

Saturday PM

Plenary Lecture

PL CC-Port Royal C

Plenary Lecture

Organizer(s) - Jan Kwak  
Chair(s) - Jan Kwak

Opening Ceremony and Plenary Lecture

19:00 0001 *Architecture in NanoSpace*  
Kroto† H.

20:15 End of Session

Sunday AM

Montreal Medal Lecture

MML CC-Port Royal C1

Montreal Medal Lecture

Organizer(s) - Jan Kwak  
Chair(s) - Bernard West

Montreal Medal Lecture presented by  
Richard Puddephatt

Introduction of Richard Puddephatt by Kim  
Baines

11:25 0002 *Montreal Medal Lecture: The  
Human Factor in Chemistry* Puddephatt†  
R.J.

12:20 End of Session

Analytical Chemistry Division

AN3 DH-Baronet 4,5

Biogeochemistry of Trace  
Metals in the Environment (Joint  
with EN) (joint with EN3)

Organizer(s) - Chuni Chakrabarti and John  
Murimboh  
Chair(s) - Pat Rasmussen, Diane  
Beauchemin

08:00 0003 *Microelectrode Metal  
Speciation Analysis in Biogels* van Leeuwen†  
H.P.

08:40 0004 *Advances in Iron Speciation  
and Detection by Cathodic Stripping  
Voltammetry with Mercury Drop and Microwire  
Electrodes* van den Berg† C.M.G., Gun J.,  
Laglera L., Salaun P.

09:20 0005 *Electrochemical  
Investigations of Competition for Binding of  
Trace Metals, Pb(II), Cd(II), Cu(II) and Mn(II),  
with Target Trace Metal Zn(II) by DOC, in  
Mining and Municipal Effluents* Deng J.F.,  
Murimboh C.A., Fafous I.I., Murimboh J.D.,  
Chakrabarti C.L.

09:40 Coffee Break

10:00 0006 *Aquatic Trace Metal  
Complexation: Insights from Recent Advances in  
Modeling Equilibrium and Kinetics Data for  
Natural Ligands* Hudson† R.J.M.,  
Chakraborty P., Fafous I.I., Wang R.,  
Chakrabarti C.L.

10:40 0007 *An Electrochemical  
Investigation into the Metal Complexation  
Dynamics of some 3-d Transition Metals in  
Natural Waters* Chakraborty† P.,  
Chakrabarti C.L.

11:00 0008 *Synthesis, Characterization,  
and Analysis of Methylmercury-Cysteine and  
Methylmercury-Glutathione Complexes* Lemes  
M., Cooper M., Wang† F.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented  
by Richard Puddephatt in CC-Port Royal C1

AN5 CC-Highland 11

Electrochemistry at the Edge  
(Joint with PT) (joint with PT5)

Organizer(s) - Sharon Roscoe and Vlad  
Zamlyny  
Chair(s) - Vlad Zamlyny, David Harrington

08:40 0009 *Electrochemical and  
SNIFTIRS Studies of SDS Adsorption at the  
Au(111) Electrode Surface* Leitch J.J.,  
Burgess I., Zamlyny Z., Collins J., Friedrich  
A., Stimming U., Dutcher J., Lipkowski J.

09:00 0010 *Electrochemical and  
Chemical Modification of Surfaces with  
Diazonium Cations* Lyskawa J., Baranton S.,  
Toupin M., Bélanger† D.

09:40 Coffee Break

10:00 0011 *Statistical and EIS Analysis of  
Copper Deposition Accounting for Multi-  
Component Transport and Reactions* Huerta  
Garrido M.E., Pritzker† M.

10:20 0012 *Determination of the Pt(111)-  
Ag<sub>UPD</sub> Bond Energy in UPD Layers*  
Jerkiewicz† G., Perreault F., Radovic-  
Hrapovic Z.

10:40 0013 *Non-Equilibrium Vapor Phase  
Deposition Technique for the Preparation of  
Nanoparticles and their Applications in  
Electrocatalysis* Guay† D.

11:00 0014 *Nb<sub>0.1</sub>Ti<sub>0.9</sub>O<sub>2</sub>-Supported  
Mn<sub>x</sub>Cu<sub>1-x</sub>Co<sub>2</sub>O<sub>4</sub> Used as Bifunctional  
Electrocatalysts* De Koninck M., Poirier S.-  
C., Marsan† B.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture  
presented by Richard Puddephatt in CC-  
Port Royal C1

AN6 CC-Highland 6

Fate and Effects of Organic  
Chemicals in the Environment  
(Joint with EN) (joint with EN5)

Organizer(s) - Jocelyne Hellou  
Chair(s) - Jocelyne Hellou, Robert White

08:00 0015 *PFOS and PFCAs in Polar  
Bears and Humans: An Indirect Source of  
Contamination?* Mabury S.A.

08:20 0016 *Transfer of POPs from  
Environmental Compartments to Animal  
Products* Feidt† C.F., Rychen G.

08:40 0017 *Persistent Organic  
Contaminants in Atlantic Cod (*Gadus morhua*):  
Spatial and Temporal Trends* Lebeuf† M.,  
Couillard C.M.

