Yang<sup>1</sup>, Mark Woodhall<sup>2</sup>, Simon C. Andrews<sup>2</sup>, N. Dennis Chasteen<sup>3</sup> and Fadi Bou-Abdallah<sup>1</sup>, (1)State University of New York, (2)University of Reading, School of Animal & Microbial Sciences, (3)University of New Hampshire
- 107 Interaction of the Human Serum Transferrin with Its Receptor. **Banu Kandemir**<sup>1</sup>, Ashley N. Steere<sup>2</sup>, Anne B. Mason<sup>2</sup>, N. Dennis Chasteen<sup>3</sup> and Fadi Bou-Abdallah<sup>1</sup>, (1)State University of New York, (2)University of Vermont, (3)University of New Hampshire
- 108 Identification of Disulfide-Linked Proteins as Serum Biomarkers. **Izabela Sokolowska**<sup>1</sup>, Supriya Mathur<sup>1</sup>, Melissa Butkiewicz<sup>1</sup>, Rama Yakubu<sup>1</sup>, Christopher E. Talbot<sup>1</sup>, Jonathan Samson<sup>1</sup>, Mary Ann Gawinowicz<sup>2</sup>, Alisa Woods<sup>3</sup> and Costel C. Darie<sup>1</sup>, (1)Clarkson University, (2)Columbia University, (3)Padure Biomed
- 109 Nanotechnology Application of Genetically Engineered Proteins That Form Self-Assembled Monolayers on Gold Surfaces: A Biosensor for Nonylphenol. **Amanda Aldous**, Adam Layhee and Linda Luck, SUNY Plattsburgh
- 110 Prostate Androgen Regulated (PAR) Protein and Tumor Differentiation Factor (TDF) as Serum Biomarkers in Sera of Patients with Cancer. **Supriya Mathur**<sup>1</sup>, Izabela Sokolowska<sup>1</sup>, Melissa Butkiewicz<sup>1</sup>, Rama Yakubu<sup>1</sup>, Christopher Talbot<sup>1</sup>, Jonathan Samson<sup>1</sup>, Alisa Woods<sup>2</sup> and Costel C. Darie<sup>1</sup>, (1)Clarkson University, (2)Padure Biomed
- 111 The Iron Oxidation Mechanism in Recombinant Heteropolymer Ferritins. **Brenna Cooper**<sup>1</sup>, Paolo Santambrogio<sup>2</sup>, Sonia Levi<sup>2</sup>, N. Dennis Chasteen<sup>3</sup> and Fadi Bou-Abdallah<sup>1</sup>, (1)State University of New York at Potsdam, (2)DBIT-San Raffaele Scientific Institute, (3)University of New Hampshire
- 112 Characterization of Metal Binding to EfeO, an Iron Transport Protein from *Escherichia coli*. **Justin McNally**<sup>1</sup>, Huidong Yang<sup>1</sup>, Mohan Rajasekaran<sup>2</sup>, Kim Watson<sup>2</sup>, Simon C. Andrews<sup>2</sup> and Fadi Bou-Abdallah<sup>1</sup>, (1)State University of New York at Potsdam, (2)School of Biological Sciences, University of Reading
- 113 Band Gap Widening of Manganese Doped Nickel Films. **Sam B. Wagner** and Kenneth Podolak, SUNY Plattsburgh
- 114 Synthesis and Characterization of Doubly-Substituted Titanium Dioxide Materials Using Chemical Vapor Transport. **Sarah A. Belenchia**, Brittney E. Kromer and Janet L. Hunting, Ithaca College
- 115 Effects of Cerium Oxide Nanoparticles on Wild-Type and Superoxide Dismutase-2 Deletion Mutant Strains of *Caenorhabditis elegans*. **Joe W. Alvin**, Joe S. Erlichman and Ana Y. Estevez, St. Lawrence University
- 116 Microscopic Study of Conformational Change of Protein on Gold Nanoparticles. Kazushige Yokoyama<sup>1</sup>, Harold J. Hoops<sup>2</sup>, Makaia Papasergi<sup>1</sup>, Marissa A. Evarts<sup>1</sup> and **Songwong Hong**<sup>1</sup>, (1)State University of New York Geneseo College, (2)State University of New York Geneseo College
- 117 DNA Sensors for the Assessment of DNA Damage by Atrazine. **Amanda Prance**, Kaitlin Coopersmith, Magdalena Stobiecka and Maria Hepel, State University of New York at Potsdam
- 118 Studies of Homocysteine Interactions with Fluorosurfactant-Capped Gold Nanoparticles. **Jeffrey Deeb**, Magdalena Stobiecka and Maria Hepel, State University of New York at Potsdam
- 119 Prooxidant and Antioxidant Roles of Quercetin in DNA Interactions. **Sara Cutler**, Magdalena Stobiecka and Maria Hepel, State University of New York at Potsdam
- 120 Degradable Polyamides from Thiol-Ene Polymerization. **Gwendolyn T. Burkey**, Garrett D. Liddil, Kate A. Murphy, Yu Ling Huang, Broden G. Rutherglen, Ryan A. McBath and Devon A. Shipp, Clarkson University
- 121 Determining the Effect of Tau on Microtubule Mechanics Using Atomic Force Microscopy. **Scott C. Pascal**, Yevgeniya Sergeyenko and Zachary J. Donhauser, Vassar College
- 122 Synthesis of Diarylsulfonylureas as Potential Anticancer Agents. **Amanda J. Dickson**<sup>1</sup> and Anthony A. Molinero<sup>2</sup>, (1)SUNY Potsdam, (2)SUNY Potsdam

# Thursday, June 3, 2010

Thursday, June 3, 2010, 8:30 AM - 12:20 PM

## *Inorganic Chemistry*

Dunn 206

Organizer/Presider: Mathew Maye

- 8:30**      **123**      Covalently-Bridged Spin Ladders: Variable Exchange through Diazine Ligands. **Mark M. Turnbull**<sup>1</sup>, Robert T. Butcher<sup>1</sup>, Christopher P. Landee<sup>2</sup>, Joaquim Jornet<sup>3</sup>, Merce Deumal<sup>3</sup> and Juan J. Novoa<sup>3</sup>, (1)Clark University, (2)Clark University, (3)Universitat de Barcelona
- 8:50**      **124**      Synthesis, Structure, and Thermogravimetric Analysis of Alkaline Earth and Lanthanide Perfluoro-t-Butoxide Complexes. **William D. Buchanan** and Karin Ruhlandt-Senge, Syracuse University
- 9:10**      **125**      Coordination Complexes Incorporating Pyrophosphate: Structural Overview and Exploration of Their Diverse Magnetic, Catalytic and Biological Properties. **Nadia Marino** and Robert P. Doyle, Syracuse University
- 9:30**      **126**      Possible Involvement of a Super Acid in the Chemistry of Chlorophosphazenes. **Claire A. Tessier**, Zin-Min Tun, Matthew J. Panzner, Douglas Medvetz, Vincenzo Scionti, Chrys Wesdemiotis and Wiley J. Youngs, University of Akron
- 9:50**      **127**      Preparation and Characterization of Calcium and Magnesium Phosphonates. **Victoria N. K. Bampoh**, Yuriko Takahashi and Karin Ruhlandt-Senge, Syracuse University
- 10:10**      **128**      Effects of Coupled Homogeneous Chemical Reactions on the Response of Large Amplitude AC Voltammetry: Extraction of Kinetic and Mechanistic Information by Fourier Transform Analysis of Higher Harmonic Data. **John P. Bullock**<sup>1</sup> and Alan M. Bond<sup>2</sup>, (1)Bennington College, (2)Monash University
- 10:30**      Intermission
- 10:40**      **129**      Synthesis of Alkaline Earth 2-Phenylphenolate Species: Structural Consequences of M-C $\pi$  Interactions. **William D. Buchanan**, Maria F. Zuniga and Karin Ruhlandt-Senge, Syracuse University
- 11:00**      **130**      Tuning the Metal-Insulator Phase Transition in VO<sub>2</sub> Nanostructures. **Luisa Whittaker**<sup>1</sup>, Cherno Jaye<sup>2</sup>, Daniel Fischer<sup>2</sup> and Sarbajit Banerjee<sup>1</sup>, (1)University at Buffalo, (2)National Institute of Standards and Technology
- 11:20**      **131**      Non-Hydrolytic Synthesis, Characterization, and Electronic Structure of Colloidal Early Transition Metal Oxide Nanocrystals. **Sean W. Depner**, Kenneth R. Kort, Hengsong Zhang and Sarbajit Banerjee, University at Buffalo, State University of New York
- 11:40**      **132**      Synthesis, Electronic Structure, and Phase Transition in M<sub>x</sub>V<sub>2</sub>O<sub>5</sub> Nanostructures. **Christopher J. Patridge** and Sarbajit Banerjee, SUNY University at Buffalo
- 12:00**      **133**      Thermal and Morphological Studies of Nanostructured Metal Coated Coaxial Polymer Fibers. **Eliud K. Mushibe**, Daniel P. Mahoney and Wayne E. Jones, State University of New York at Binghamton