09:00 0018 *Identifying the Causes of Fish  
Kills in Prince Edward Island (Fate and the  
Effects of Pesticides in the Environment)*  
Cook† A., Losier C., Doe K., Jackman P.,  
Julien G., Ernest W.R.

09:20 0019 *Association between the PAH  
Body Burden and Behavior of Amphipods  
Exposed to Harbor Sediments* Hellou J.,  
Leonard J., Cheeseman K., Johnston D.,  
Robertson S., Robinson B., Jovenelle  
M.L., Mackay D.

09:40 Coffee Break

10:00 0020 *Application of New Analytical  
Technologies to Toxin Monitoring at Shellfish  
Aquaculture Sites* Quilliam† M.A., Garnett  
C., Yu R., Rafuse C., Lewis N.I., Selwood A.

10:20 0021 *Impacts of Pharmaceutical  
and Personal Care Products on Aquatic  
Environments of the Atlantic Provinces*  
Surette† C., Comeau F., Brun G., Losier R.

10:40 0022 *Transformation and Fate of  
PAH and NitroPAH in Urban and Rural Areas*  
McCarthy† B.E., Yang R., Fernando S.L.,  
Dam D.

11:00 0023 *Methylobacteria from  
Environmental Cleanup to Biodegradable  
Polymers* Yezza A., Fournier D., Hawari J.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture  
presented by Richard Puddephatt in CC-  
Port Royal C1

AN9 CC-Highland 10

Nuclear Techniques in Counter-  
Terrorism

Organizer(s) - Amares Chatt  
Chair(s) - Amares Chatt, Peter Bode

08:00 0024 *R&D to Address Current and  
Future Radiological Terrorist Threats*  
Cousins† T.

08:40 0025 *Canada's Chemical,  
Biological and Radiological-Nuclear (CBRN)  
Research and Technology Initiative* Sykes†  
E.A.

09:00 0026 *Establishing Canada's Nuclear Forensic Capability* Larsson† C.L.

09:20 0027 *Radiological and Nuclear Counterterrorism Research at Defence R&D Canada* Erhardt† L.S.

### 09:40 Coffee Break

10:00 0028 *Nuclear, Chemical, and Physical Characterization of Nuclear Materials* Tandon† L.

10:20 0029 *Radiological and Nuclear Counter-Terrorism R&D in Health Canada* Li† C., Korpach E., Larivière D., Li W., Packer A.P., Parent P., Pellerin E., Quayle D.E., Ungar K., Moir D., Cornett J.

10:40 0030 *Faster and Better: Mass Spectrometric Determination of Long-Lived Actinides in Case of a Radiological/Nuclear Event* Larivière D., Packer A.P., Kiser S., Li C., Cornett J.

11:00 0031 *Synchrotron Applications in Nuclear Forensics* Kotzer† T.G., Cutler J.N.

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

### Biological and Medicinal Chemistry Division

### BM3 CC-Highland 8

Computational Methods in Drug Design (Joint with PT) (joint with PT4)

Organizer(s) - Donald Weaver  
Chair(s) - Donald Weaver, Jack Bikker

08:00 0032 *Using Molecular Dynamics Simulation for the Treatment of Solvation and Protein Flexibility in Docking* Sutherland† J.J., Robertson D.H., Erickson J., Vieth M.

08:40 0033 *FITTED1.0: A Suite of Programs to Dock Ligands into Flexible and Solvated Macromolecules* Moitessier N., Corbell C.R., Englebienne P.

09:00 0034 *An Improved Method For Ligand Receptor Docking: Application to Estrogen Receptor* Shadnia H., Ziebell T., Wright J.S.

09:20 0035 *A Molecular Dynamics Study of the Effect of the Met<sup>129</sup> → Val Mutation on the Prion Protein* LaPointe S.M., Boyd R.J., Weaver D.F.

### 09:40 Coffee Break

10:00 0036 *Group Fusion Similarity Searching and Reverse Fingerprint Fragment Scoring* Williams† C.I.

10:40 0037 *GLARE: A Method for Extremely Fast Rough Cut-to-Shape on Immense Virtual Combinatorial Libraries* Truchon† J.-F., Bayly C.I.

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

### BM5 CC-Highland 7

Enzymes: Mechanism, Function and Structure

Organizer(s) - Stephen Bearn  
Chair(s) - Stephen Bearn

08:00 0038 *Kinetic, Calorimetric, and X-Ray Structural Studies of MosA, a Dihydrodipicolinate Synthase but Apparently not a Methyltransferase* Palmer† D.R.J., Delbaere L.T.J., Phenix C.P., Tam P.H., Leduc Y., Puttick J., Nienaber K.

08:40 0039 *Single Enzyme Molecule Assays of Cell Free Expressed β-Galactosidase* Nichols E.R., Craig D.B.

09:00 0040 *Transglutaminase Mechanistic Studies* Keillor† J.W., Chica R., Gravel C., Pelletier J.N.

### 09:40 Coffee Break

10:00 0041 *Stabilization of a Cationic Intermediate by AroA (Enolpyruvyl Shikimate 3-Phosphate Synthase)* Clark M.E., Berti P.J.