Thursday, June 3, 8:30 AM - 12:20 PM

## *Metals in Living Systems*

Timerman 131

Organizer/Presider: Wolff Kirsch

- 8:30**      **134**      Iron-Sulfur World Theory and Brain Iron Metabolism. **Wolff M. Kirsch**, Matthew Zabel and Andrew Crofton, Loma Linda University
- 9:15**      Discussion
- 9:20**      **135**      Quantification of Localized Brain Iron Sources Using Magnetic Resonance Phase Images. **Grant Mc Auley**<sup>1</sup>, Matthew Schrag<sup>1</sup>, Pal Sipos<sup>2</sup>, Samuel Barnes<sup>5</sup>, Andre Obenaus<sup>3,4,6</sup>, E. Mark Haacke<sup>5,6,7</sup>, Barbara Holshouser<sup>6</sup>, Harry Vinters<sup>8,9</sup> and Wolff Kirsch<sup>1</sup>, (1)Neurosurgery Center for Research, Training and Education, (2)University of Szeged, (3)Biophysics and Bioengineering, School of Science and Technology, (4)Non-Invasive Imaging Laboratory, (5)MRI Institute for Biomedical Research, (6)Loma Linda University Medical Center, Loma Linda, CA, (7)Radiobiology Program, Loma Linda University, (8)Wayne State University, Detroit, MI, (9)Department of Pathology and Laboratory Medicine, (10)David Geffen School of Medicine, University of California Los Angeles
- 10:05**      Discussion
- 10:10**      Intermission
- 10:25**      **136**      Cu/Fe Relationship in Living Systems. **Claudius Mueller**<sup>1,2</sup>, Matthew Schrag<sup>1</sup> and Wolff M. Kirsch<sup>1</sup>, (1)Loma Linda University, (2)George Mason University



- 11:10 Discussion
- 11:15 137 Mapping Iron, Zinc and Copper in the Alzheimer's Disease Brain: A Quantitative Meta-Analysis. **Matthew Schrag**<sup>1</sup>, Claudius Mueller<sup>1,2</sup>, Mark A. Smith<sup>3</sup> and Wolff M. Kirsch<sup>1</sup>, (1)Loma Linda University, (2)George Mason University, (3)Case Western Reserve University

12:00 Discussion

12:05 Panel Discussion

**Thursday, June 3, 8:30 AM - 10:30 AM**

***Nanotechnology and the Environment***

*Kellas 217*

Organizer/Presider: Suresh Dhaniyala

- 8:30 138 Practical Incorporation of Nanomaterials in Process and Products. **Alan Rae**, TPF Enterprises LLC
- 9:10 139 Deposition of Highly Dispersed Pt Nanoparticles on Ceramic Substrates. **Ionel Halaciuga**<sup>1</sup>, Mihaela Jitianu<sup>2</sup> and Dan Goia<sup>1</sup>, (1)Clarkson University, (2)Rutgers, The State University of NJ
- 9:30 Intermission
- 9:40 140 Design and Photocatalytic Applications of Au Nanoparticles Supported on Electrospun TiO<sub>2</sub> Nanofibers. **Dickson M. Andala**, Brian Snyder, Emily Obuya, Nancy Lai and Wayne E. Jones, Binghamton University
- 10:10 141 Tailored Electrode Concentration Sensor (TECS) for Nanoparticle Concentration Measurements. **Ishara R. J. Hungama Mudalige** and **Suresh Dhaniyala**, Clarkson University

**Thursday, June 3, 8:30 AM - 11:15 AM**

***Oxidative Stress and Antioxidants: Diagnosis and Therapy***

*Kellas 101*

Organizer/Presider: Emanuela Andreescu

- 8:30 142 Electrochemiluminescence Arrays for Toxicity and Oxidative Stress Screening. **James Rusling**<sup>1</sup>, Sadogopan Krishnan<sup>1</sup>, Linlin Zhao<sup>1</sup>, Dharamainder Choudhary<sup>2</sup> and John Schenkman<sup>2</sup>, (1)University of Connecticut, (2)University of Connecticut
- 9:00 143 DNA Unwinding and Oxidative Damage Caused by Toxicants. **Maria Hepel** and Magdalena Stobiecka, State University of New York at Potsdam
- 9:20 144 Comparative Analysis of Quercetin Oxidation by Electrochemical, Enzymatic, Autooxidation and Free Radical Generation Techniques. **Wunmi Sadik** and Ailing Sadik, SUNY-Binghamton
- 9:40 Intermission
- 9:55 145 Antioxidant Effects of Cerium Oxide Nanoparticles in an *In-Vitro* Mouse Hippocampal Brain Slice Model of Ischemia. **Ana Y. Estevez**<sup>1,2</sup>, Praveen Chatani<sup>1</sup>, Johanna Ludington<sup>1</sup>, Abigail Lynch<sup>1</sup>, William P. Mosenthal<sup>1</sup>, James C. Leiter<sup>4</sup>, E. Silvana Andreescu<sup>3</sup> and Joseph S. Erlichman<sup>1</sup>, (1)St. Lawrence University, (2)St. Lawrence University, (3)Clarkson University, (4)Dartmouth Medical School
- 10:15 146 Iron Chelation and Oxidative Stress: A Controversial Relationship. **Artem Melman**<sup>1</sup>, Fadi Bou-Abdallah<sup>2</sup> and Xing Xing Liu<sup>1</sup>, (1)Clarkson University, (2)State University of New York at Potsdam
- 10:35 147 Analysis of Transient Protein-Protein Interactions within EphB2-Dependent Signaling. Christopher Talbot, Izabela Sokolowska, Supriya Mathur, Jonathan Samson, Melissa Butkiewicz, Rama Yakubu and **Costel C. Darie**, Clarkson University
- 10:55 148 Immunoaffinity-Mass Spectrometry Approach for Identification of *N*-Formyl Kynurenine in Proteins. **Irina Perdivara**<sup>1</sup>, Marilyn Ehrenshaft<sup>2</sup>, Ronald P. Mason<sup>2</sup> and Kenneth B. Tomer<sup>1</sup>, (1)NIEHS/NIH, (2)NIEHS/NIH

**Thursday, June 3, 8:30 AM - 11:40 AM**

***Smart Polymer Materials and Hybrid Systems***

*Kellas 105*

Organizer/Presider: Sergiy Minko

- 8:30 149 Wall Structure and Permeability in "Breathing" Vesicles. Shaoyong Yu and **Adi Eisenberg**, McGill University
- 9:00 150 Responsive Assemblies of Block Copolymer Micelles. **Svetlana A. Sukhishvili**, Stevens Institute of Technology
- 9:30 151 Biomimetic Thermally Responsive Collagen Systems. **Martin A. Case**<sup>1,2</sup>, Lyndelle T. LeBruin<sup>1</sup> and Sunandan Banerjee<sup>1</sup>, (1)University of Vermont, (2)University of Vermont
- 10:00 152 Cyclic Poly(2-Isopropyl-2-Oxazoline): Synthesis and Heat-Induced Phase Transition of Their Solutions in Water. **Xing-Ping Qiu** and Françoise M. Winnik, University of Montreal

- 10:20 Intermission
- 10:40 153 Structural Flexibility in DNA Guided Nanoparticle Assemblies. **Dmytro Nykypanchuk**<sup>1</sup>, Mathew M. Maye<sup>2</sup> and Oleg Gang<sup>1</sup>, (1)Brookhaven National Laboratory, (2)Syracuse University
- 11:10 154 Polymer Films with Optically Controlled Form and Actuation on a Nanometer Scale. **Svetlana Santer**, University of Potsdam

**Thursday, June 3, 8:55 AM - 11:50 AM**

**Nanotechnology: Emerging Analytical/Bioanalytical & Medical Applications**

*Kellas 102*

Organizer/Presider: Chuanjian Zhong

- 8:55 Introductory Remarks
- 9:00 155 Quantum Dots for Sensing and Bioimaging". **Mathew M. Maye**, Hyunjoo Han, Joshua Zylstra and Corey Hine, Syracuse University
- 9:30 156 Nanotechnology and Non-Traditional Methods of Cancer Detection. **Igor Sokolov**<sup>1,2,3</sup>, Maxim E. Dokukin<sup>1</sup>, Ravi M. Gaikwad<sup>1</sup>, Nataliia V. Guz<sup>1</sup> and Craig D. Woodworth<sup>4</sup>, (1)Clarkson University, (2)Clarkson University, (3)Clarkson University, (4)Clarkson University
- 10:00 157 Optical Biosensors That Exploit Plasmon Coupling in Noble Metal Nanoparticles Mediated by a Bioresponsive Hydrogel. **Ihor Tokarev**, Iryna Tokareva, Venkateshwarlu Gopishetty, Evgeny Katz and Sergiy Minko, Clarkson University
- 10:20 Intermission
- 10:30 158 Resonance Elastic Light Scattering (RELS) Spectroscopy for Monitoring Biomolecule-Induced Gold Nanoparticle Assembly. **Maria Hepel** and Magdalena Stobiecka, State University of New York at Potsdam
- 10:50 159 Nanoporous Metal Substrates: Electrochemical Processing and Surface Area Measurements. **Nikolay Dimitrov**<sup>1</sup>, Yihua Liu<sup>1</sup> and Stoyan Bliznakov<sup>2</sup>, (1)Binghamton University-SUNY, (2)Brookhaven National Laboratory
- 11:20 160 Probing Interfacial Interactions of Bacteria on Nanoparticles and Substrates with Different Surface Properties. **Jin Luo**, Linyang Wang, Elizabeth Crew, Rameshwori Loukrakpam, Jun Yin and Chuan-Jian Zhong, State University of New York at Binghamton

**Thursday, June 3, 9:00 AM - 12:10 PM**

**Detection of Protein Biomarkers for Medical Applications**

*Kellas 103*

Organizer/Presider: James Rusling

- 9:00 161 Cancer Biomarkers for the Realization of Personalized Medicine. **Vyomesh Patel**, National Institute of Craniofacial and Dental Research, NIH
- 9:30 162 The Path to Absolute Protein Quantification Using LC-MS. Ala F. Nassar<sup>1</sup>, Jim F. Rusling<sup>1</sup>, Dustin C. Yaworsky<sup>2</sup> and **David Heywood**<sup>2</sup>, (1)University of Connecticut, (2)Waters Corporation
- 10:00 163 Ultrathroughput Mass Spectrometry for Quantifying Apical Plasma Membrane CFTR. Bekim Bajrami, Pamela Diego and **Xudong Yao**, University of Connecticut
- 10:30 164 New Proteomics Approaches for Identification, Quantitation and Validation of New Serum Biomarkers. Izabela Sokolowska<sup>1</sup>, Supriya Mathur<sup>1</sup>, Melissa Butkiewicz<sup>1</sup>, Rama Yakubu<sup>1</sup>, Jonathan Samson<sup>1</sup>, Christopher Talbot<sup>1</sup>, Mary Ann Gawinowicz<sup>2</sup>, Alisa G. Woods<sup>3</sup> and **Costel C. Darie**<sup>1</sup>, (1)Clarkson University, (2)Columbia University, (3)Padure Biomedical Consulting
- 11:00 Intermission
- 11:20 165 New Proteomics Approaches for Identification of Serum Biomarkers. **Izabela Sokolowska**, Supriya Mathur and Costel Darie, Clarkson University
- 11:40 166 Biocomputing Coding Concept Approach Based on Parallel and Multiplexed Enzyme Logic Gates for Multi-Injury Diagnosis. **Evgeny Katz**<sup>1</sup>, Joseph Wang<sup>2</sup>, Jan Halámek<sup>1</sup>, Joshua R. Windmiller<sup>2</sup>, Jian Zhou<sup>1</sup>, Min-Chieh Chuang<sup>2</sup>, Padmanabhan Santhosh<sup>2</sup>, Guinevere Strack<sup>1</sup>, Mary A. Arugula<sup>1</sup>, Soujanya Chinnapareddy<sup>1</sup> and Vera Bocharova<sup>1</sup>, (1)Clarkson University, (2)University of California

**Thursday, June 3, 9:00 AM - 12:15 PM**

***Green Chemistry in Industry for a Sustainable World***

*Kellas 106*

Organizer/Presider: Berkeley Cue

- 9:00** Introductory Remarks
- 9:10 167** Chemical Enterprise in the 21<sup>st</sup> Century. **Robert Peoples**, ACS Green Chemistry Institute
- 9:55 168** Explore New Chemical Reactivities for Synthetic Efficiency. **Chao-Jun Li**, McGill University
- 10:30** Intermission
- 10:45 169** Patent Law for Green Technology: New Initiatives, Old Principles. **Andrew Cohen**, Jones Day
- 11:15 170** Stabilized Alkali Metals for Safer, Sustainable Synthesis. **Paul F. Vogt**, SiGNa Chemistry, Inc.
- 11:45** Panel Discussion

**Thursday, June 3, 9:00 AM - 12:20 PM**

***Organic Chemistry- Session A, Metals in Organic Synthesis***

*Kellas 104*

Organizers: Steven Diver, Fehmi Damkaci

Presider: Steven Diver

- 9:00** Introductory Remarks
- 9:05 171** Transformations Utilizing Ruthenium Hydrides for the Synthesis of Conjugated Systems. **Daniel A. Clark**, Syracuse University
- 9:30 172** Mechanism of the Copper-Promoted Intramolecular Aminooxygenation of Alkenes. **Monissa C. Paderes**, Jerome B. Keister and Sherry R. Chemler, University at Buffalo, The State University of New York
- 9:55 173** Regio- and Stereoselective Hydroformylation Using a Catalytic Directing Group. **Kian Tan**, Boston College
- 10:35** Intermission
- 10:45 174** Asymmetric Ring-Expanding Enyne Metathesis. **William S. Karnofel** and Steven T. Diver, University at Buffalo
- 11:10 175** Lewis Acid Mediated Ring Fragmentations: A Concise Route to Polycyclic 2,5-Dihydropyrroles from  $\alpha$ -Silyloxy Ketones. **Matthias Brewer**, Qiufeng Huang, Cristian Draghici and Ali Bayir, The University of Vermont
- 11:50 176** Rhodium(III)-Catalyzed Intermolecular Hydroarylation of Alkynes. **Derek J. Schipper**, Marieke Hutchinson and Keith Fagnou, University of Ottawa
- 12:15** Concluding Remarks

**Thursday, June 3, 9:15 AM - 11:35 AM**

***Organic Chemistry- Session B***

*Dunn 208*

Organizers: Steven Diver, Fehmi Damkaci

Presider: Fehmi Damkaci

- 9:15** Introductory Remarks
- 9:20 177** Enantioselective Formal Total Synthesis of (+)-Aspergillide C. **Joseph D. Panarese** and Stephen P. Waters, University of Vermont
- 9:45 178** Copper (II) Promoted and Catalytic Intra/Intermolecular Diamination of Alkenes. **Fatima C. Sequeira**, Benjamin W. Turnpenney and Sherry R. Chemler, University at Buffalo
- 10:10 179** Studies towards the Total Synthesis of Eletefine. **Jeremy A. Cody**, Ijaz Ahmed and Douglas J. Tusch, Rochester Institute of Technology
- 10:35** Intermission
- 10:45 180** Convergent, Stereocontrolled Routes to Tricyclic Systems. **Kelley C. Shortsleeves**<sup>1,2</sup>, Adrian D. Hobson<sup>1</sup> and Donald B. Konopacki<sup>1</sup>, (1)Abbott Bioresearch Center, (2)Clark University
- 11:10 181** An Aldol-Based Approach toward Aflastatin A. **Peter H. Fuller**, Joseph Young and David A. Evans, Harvard University

**Thursday, June 3, 1:00 PM - 5:40 PM**

**Biofuel Combustion**

Stowell 211

Organizer/Presider: Philip Hopke, Ellen Burkhard

- 1:00** Introductory Remarks
- 1:05 182** New York Bioenergy. **Janet Joseph**, New York State Energy Research and Development Authority
- 1:30 183** NYSERDA Research and Demonstration Program on High-Efficiency Biomass Heating Systems. **Ellen J. Burkhard**, New York State Energy Research and Development Authority
- 2:00 184** Comparison of Gas, Oil, Biodiesel, and Wood-Fueled Residential Heating System Emission Characteristics. **Thomas Butcher** and Roger McDonald, Brookhaven National Laboratory
- 2:20 185** Comparative Emissions from Boilers <15mmBtu. **Lisa Rector**, NESCAUM
- 2:40 186** Assessing Biomass Smoke Emissions Using Levoglucosan Ambient Concentrations. **Monica A. Mazurek**<sup>1</sup>, Harmonie A. Hawley<sup>1</sup>, Min Li<sup>8</sup>, Steve McDow<sup>2</sup>, Lee Alter<sup>3</sup>, John Graham<sup>3</sup>, Henry Dirk Felton<sup>4</sup>, Thomas McKenna<sup>5</sup>, Charles Pietarinen<sup>5</sup>, Alan Leston<sup>6</sup>, Steve Bailey<sup>6</sup>, James Schwab<sup>7</sup> and Ken Demerjian<sup>7</sup>, (1)Rutgers University, (2)National Exposure Research Laboratory, U.S. EPA, (3)Northeast States for Coordinated Air Use Management, (4)New York State Department of Environmental Conservation, (5)New Jersey Department of Environmental Protection, (6)Connecticut Department of Environmental Protection, (7)University at Albany - State University of NY, (8)California University of Pennsylvania, (9)Center for Advanced Infrastructure & Transportation
- 3:00 187** Energy and Emissions Performance of Residential and Small Scale Commercial Wood Boilers in Europe and the US. **Nathan Russell** and Ellen Burkhard, NYSERDA
- 3:20** Intermission
- 3:40 188** Reducing Emissions from Wood Chip and Wood Pellet Boilers through System Design and Operational Optimization: Lessons from Europe and the USA. **David Dungate**, ACT Bioenergy, LLC
- 4:00 189** Performance Evaluation of High Efficiency Wood Boiler. **Sriraam Ramanathan Chandrasekaran**, James Laing, Suresh Raja, Thomas M. Holsen and Philip K. Hopke, Clarkson university
- 4:20 190** Performance Evaluation of a Model Electrostatic Precipitator for an Advanced Wood Combustion (AWC) System. **Mark Omara**, Philip K. Hopke, Suresh Raja and Thomas M. Holsen, Clarkson University
- 4:40 191** Characterization of Mercury Emissions from Domestic Wood Combustion. **Jiaoyan Huang**<sup>1,2</sup>, **James Laing**<sup>2,3</sup>, Tiffany Basara<sup>2</sup>, Philip Hopke<sup>2,3</sup> and Thomas Holsen<sup>1,2,3</sup>, (1)Clarkson University, (2)Clarkson University, (3)Clarkson University
- 5:00 192** Feasibility of Grass Pellet Combustion for Residential Heating. **Jerome H. Cherney**, Cornell University
- 5:20** Symposium Wrap-up and Policy Implications.

**Thursday, June 3, 1:00 PM - 5:40 PM**

**Drug Development and Design**

Kellas 104

Organizer/Presider: Jason Herr

- 1:00** Introductory Remarks
- 1:05 193** Discovering Drugs, Tools and Interesting Chemical Properties. **Steven R. LaPlante**, Boehringer Ingelheim (Canada) Ltd.
- 1:45 194** Novel 5-HT<sub>3</sub> Receptor Modulators for the Potential Treatment of Irritable Bowel Syndrome. **David D. Manning**<sup>1</sup>, Christopher L. Cioffi<sup>1</sup>, Kristen N. Ryan<sup>1</sup>, Alexander Usyatinsky<sup>1</sup>, Kevin Fitzpatrick<sup>1</sup>, Carla Hassler<sup>1</sup>, Svetlana Dobritsa<sup>1</sup>, Cheng Guo<sup>1</sup>, Liaqat Masih<sup>1</sup>, Zhenjun Zhang<sup>1</sup>, Sok Hui Choo<sup>1</sup>, Jonathan D. Wierschke<sup>1</sup>, William G. Earley<sup>1</sup>, Peter R. Guzzo<sup>1</sup>, Marlene L. Cohen<sup>2</sup>, Amy S. Butler<sup>3</sup>, Catherine A. Brady<sup>3</sup> and Nicholas M. Barnes<sup>3</sup>, (1)AMRI, (2)Creative Pharmacology Solutions LLC, (3)Celentyx Ltd.
- 2:25 195** Rethinking Natural Products in the Light of New Synthetic Methodologies. **Mark Behnke**, MLBehnke Consulting
- 3:05** Intermission
- 3:10 196** Drug Development and Design: Fundamental Concepts in Scaling from Milligrams to Kilograms. **Robert Norrie**, AMRI
- 3:50 197** Recent Development in Catalysis at BI. **Wenjun Tang**, Boehringer Ingelheim Pharmaceuticals Inc
- 4:30** Intermission

- 4:35**      **198**      Optimization of the  $\beta$ 5 Potency and Cellular Activity of a Series of Non-Covalent Dipeptide Inhibitors of the Human 20S Proteasome Guided by X-ray Crystallography. **Christopher Blackburn**, Cynthia Barrett, Jonathan Blank, Nancy Bump, Frank Bruzzese, Larry Dick, Paul Fleming, Khris Garcia, Paul Hales, Lee Herman, Matt Jones, Jane Liu, Darshan Sappal, Mike Sintchak, Chris Tsu and Ken Gigstad, Millennium Pharmaceuticals, The Takeda Oncology Company
- 4:55**      **199**      Antimicrobial and Antitumor Properties of Silver Carbene Complexes Encapsulated in Nanoparticles. **Wiley J. Youngs**, Amanda R. Knapp, Matthew J. Panzner and Claire A. Tessier, University of Akron
- 5:15**      **200**      Synthesis, Characterisation and In-Vitro Cytotoxic Activity of Some Ru(II) Complexes. **Sreekanth Thota**<sup>1</sup>, Subhas Somalingappa Karki<sup>2</sup> and Erik de Clercq<sup>3</sup>, (1)S.R. College of Pharmacy, (2)KLE Academy of Higher Education and Research, (3)Rega Institute of Medical Research
- 5:35**      Concluding Remarks

**Thursday, June 3, 1:00 PM - 4:30 PM**

***Green Chemistry in Industry for a Sustainable World***

*Kellas 106*

Organizer/Presider: Berkeley Cue

- 1:00**      Introductory Remarks
- 1:10**      **201**      Green Chemistry in the Pharmaceutical Industry: A Model for Sustainability. **Berkeley W. Cue**, BWC Pharma Consulting LLC
- 1:50**      Micro Reactor Potential: Much Bigger Than You Think - Nicholas Bush, Newry Corp.
- 2:30**      Intermission
- 2:45**      **202**      The Use of Green Chemistry Principles in Development of Torcetrapib, a CETP Inhibitor. **Juan C. Colberg**, Pfizer Inc.
- 3:30**      **203**      Small Pharma Can Do Green Chemistry on Large-Scale. **Stefan G. Koenig**, Sepracor Inc
- 4:00**      Panel Discussion

**Thursday, June 3, 1:00 PM - 4:30 PM**

***Metal Ion Complexes in Biological Imaging***

*Timerman 131*

Organizer/Presider: Janet Morrow

- 1:00**      **204**      The Use of Radiometals in Nuclear Medicine Imaging Procedures. **Robert H. Mach**, Washington University School of Medicine
- 1:45**      **205**      Tuning the Rate Constant for Exchangeable Alcohol Protons in Lanthanide(III) PARACEST Agents. **Janet R. Morrow**, Jacob Hammell and Leandro Buttarazzi, University at Buffalo, State University of New York
- 2:15**      **206**      Cobalamin Based Delivery/Targeting from Rhenium to Rotavirus. **Robert Doyle**, Debbie Valentin and Amy Rabideau, Syracuse University
- 2:45**      Intermission
- 3:00**      **207**      Probing Conformational Changes in Transferrin during Endocytic Acidification. Kate E. Anderson<sup>1</sup>, Anne B. Mason<sup>2</sup>, Ashley N. Steere<sup>2</sup> and **Margarida Barroso**<sup>1</sup>, (1)Albany Medical College, (2)University of Vermont College of Medicine
- 3:30**      **208**      Re(CO)<sub>3</sub> Thymidine Complexes as Potential Anticancer Agents: Synthesis, Cytotoxicity and Insight into the Mechanism of Action. **Mark D. Bartholomä**<sup>1</sup>, Anthony Vortherms<sup>1</sup>, Shawn Hillier<sup>2</sup>, John Joyal<sup>2</sup>, John Babich<sup>2</sup>, Robert P. Doyle<sup>1</sup> and Jon Zubieta<sup>1</sup>, (1)Syracuse University, (2)Molecular Insight Pharmaceuticals, Inc.
- 4:00**      **209**      Chemical Model for DNA Binding Pharmaceuticals Based on Ruthenium Compounds with Organic Side Chains. **Samantha Glazier** and Kristin Berretta, St. Lawrence University

**Thursday, June 3, 1:00 PM - 3:55 PM**  
*Organometallics and Main Group Chemistry*  
Dunn 206

Organizer/Presider: James Spencer

- 1:00**      **210**      Ion Association, Non-Covalent Interactions, Ligand and Co-Ligand Characteristics – What Is Affecting the Structure and Function of Heavy Alkaline Earth Organometallics?. **Karin Ruhlandt-Senge**<sup>1</sup>, Marites Guino-o<sup>1</sup>, Jacob S. Alexander<sup>1</sup> and Ulrich B. Englich<sup>2</sup>, (1)Syracuse University, (2)Cornell University
- 1:40**      **211**      Synthesis and Reactivity of Phosphaalkenes Utilizing Triamidoamine-Supported Zirconium Complexes. **Andrew Roering** and Rory Waterman, The University of Vermont
- 2:00**      **212**      Insertion Reactions Involving a Triamidoamine-Supported Zirconium Complex. **Sarah Leshinski** and Rory Waterman, The University of Vermont
- 2:20**      Intermission
- 2:35**      **213**      Investigation of the RTLE Route: Effect of pKa and Steric Bulk on the Rate of the Reaction. **Abhilasha Verma**<sup>1</sup>, Daniel Weismann<sup>2</sup>, Andrew R. Powers<sup>1</sup>, Miriam M. Gillett-Kunnath<sup>1</sup>, Helmut Sitzmann<sup>2</sup> and Karin Ruhlandt-Senge<sup>1</sup>, (1)Syracuse University, (2)TU Kaiserslautern
- 2:55**      **214**      Alkaline Earth Metal Complexes of Azobenzene Derivatives. **Johann Pichler**<sup>1</sup>, Daniel Weismann<sup>2</sup>, Abhilasha Verma<sup>3</sup> and Karin Ruhlandt-Senge<sup>3</sup>, (1)Graz University of Technology, (2)University of Kaiserslautern, (3)Syracuse University
- 3:15**      **215**      Novel Amidinate and Guanidinate Ligands and Their s-Block Metal Complexes. **William Maudez**, Stephanie Wiebke Eilers and Karin Ruhlandt-Senge, Syracuse University
- 3:35**      **216**      Structural Studies of Novel Alkaline Earth Metal Primary/Secondary Amides. **Ana Torvisco** and Karin Ruhlandt-Senge, Syracuse University

**Thursday, June 3, 1:00 PM - 5:10 PM**  
*Scanning Probe Microscopy in Modern Nanotechnology*  
Kellas 101

Organizer/Presider: Igor Sokolov

- 1:00**      Introductory Remarks
- 1:10**      **217**      Probing Complex Properties: From Atomic Defects to Biomolecules. **Matt Brukman** and Dawn Bonnell, The University of Pennsylvania
- 1:50**      **218**      Understanding and Controlling Rotational Motion at the Single-Molecule Level. **Heather L. Tierney**, April D. Jewell, Ashleigh E. Baber, Erin V. Iski and E. Charles H. Sykes, Tufts University
- 2:10**      **219**      Atomic Force Microscopy Study of Immunosensor Surface To Scale down Size of ELISA-Type Sensor. **Dmytro Volkov**<sup>1</sup>, Guinevere Strack<sup>2</sup>, Jan Halamek<sup>2</sup>, Evgeny Katz<sup>2</sup> and Igor Sokolov<sup>1,2</sup>, (1)Clarkson University, (2)Clarkson University
- 2:30**      **220**      The Role of Electrostatic Interactions in Biological Assemblies by Atomic Force Microscopy and Kelvin Probe Force Microscopy. **Zoya Leonenko**, University of Waterloo
- 3:10**      Intermission
- 3:30**      **221**      Effects of Melatonin on Amyloid Fibril Formation and Toxicity: Probing the Mechanism of Alzheimer's Disease. **Youngjik (Vince) Choi** and Zoya Leonenko, University of Waterloo
- 3:50**      **222**      Effect of Cholesterol and Cortisol on Phospholipid Membranes and Monolayers. **Erin Faught Faught**<sup>1</sup>, Elizabeth Drolle<sup>1</sup>, Brad Moores<sup>2</sup>, Matt Vijayan<sup>1</sup> and Zoya Leonenko<sup>1,2</sup>, (1)University of Waterloo, (2)University of Waterloo
- 4:10**      **223**      Binding and Aggregation of Amyloid Peptide 1-42 on Lipid Membranes. Francis Hane<sup>1</sup>, Elizabeth Drolle<sup>1</sup>, Ryan Speller<sup>2</sup>, Jeff Brockhouse<sup>2</sup>, James Forrest<sup>2</sup> and **Zoya Leonenko**<sup>1,2</sup>, (1)University of Waterloo, (2)University of Waterloo
- 4:30**      **224**      Amyloid Plaque Formation on Charged Surface Studied by AFM and KPFM. **Brad A. Moores**<sup>1</sup> and Zoya Leonenko<sup>1,2</sup>, (1)University of Waterloo, (2)University of Waterloo
- 4:50**      **225**      Gently Lifting Gold's Herringbone Reconstruction: Trimethylphosphine on Au(111). **April D. Jewell**, Heather L. Tierney and E. Charles H. Sykes, Tufts University

**Thursday, June 3, 1:00 PM - 5:00 PM**

***The Chemistry of Natural Products***

Dunn 208

Organizer/Presider: Jose-Luis Giner

- 1:00**      **226**      Chemical Evolution of Antitumor Natural Pharmaceuticals. **Eloy Rodriguez**, Cornell University
- 1:30**      **227**      Characterizing Thioesterase-Catalyzed Macrocyclization in Polyketide Biosynthesis. **Christopher N. Boddy**, University of Ottawa
- 2:10**      **228**      Thinking outside the Box: Probing Desaturase Diversity. Palash Bhar<sup>1</sup>, Amy E. Tremblay<sup>1</sup>, Nigel Tan<sup>1</sup>, Derek Hodgson<sup>4</sup>, Brian Dawson<sup>4</sup>, Darwin Reed<sup>3</sup>, Ed Whittle<sup>2</sup>, Pat S. Covello<sup>3</sup>, John Shanklin<sup>2</sup> and **Peter H. Buist**<sup>1</sup>, (1)Carleton University, (2)Brookhaven National Laboratory, (3)NRC, (4)Health Canada
- 2:50**      Intermission
- 3:10**      **229**      Synergistic Interplay of Biosynthesis and Organic Synthesis in Natural Products Chemistry. **José L. Giner**, SUNY-ESF
- 3:40**      **230**      Got Milk Blindness? Betalactoglobulin and Its Link to Age Related Macular Degeneration. **Coran M. H. Watanabe**, Texas A&M University
- 4:20**      **231**      New Versus Established Strategies for the Discovery of Bioactive Natural Products from Marine Cyanobacteria. Robin B. Kinnel<sup>1</sup>, Eduardo Esquenazi<sup>1</sup>, Hyukjae Choi<sup>1</sup>, Alban Pereira<sup>1</sup>, Irma Soria-Mercado<sup>1</sup>, Adam C. Jones<sup>1</sup>, Pieter C. Dorrestein<sup>2,3</sup>, Lena Gerwick<sup>1</sup> and **William H. Gerwick**<sup>1,2,3</sup>, (1)University of California San Diego, (2)University of California San Diego, (3)University of California San Diego

**Thursday, June 3, 1:30 PM - 5:35 PM**

***New Trends in Chromatography***

Kellas 102

Organizer/Presider: Yong Guo

- 1:30**      Introductory Remarks
- 1:35**      **232**      HILIC-MS Sensitivity without Silica. **Bob Myers**<sup>1</sup> and Luisa Pereira<sup>2</sup>, (1)Thermo Fisher Scientific, (2)Thermo Fisher Scientific
- 2:05**      **233**      Polar Stationary Phases in Hydrophilic Interaction Chromatography: Retention and Selectivity. **Yong Guo**, Janssen Pharmaceutical Companies
- 2:35**      **234**      New Approaches to Monolithic Columns for HPLC. **Luis A. Colon**, Wenjuan Guo, Stefan Vujcic and Ivonne M. Ferrer, University at Buffalo
- 3:15**      Intermission
- 3:25**      **235**      Monoliths and Microstructured Optical Fibres as Highly Permeable Supports for Fluorous Chromatography. **Richard D. Oleschuk**, Adam B. Daley and Zhenpo Xu, Queen's University
- 4:05**      **236**      New Column Technology That Closes the Performance Gap between HPLC and UHPLC Instrumentation. **Jason A. Anspach**, Carl Sanchez, Lawrence Loo, Gareth Friedlander, Jeff Layne and Tivadar Farkas, Phenomenex
- 4:35**      **237**      New Pump Technology To Improve LC Performance under All Operating Conditions. **Sergio Guazzotti**<sup>1</sup>, Guenter Boehm<sup>2</sup> and Thomas Preiswerk<sup>2</sup>, (1)Thermo Fisher Scientific, (2)Thermo Fisher Scientific
- 5:05**      **238**      Pharmaceutical Process Testing Using Sub-2µm Liquid Chromatography Column Technology. **Marie-Josée Rocheleau**, Elaine Larouche and Cristina Salamu, Omega Laboratories Ltd

**Thursday, June 3, 1:30 PM - 4:05 PM**

***Novel Materials and Nanomaterials for Energy Conversion***

Kellas 217

Organizer/Presider: Oumarou Savadogo

- 1:30**      **239**      Electrochemical Investigations of Small Molecules on Modified Surfaces. **Gessie M. Brisard**, Josee-Anne Cote and Patrick Dube, Universite de Sherbrooke
- 2:00**      **240**      PEM Fuel Cell for Automotive Subzero Cold-Starts: Supercooled Water Mobility and Ice Formation. **Cynthia A. Rice-York**<sup>1</sup> and Antonio Pistono<sup>2</sup>, (1)Tennessee Tech University, (2)Tennessee Tech University
- 2:30**      **241**      Active and Stable Platinum-Based Multimetallic Nanoparticle Catalysts in PEMFCs. **Bin Fang**, Jin Luo, Rameshwori Loukrakpam, Bridgid Wanjala, Jun Yin, Xiang Hu and Chuan-Jian Zhong, State University of New York at Binghamton
- 2:50**      Intermission

- 3:05 242 Preparation of Au/Pt Core-Shell Catalysts for PEM Fuel Cells Applications. **Lu Lu**, Ionel Halaciuga and Dan Goia, Clarkson University
- 3:25 243 Conductivity, Viscosity, and Enthalpy of Dissolution of LiNTF<sub>2</sub> and NaNTF<sub>2</sub> Solutions in Ionic Liquid BMINTF<sub>2</sub>. **Lei Yu**, Angelo Andriola, Kulwinder Singh and James Lewis, Rowan University
- 3:45 244 Degradation of PEM Fuel Cell Catalyst Due to Automotive Potential Cycling. **Daniel Betancourt** and Cynthia A. Rice-York, Tennessee Technological University

**Thursday, June 3, 1:40 PM - 5:20 PM**

**Smart Polymer Materials and Hybrid Systems**

Kellas 105

Organizer/President: Sergiy Minko

- 1:40 245 Engineering of Shape Memory Elastomers. **Mitchell Anthamatten**, University of Rochester
- 2:10 246 Exploiting Shape Memory Polymers for Active Cell Culture. **James H. Henderson**<sup>1,2</sup>, (1)Syracuse University, (2)Syracuse University
- 2:40 247 Composition Optimization of Transition Temperature and Breadth of Glassy Shape Memory Polymers. **Richard M. Baker**, Patrick T. Mather and James H. Henderson, Syracuse University
- 3:00 248 Design Principles for New Shape Memory Polymer Composites. **Xiaofan Luo** and Patrick T. Mather, Syracuse University
- 3:20 249 Shape Memory Phenomena in PCL-PEG Multiblock Thermoplastic Polyurethanes (TPUs). **Xinzhu Gu** and Patrick T. Mather, Syracuse University
- 3:40 Intermission
- 4:00 250 Polyelectrolyte Brushes: From Single Chains to Bundles of Chains. **Andrey V. Dobrynin**, University of Connecticut
- 4:30 251 Infrared Ellipsometry for Characterization of Smart Polymer Films in Aqueous Environment. **Karsten Hinrichs**, Leibniz-Institute for Analytical Sciences - ISAS - e.V.
- 5:00 252 Synthesis and Characterization of Polystyrene-Polylactide Random Bottlebrush Copolymers and Their Self-Assembly. **Julia Dallas** and Javid Rzayev, SUNY Buffalo

**Thursday, June 3, 1:45 PM - 4:35 PM**

**Detection of Protein Biomarkers for Medical Applications**

Kellas 103

Organizer/President: James Rusling

- 1:45 253 Second Harmonic Scattering: A Novel, Label-Free Technique for Biomarker Detection. Ravindra Pandey<sup>1</sup>, Avik Basu<sup>2</sup>, Abhijit Chakrabarti<sup>2</sup>, Puspendu K. Das<sup>1</sup> and **Challa V. Kumar**<sup>3</sup>, (1)Indian Institute of Science, (2)Saha Institute of Nuclear Physics, (3)University of Connecticut
- 2:15 254 Stable Functionalized Silver Nanoparticles for Improved Cancer Biomarker Detection. **Bjoern M. Reinhard**, Boston University
- 2:45 255 Novel Strategies for Designing Paper Based Colorimetric Devices for Point-of-Care Diagnosis Using Metal Oxide Nanoparticles. Maryna Ornatska, Erica Sharpe, Daniel Andreescu and **Silvana Andreescu**, Clarkson University
- 3:15 256 Measurement of Four Cancer Biomarker Proteins in Oral Cancer Cell Cultures Using a Nanoparticle-Based Immunochemical Array. **Ruchika Malhotra**<sup>1</sup>, Vyomesh Patel<sup>4</sup>, J. Silvio Gutkind<sup>4</sup> and James F. Rusling<sup>1,2,3</sup>, (1)University of Connecticut, (2)University of Connecticut, (3)University of Connecticut Health Center, (4)National Institutes of Health
- 3:35 257 Microfluidic Device for the Electrochemical Detection of Multiple Protein Cancer Biomarkers. **Bhaskara V. Chikkaveeraiah**, Vigneshwara Mani, Hongyun Liu and James F. Rusling, University of Connecticut
- 3:55 258 Ultrasensitive Detection of Protein Biomarkers in Serum Using Magnetically Coupled Labeling with Surface Plasmon Resonance. **Vigneshwaran Mani**<sup>1</sup>, Sadagopan Krishnan<sup>1</sup>, Challa V. Kumar<sup>1</sup> and James F. Rusling<sup>1,2</sup>, (1)University of Connecticut, (2)University of Connecticut Health Center
- 4:15 259 Multidrug Resistance Assessment Using Biological Scanning Electrochemical Microscopy. **Sabine Kuss**, Isabelle Beaulieu, Mohamed A. Mezour, Renaud Cornut, Borhane Annabi and Janine Mauzeroll, Université du Québec à Montréal



# Friday, June 4, 2010

**Friday, June 4, 2010, 8:00 AM - 12:05 PM**

## *Metal Ions and Metalloproteins*

Timerman 131

Organizer/Presider: Fadi Bou-Abdallah

- 8:00** Introductory Remarks
- 8:10 260** Iron: Our Friend and Foe. **Prem Ponka**<sup>1,2</sup>, (1)McGill University, (2)Lady Davis Institute for Medical Research
- 8:50** Discussion
- 8:55 261** Iron Transport from Man to Microbe: Iron Acquisition by a Gram-Negative Pathogenic Bacterium. **Alvin L. Crumbliss**<sup>1</sup>, Claire J. Parker Siburt<sup>1</sup>, Katherine D. Weaver<sup>1</sup>, J. J. Heymann<sup>1</sup>, Patrick DeArmond<sup>1</sup>, Michael J. Fitzgerald<sup>1</sup>, Cynthia N. Cornelissen<sup>2</sup> and Timothy A. Mietzner<sup>3</sup>, (1)Duke University, (2)Virginia Commonwealth University, (3)University of Pittsburg School of Medicine
- 9:35** Discussion
- 9:40 262** Nicatorransferrin, a Monolobal Transferrin from the Ascidian *Ciona intestinalis*. **Ann Valentine**, Yale University
- 10:20** Discussion
- 10:25** Intermission
- 10:40 263** Thermodynamics of Metal-Protein Interactions. **Dean E. Wilcox**, Dartmouth College
- 11:20** Discussion
- 11:25 264** Multicopper Ferroxidases: A Workshop on Copper Coordination Chemistry, Electron Transfer and Metallophysiology. **Daniel J. Kosman**, The University at Buffalo

**Friday, June 4, 8:30 AM - 10:15 AM**

## *Analytical Chemistry*

Dunn 208

Organizer: Ewa Pater

Presider: Kenneth Loach

- 8:30** Introductory Remarks
- 8:35 265** Chemical Modifications of Amino-Terminated Organic Films on Silicon Substrates for Controlled Protein Immobilization. **Joonyeong Kim**<sup>1</sup>, Joungmo Cho<sup>2</sup> and Paul Seidler<sup>1</sup>, (1)Buffalo State, State University of New York, (2)University of Massachusetts
- 9:00 266** Near-Infrared Laser Desorption/Ionization aerosol Mass Spectrometry (NIR-LDI-AMS) for Determining the Composition of Organic Aerosol Particles. **Brian Nichols**, Scott Geddes, James Zahardis and Giuseppe A. Petrucci, University of Vermont
- 9:25 267** Application of Quantitative Mass Spectrometry of Wide-Scale Protein Phosphorylation to Elucidation of T Cell Signaling Pathways. **Arthur Salomon**, Brown University
- 9:50 268** Aptamer Sandwich Assays: Label-Free and Fluorescence Investigations of Heterogeneous Binding Events. **Katie Edwards** and Antje Baeumner, Cornell University

**Friday, June 4, 8:30 AM - 11:45 AM**

## *Analytical Chemistry for Emerging Contaminants in Environment*

Kellas 103

Organizer/Presider: Diana Aga

- 8:30** Introductory Remarks
- 8:35 269** Perchlorate, Chlorate, and Bromate in Hypochlorite: Analytical Methods and Implications for Water Treatment. **Benjamin D. Stanford**<sup>1,2</sup>, Aleksey N. Pisarenko<sup>2,3</sup>, Shane A. Snyder<sup>2</sup> and Gilbert Gordon<sup>3</sup>, (1)Hazen and Sawyer, (2)Southern Nevada Water Authority, (3)Miami University
- 9:05 270** Development of New Analytical Detection Systems for the Detection of Pathogens and Toxins in Food. **Sam R. Nugen**<sup>1</sup> and Antje J. Baeumner<sup>2</sup>, (1)University of Massachusetts, (2)Cornell University
- 9:35 271** Interactions of Natural Organic Matter with Manufactured Nanocrystals. Divina A. Navarro, David F. Watson, Diana S. Aga and **Sarbjit Banerjee**, University at Buffalo, The State University of New York

- 10:05** Intermission
- 10:20 272** Phase-Inverted Polyamic Acid Membranes for Simultaneous Detection & Removal of Engineered Nanomaterials. **Wunmi Sadik** and Ailing Zhou, SUNY-Binghamton
- 10:50 273** Mechanistic Studies of Nanoparticle-Induced Toxicity at Organ Level in Zebrafish. **Silvana Andreescu**<sup>1</sup>, Cristina Ispas<sup>1</sup> and Kenneth N. Wallace<sup>2</sup>, (1)Clarkson University, (2)Clarkson University
- 11:20 274** Role of Natural Organic Matter on the Fate and Transport Behavior of Quantum Dot Nanoparticles in the Aquatic and Soil Environment. **Divina Angela G. Navarro**, Diana S. Aga, Sarbajit Banerjee and David F. Watson, University at Buffalo

**Friday, June 4, 8:30 AM - 11:40 AM**

**Bioelectronics and Biosensors**

*Kellas 105*

Organizer/Presider: Evgeny Katz

- 8:30** Introductory Remarks
- 8:35 275** Nano-Enhanced Biosensor Array Strategies for Cancer Biomarker Proteins. **James Rusling**<sup>1</sup>, Bhaskara Chikkaveerai<sup>1</sup>, Vigneshwaran Mani<sup>1</sup>, Ruchika Malhotra<sup>1</sup>, Naimish Sardesai Sardesai<sup>1</sup>, Shenmin Pan<sup>1</sup>, Vyomesh Patel<sup>2</sup> and J. Silvio Gutkind<sup>2</sup>, (1)University of Connecticut, (2)National Institutes of Health
- 9:05 276** Quorum Sensing Regulates Electric Current Generation of *Pseudomonas aeruginosa* PA in Bioelectrochemical Systems. Arvind Venkataraman<sup>1</sup>, Miriam Rosenbaum<sup>1</sup>, Jan B. A. Arends<sup>2</sup> and **Largus T. Angenent**<sup>1</sup>, (1)Cornell University, (2)University of Ghent
- 9:35 277** Detection of Allergenic Peanut Proteins by Electrochemical Impedance Spectroscopy. **Ian I. Suni**, Clarkson University
- 10:05** Intermission
- 10:20 278** Signal-Responsive Materials and Bioelectronic Devices Integrated with Biomolecular Logic Systems. **Evgeny Katz**, Clarkson University
- 10:50 279** Transcriptional Profiling of *Shewanella oneidensis* with an Electrode, Iron(III)-Citrate, and Oxygen as the Electron Acceptor. **Miriam Rosenbaum**<sup>1</sup>, Haim Y. Bar<sup>2</sup>, Qasim Beg<sup>3</sup>, Daniel Segrè<sup>3</sup>, James Booth<sup>2</sup>, Michael A. Cotta<sup>4</sup> and Largus T. Angenent<sup>1</sup>, (1)Cornell University, (2)Cornell University, (3)Boston University, (4)US Department of Agriculture - Agricultural Research Service
- 11:10 280** Identification and Quantitation of *Bacillus globigii* Using Metal Enhanced Electrochemical Detection and Capillary Biosensor. **Wunmi Sadik**<sup>1</sup>, Samuel Mwilu<sup>1</sup>, Alim Fatah<sup>2</sup>, Richard Arcilesi<sup>3</sup> and Seth Miller<sup>1</sup>, (1)SUNY-Binghamton, (2)National Institute of Standards and Technology, (3)Battelle Memorial Institute

**Friday, June 4, 8:30 AM - 11:05 AM**

**Biology and Physiology of Stem Cells in the CNS**

*Kellas 104*

Organizer/Presider: Margot Mayer-Proschel

- 8:30** Opening Remarks
- 8:35 281** Stem-Cell Therapies for the Central Nervous System: From Concept to Cure. **Chris Proschel**<sup>1,2</sup>, Jeannette Davies<sup>3</sup>, Chung-Hsuan Shih<sup>1</sup>, Michelle Lacagnina<sup>1</sup>, Margot Mayer-Proschel<sup>1</sup>, Mark Noble<sup>1,2</sup> and Stephen Davies<sup>3</sup>, (1)University of Rochester, (2)University of Rochester, (3)University of Colorado, Anschutz Medical Campus
- 9:15** Discussion
- 9:20 282** Targeting Drugs to Stem Cells and Cancer Stem Cells: Common Physiology Making a Difference in Treatment. **Erhard Bieberich**, Medical College of Georgia
- 10:00** Discussion
- 10:05** Intermission
- 10:20 283** Regulation of Dendrite Arborization by Substrate Stiffness. **Bonnie L. Firestein**, Rutgers University
- 11:00** Discussion

**Friday, June 4, 9:00 AM - 11:15 AM**

**Environmental Chemistry**

*Dunn 206*

Organizers: Ning Gao, Anthony Molinero

Presider: Ning Gao

- 9:00**      **284**      Investigation of Pharmaceuticals and Personal Care Products in Selected Water Samples. **Trudy Thomas-Smith**, Clarise Darcy, Michelle Harris, Jacob Sango and Christina Vogel, SUNY College at Oneonta
- 9:25**      **285**      Toxaphene and Selected Toxaphene Congeners in Great Lakes Fish. **Xiaoyan Xia**<sup>1</sup>, Bernard S. Crimmins<sup>1</sup>, Philip K. Hopke<sup>2</sup>, Thomas M. Holsen<sup>3</sup>, James J. Pagano<sup>4</sup> and Michael S. Milligan<sup>5</sup>, (1)Clarkson University, (2)Clarkson University, (3)Clarkson University, (4)State University of New York at Oswego, (5)State University of New York at Fredonia
- 9:50**      Intermission
- 10:05**      **286**      Wood Burning and Its Effects on Indoor Air Quality in Northern New York. **Daniel P. DePuccio** and Ning Gao, St. Lawrence University
- 10:30**      **287**      Improvements in Sampling for Cr (VI) in TSP. **Mehdi Amouei Torkmahalleh**, Thomas M. Holsen and Philip K. Hopke, Clarkson University

**Friday, June 4, 9:00 AM - 11:55 AM**

*General Session*

*Dunn 202*

Organizer/Presider: Matthew Skeels

- 9:00**      **288**      Local and Nonlocal Magnetic Behavior of Dilute Manganese-Doped Nickel Alloys. **Ken Podolak** and Sam Wagner, SUNY Plattsburgh
- 9:20**      **289**      Synthesis, Crystal Structure and Effect of 2-Pyridone Substitution on Pyrazine Mediated Magnetic Exchange of 2-Pyridone/Pyrazine Linear Chains of Copper (II) Perchlorate. **Veli Selmani**<sup>1</sup>, Mark M. Turnbull<sup>1</sup> and Louise N. Dawe<sup>2</sup>, (1)Clark University, (2)Memorial University of Newfoundland
- 9:40**      **290**      Synthesis, Electronic Structure, and Alignment of Graphene Thin Films. **Vincent Lee**<sup>1</sup>, Christopher J. Patridge<sup>1</sup>, Cherno Jaye<sup>2</sup>, Patrick Lysaght<sup>3</sup>, Daniel A. Fischer<sup>2</sup> and Sarbajit Banerjee<sup>1</sup>, (1)University at Buffalo, State University of New York, (2)National Institute of Standards and Technology, (3)SEMATECH
- 10:00**      **291**      Titanium Dioxide Nanostructures from Block Copolymer Templates. **Pavan Chinthamanipeta**, Qin Lou and Devon A. Shipp, Clarkson University
- 10:20**      Intermission
- 10:35**      **292**      Precision Control of Crystal Nucleation and Crystal Size. **Ingo H. Leubner**, Crystallization Consulting
- 10:55**      **293**      Predictive Models for Moisture Penetration Time through Polymeric Barrier Materials. **W. Keith Fisher**, Fisher Consulting LLC
- 11:15**      **294**      Efficient Electrode Driven Catalytic Cycle of Human Iron Heme Cytochrome P450s. **Sadagopan Krishnan**<sup>1</sup>, Dhanuka Wasalathanthri<sup>1</sup>, Linlin Zhao<sup>1</sup>, John B. Schenkman<sup>2</sup> and James F. Rusling<sup>1,2</sup>, (1)University of Connecticut, (2)University of Connecticut Health Center
- 11:35**      **295**      Engineering Nutrient Delivery Systems To Aid in Sustainable Population Growth. **Dan Romita** and Levente Diosady, University of Toronto

**Friday, June 4, 9:00 AM - 11:30 AM**

*Nanotechnology: Emerging Analytical/Bioanalytical & Medical Applications*

*Kellas 102*

Organizer/Presider: Chuanjian Zhong

- 9:00**      **296**      Gold Nanoparticle (AuNP) and Magnetic Nanoparticle (MNP) Based Biosensing. **Susan Zhou** and Jianlong Wang, Worcester Polytechnic Institute
- 9:30**      **297**      Nanodispersions for In Vivo Removal of Overdosed Therapeutics and Biotoxins. **R. Partch**<sup>1,2</sup>, E. Powell<sup>1</sup>, D. Shah<sup>3</sup>, M. Varshney<sup>3</sup>, D. Dennis<sup>4</sup>, T. Morey<sup>4</sup>, Y.-H. Lee<sup>5</sup>, D.-W. Lee<sup>2</sup>, R. Baney<sup>2</sup> and J. Flint<sup>4</sup>, (1)Clarkson University, (2)University of Florida, (3)University of Florida, (4)University of Florida, (5)Kyungwon University
- 10:00**      Intermission
- 10:10**      Bio-analytical applications of ceria nanoparticles: concept design and development of advanced biosensors. **Silvana Andrescu**. Clarkson University
- 10:40**      **298**      Long-Circulating Porous Silica Microparticles Visualized with MRI after Intraperitoneal and Intravenous Injection. **Jeremy L. Steinbacher** and Christopher C. Landry, University of Vermont
- 11:00**      **299**      Nanoparticle-Regulated Chiral Recognition. Stephanie Lim, Derrick Mott and **Chuan-Jian Zhong**, State University of New York at Binghamton
- 11:25**      Concluding Remarks

**Friday, June 4, 8:30 AM - 12:00 PM**

**Scanning Probe Microscopy in Modern Nanotechnology**

Kellas 101

Organizer/Presider: Igor Sokolov

- 8:30** Introductory Remarks
- 8:35** Sample-Independent Lateral Force Calibration. **E. Anderson**<sup>1</sup>, T. Esformes<sup>1</sup>, and N.A. Burnham<sup>1</sup>, Department of Physics, Worcester Polytechnic Institute, Worcester MA 01609
- 9:05** **300** AFM-Based Scannign Mirowave Microscopy and Its Application to Studies of Metal-Insulator Transition in VO<sub>2</sub>. **Alexander Tselev**, Oak Ridge National Laboratory
- 9:45** **301** Peak Force Tapping & Quantitative Mechanical Mapping with Single Molecule Resolution. **John Thornton**, Veeco Instruments
- 10:25** Intermission
- 10:40** **302** AFM To Study Electron Photoemission from Single Quantum Dots for Solar Cells and Memory Applications. **Nataliia Guz**, Maxim Dokukin and Igor Sokolov, Clarkson University
- 11:00** **303** Which Fractal Parameter Most Determines Adhesion?. **Nancy A. Burnham**<sup>1</sup>, Deli Liu<sup>1</sup> and Jack Martin<sup>2</sup>, (1)Worcester Polytechnic Institute, (2)Analog Devices Inc
- 11:40** **304** Atomic Force Microscopy To Detect Internal Live Processes in Insects. **Maxim Dokukin**<sup>1</sup>, Nataliia Guz<sup>1</sup>, Sergey Vasilyev<sup>1</sup> and Igor Sokolov<sup>1,2</sup>, (1)Clarkson University, (2)Clarkson University

**Friday, June 4, 9:00 AM - 12:30 PM**

**Synthetic Organic Chemistry: the Next Generation**

Kellas 106

Organizer/Presider: Helene Lebel

- 9:00** **305** C-H Amination Reactions with N-Tosylloxycarbamates. **Helene Lebel**, University of Montreal
- 9:40** **306** Transition Metal-Catalyzed Late-Stage Fluorination. **Tobias Ritter**, Harvard
- 10:20** **307** Development and Applications of Metal-Free Amination Reactions of Alkenes and Alkynes. **André M. Beauchemin**, University of Ottawa
- 11:00** Intermission
- 11:10** **308** Synthesis of *N*-Heterocycles from Azides through Metal-Catalyzed C-H Bond Functionalization. **Tom G. Driver**, University of Illinois at Chicago
- 11:50** **309** Mechanism Inspired Strategies for Stereoselective Synthesis. **Vy M. Dong**, University of Toronto

**Friday, June 4, 1:00 PM - 4:45 PM**

**Biochemistry and Biophysics of Proteins and Membranes**

Timerman 131

Organizer/Presider: Edward Moczydlowski

- 1:00** **310** 3- and 4-Component Lipid Mixtures to Model Biomembranes: Macroscopic Phase Separation Occurs, as Well as Puzzling Nanometer-Scale Domains. **Gerald W. Feigenson**, Cornell University
- 1:40** **311**  $\alpha$ -Synuclein: Probing the Conformations of a Polymorphic Membrane-Binding Protein. Adam J. Trexler, Eva Sevcik and **Elizabeth Rhoades**, Yale University
- 2:20** **312** Coenzyme Q10 Production in the Filamentous Basidiomycete *Sporidiobolus johnsonii*. **David D. Dixon**<sup>1</sup>, Robert P. Doyle<sup>1</sup> and Christopher N. Boddy<sup>2</sup>, (1)Syracuse University, (2)University of Ottawa
- 2:45** Intermission
- 3:00** **313** Mitotic Kinesin CENP-E Promotes Microtubule Plus-End Elongation. **Susan P. Gilbert** and Harjinder S. Sardar, Rensselaer Polytechnic Institute
- 3:40** **314** Tale of Two Quinones. **Ruchira Chatterjee**<sup>1,2</sup>, Nithya Srinivasan<sup>3</sup>, Sergey Milikisiyants<sup>1,2</sup>, Christopher S. Coates<sup>1,2</sup>, John H. Golbeck<sup>3</sup> and K. V. Lakshmi<sup>1,2</sup>, (1)Rensselaer Polytechnic Institute, (2)Rensselaer Polytechnic Institute, (3)The Pennsylvania State University
- 4:05** Cryo-EM microscopy of membrane proteins. L. Wang, **F.J. Sigworth**, Yale University

**Friday, June 4, 1:00 PM - 5:00 PM**

**Cope Scholar Symposium Honoring John A. Porco, Jr.**

Kellas 106

Organizer/Presider: Corey Stephenson

- 1:00**      **315**      New Twists in Nazarov Cyclization Chemistry. **Alison J. Frontier**, John A. Malona, Jie Huang, William T. Spencer and David LeBoeuf, University of Rochester
- 1:40**      **316**      Photoredox Catalysis: Enabling Chemical Synthesis with Visible Light. **Corey R. J. Stephenson**, Boston University
- 2:20**      **317**      Application of Microfluidics in the Discovery of New Chemical Reactions and Chemotypes. **Aaron B. Beeler**<sup>1,2</sup> and John R. Goodell<sup>1,2</sup>, (1)Boston University, (2)Boston University
- 3:00**      Intermission
- 3:20**      **318**      Lessons in Chemoselectivity: Total Synthesis of Polyphenolic Natural Products. **Scott A. Snyder**, Columbia University
- 4:00**      **319**      Complex Natural Product Synthesis and Reaction Discovery. **John A. Porco**, Boston University

**Friday, June 4, 1:00 PM - 4:20 PM**

**Physical Chemistry**

Dunn 208

Organizer/Presider: Nikolay Dimitrov

- 1:00**      **320**      Electrocatalytic Oxidation of Ammonia on Carbon Supported Bimetallic PtMe Electrocatalysts: An *In Situ* Electrochemical Mass Spectrometry Study. **Gessie M. Brisard**, Patrick Dube and Taixang Jiang, Universite de Sherbrooke
- 1:30**      **321**      Kinetics and Thermodynamics of Ion-Coupled Amino Acid Transporters. **Christof Grewer**, Binghamton University
- 2:00**      **322**      Hydrogen Dissociation and Spillover on Pd-Alloyed Surfaces. **Heather L. Tierney**, Ashleigh E. Baber and E. Charles H. Sykes, Tufts University
- 2:20**      **323**      Multimetallic Electrocatalysts for Fuel Cells: Nanoscale Phase and Surface Properties. **Bridgid N. Wanjala**, Rameshwori Loukrakpam, Bin Fang, Jin Luo and Chuan-Jian Zhong, State University of New York at Binghamton
- 2:40**      Intermission
- 3:00**      **324**      Probing Novel Structures and Transformations of Materials by Pressure Tuning. **Yang Song**, University of Western Ontario
- 3:20**      **325**      Growth of Epitaxial, Flat Pt Thin Film on Au by Surface Limited Redox Replacement (SLRR) Via Pb UPD. **Matthew Fayette**, Yihua Liu and Nikolay Dimitrov, Binghamton University-SUNY
- 3:40**      **326**      Different Pathways of Oxygen Reduction Reaction Studied by Rotating Disk Electrode (RDE) Voltammetry: An Advanced Analytical Chemistry Exercise. **Alexsandra Silva**, Nikolay Dimitrov and Lasantha Viyannalage, Binghamton University
- 4:00**      **327**      New Method to Predicting Behavior of Atomic Charges in Molecules, Which depend on Environment Based on the Consider Polarization Effects and Anisotropy Steric van der Waals Radiuses of Atoms in Molecule. **Svetlana Keshtova**<sup>1</sup> and Fatima Keshtova<sup>2</sup>, (1)Private Researcher, (2)Lomonosov Moscow State University

**Friday, June 4, 1:15 PM - 3:30 PM**

**Analytical Chemistry for Emerging Contaminants in Environment**

Kellas 103

Organizer/Presider: Diana Aga

- 1:15**      **328**      Analysis of Synthetic Musk Compounds in Great Lakes Fish. **Michael S. Milligan**<sup>1</sup>, Scott Simpson<sup>1</sup>, Bernie S. Crimmins<sup>2</sup>, Thomas M. Holsen<sup>2</sup>, Xiaoyan Xia<sup>2</sup>, Philip K. Hopke<sup>2</sup> and James J. Pagano<sup>3</sup>, (1)SUNY Fredonia, (2)Clarkson University, (3)SUNY Oswego
- 1:45**      **329**      Wrong-Way-Round Ionization Enables Simultaneous Analysis of Free and Conjugated Estrogens, Sulfonamides, and Tetracyclines by Liquid Chromatography-Mass Spectrometry. **Jerry Tso**<sup>1</sup>, Sudarshan Dutta<sup>2</sup>, Shreeram Inamdar<sup>2</sup> and Diana Aga<sup>1</sup>, (1)University at Buffalo, (2)University of Delaware
- 2:10**      **330**      Quantitative Screening of Emerging Contaminants in Lake Michigan Lake Trout. **Bernard Crimmins**<sup>1</sup>, James Pagano<sup>2</sup>, Xiaoyan Xia<sup>1</sup>, Thomas Holsen<sup>1</sup>, Mike Milligan<sup>3</sup> and Philip Hopke<sup>1</sup>, (1)Clarkson University, (2)SUNY Oswego, (3)SUNY Fredonia
- 2:35**      **331**      Monitoring Tap Water for Trace Contaminants Using an On-Line, Real-Time, Membrane-Based Extraction Cell. **Lindsay Harrington** and John P. Hasset, SUNY College of Environmental Science and Forestry

3:00 332 Effects of Calcium Treatment on Soil Organic Matter and Microbial Activity. **Ankit Balaria** and Chris Johnson, Syracuse University

3:25 Concluding Remarks

**Friday, June 4, 1:30 PM - 4:20 PM**

**Bioelectronics and Biosensors**

*Kellas 105*

Organizer/Presider: Evgeny Katz

1:30 333 Error-Control and Digitalization Concepts for Chemical and Biomolecular Information Processing Systems. **Vladimir Privman**, Clarkson University

2:00 334 Development of Enzyme-Based Logic Systems for “Sense and Treat” Battlefield Injuries. **Jan Halámek**<sup>1</sup>, Vera Bocharova<sup>1</sup>, Joseph Wang<sup>2</sup> and Evgeny Katz<sup>1</sup>, (1)Clarkson University, (2)University of California

2:20 335 Implantable Sensors for In Vivo Measurement of Neurological Activity and Nanoparticle-Induced Toxicity. John I. Njagi<sup>1</sup>, Emrah Ozel<sup>1</sup>, Kenneth N. Wallace<sup>2</sup> and **Silvana Andreescu**<sup>1</sup>, (1)Clarkson University, (2)Clarkson University

2:50 Intermission

3:05 336 Biomimetic Synthesis of CdS Quantum Dots in Albumin Solution. **Herman S. Mansur** and Alexandra A. P. Mansur, Federal University of Minas Gerais

3:35 337 Enzymes as ‘Smart’ Elements in Programming of Polymer Interfaces. **Vera Bocharova**, Jan Halámek and Evgeny Katz, Clarkson University

3:55 338 Cut and Glow: A Fluorogenic Biosensor for Proteases. **Brian P. Callahan**, Matthew J. Stanger and Marlene Belfort, Wadsworth Center

4:15 Concluding Remarks

**Friday, June 4, 1:30 PM - 4:05 PM**

**Chemical Education**

*Dunn 206*

Organizer/Presider: Julianne Smist

1:30 Introductory Remarks

1:35 339 Rise and Fall of Peer-Led Team Learning (PLTL) at Boston University. **Morton Z. Hoffman**, Boston University

2:05 340 Molecules of Life: Teaching Chemical Principles in the Context of Biological Molecules. **Trace Jordan**, New York University

2:35 341 Strategies for Academic Success of Students Served at the Army Education Center. **Marina Privman**, Empire State College, SUNY

2:55 342 Application of Coulomb’s Law in Explaining Sizes of Atoms and Ions. **Parinbam (Raj) K. Thamburaj**, Ohio University

3:15 Panel Discussion

**Friday, June 4, 1:30 PM - 3:05 PM**

**Chemistry and the War Against Cancer**

*Kellas 104*

Organizer/Presider: Vinay Likhite

1:30 Introductory Remarks

**Keynote Lecture**

1:35 343 Story of Microbes, Cancer, and Vaccine – The Genital Human Papillomaviruses. **William Bonnez**, University of Rochester School of Medicine & Dentistry

2:25 Intermission

2:35 344 Of Mice and Women: The Race To Eradicate Breast Cancer. **Vinay Likhite**, Baroda Cancer Research Center

**Friday, June 4, 1:30 PM - 5:30 PM**

***Scanning Probe Microscopy in Modern Nanotechnology***

*Kellas 101*

Organizer/Presider: Igor Sokolov

- 1:30**                    Introductory Remarks
- 1:35**            **345**    Morphological Evolution of Nanoparticles and Assemblies in Electrocatalytic and Electrochemical Processes. **Chuan-Jian Zhong**, Jin Luo, Linyang Wang, Bridgid Wanjala, Bin Fang, Rameshwori Loukrakpam, Jun Yin and Elizabeth Crew, State University of New York at Binghamton
- 2:15**            **346**    Mechanisms of Material Transport in Field Assisted Nanopatterning. **Todd S. Gross** and Anjali Parkhi, University of New Hampshire
- 2:55**                    Intermission
- 3:10**            **347**    Cells under the Tip. **Andrew E. Pelling**, University of Ottawa
- 3:50**            **348**    AFM in Study of Cell Surface. **Ravi Gaikwad**<sup>1</sup>, Nataliia V. Guz<sup>1</sup>, Craig Woodworth<sup>2</sup> and Igor Sokolov<sup>1</sup>, (1)Clarkson University, (2)Clarkson University
- 4:10**            **349**    Micro-Environmental Tuning of Muscle Myoblast. **Zeinab Al-Rekabi**<sup>1</sup> and Andrew E. Pelling<sup>1,2</sup>, (1)University of Ottawa, (2)University of Ottawa
- 4:30**            **350**    Quantifying Bacterial Adhesion through AFM. **Terri A. Camesano**, Worcester Polytechnic Institute
- 5:10**            **351**    Nanometer-Scale Mechanics of Distinct Microtubule Types. **Zachary J. Donhauser**, Vassar College

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