10:20 0042 *Probing the pH-Dependence of Ionizable Residues in the Mechanism of Chorismate Mutase from a Bifunctional Enzyme* Manioudakis J., Turnbull J.L.

10:40 0043 *Chemical and Mechanistic Diversity within the Amidohydrolase Superfamily of Enzymes* Raushel† F.M.

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

### BM9 CC-Mariner 5

Peptide Science (Joint with OR) (joint with OR9)

Organizer(s) - William Lubell  
Chair(s) - Robert Ben

09:00 0044 *Synthesis of Pharmacophoric Hydroxypyrrroloindoliny-Xaa Dipeptides en route to Amatoxins and Phallotoxins* May J.P., Perrin† D.M.

### 09:40 Coffee Break

10:00 0045 *Design and Synthesis of Novel β-Peptides as Entry Inhibitors of Hepatitis C Virus* Kaur† K., Beleid R.

10:20 0046 *Cholesterol and the Interaction of Proteins with Membrane Domains* Epand† R.M.

10:40 0047 *Structural Analysis of the GD2 Ganglioside and GD2-Ganglioside Binding Peptides* Blankenship J.W., Lubell W.D., Gagnon M., Tong W., Saragovi H.U., Cheung N.-K.V.

11:00 0048 *Versatile Fluorescence-Based Characterization and Selection of Genetically Encoded Peptides that Fold Efficiently in Live Cells* Cheng Z., Campbell† R.E.

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

### Chemical Education Division

### CE1 CC-Mariner 3

Changes in Chemical Education: New Approaches for Labs and Lectures Based on Chemical Education Research

Organizer(s) - Patricia Laws  
Chair(s) - Helen Graves-Smith

08:40 0049 *Innovative Methods of Content Delivery in Chemistry* Lancaster L., Lynch B.M.

09:00 0050 *A Physically Intuitive Approach to Explain Thermodynamic Feasibility of Redox Reactions Using Single Electrode Potential* Iyer S.

09:20 0051 *Authentic/Alternative Assessment in Chemistry/Science Education I: The Effect of the AutoQuiz on the Achievement of Science College Students* Camacho M.

### 09:40 Coffee Break

10:00 0052 *Using Technology to Study and Develop Student Problem Solving Skills: e-Homework, Neural Networks and Cognitive Load* Pienta† N.J.

10:40 0053 *Chemistry Comes to K-7 Classrooms!* Lavieri S.

11:00 0054 *Learning Outcomes of an Experiment Presented in Two Different Modes* Iyer S.

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

Environment Division

EN1 CC-Highland 9

Agent Orange and Other Pesticides

Organizer(s) - William Cullen  
Chair(s) - William Cullen

09:00 0055 *Agent Orange in Vietnam*  
Schechter† A.

09:40 Coffee Break

10:00 0056 *An Overview of the Epidemiology Studies on the Potential for Health Effects from Dioxin Exposures*  
Collins† J.J.

10:40 0057 *Human Dioxin Poisonings*  
Ryan† J.J.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

EN3 DH-Baronet 4,5

Biogeochemistry of Trace Metals in the Environment (Joint with AN) (joint with AN3)

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Pat Rasmussen, Diane Beauchemin

08:00 Joint with Analytical Chemistry Division - See AN3

11:20 End of Session

REMINDER

11:25 Montreal Medal lecture presented by Richard Puddephatt in CC-Port Royal C1

EN5 DH-Baronet 6

Fate and Effects of Organic Chemicals in the Environment (Joint with AN) (joint with AN6)

Organizer(s) - Jocelyne Hellou  
Chair(s) - Jocelyne Hellou, Robert White

08:00 Joint with Analytical Chemistry Division - See AN6

11:20 End of Session

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

Inorganic Chemistry Division

IN4 CC-Mariner 2

Paramagnetic and Mixed-Valent Complexes in Organometallic and Inorganic Chemistry

Organizer(s) - Kevin Smith, Daniel Leznoff and Manuel Aquino  
Chair(s) - Daniel Leznoff

08:00 0058 *Coordination Chemistry with S,S-dithiolato(1-) Radicals and Ligand Mixed Valency*  
Wiegardt† K.

08:40 0059 *Metal Complexes of Sulfur-Nitrogen Spin-Bearing Ligands*  
Preuss K.E., Hearn N.G. R., Wu J., Madhu N.T., Hesp K.

09:00 0060 *Synthesis, Structures, and Magnetism of Transition Metal Complexes of Stable Verdazyl Radicals: The Ligand can be Paramagnetic too!*  
Gilroy J.B., Lemaire M.T., McKinnon S.D.J., Koivisto B.D., Anderson K., Hicks R.G.

09:20 0061 *Novel Products from Reactions between Paramagnetic Organometallics and Main Group Radicals*  
Boeré R.T., Yu. X., Goh L.-Y., Ng V.W.L., Ang C.W.P., Kuan S.L., Lau H.F.

09:40 Coffee Break

10:00 0062 *Self-Assembled Flat Poly-Metallic [n×n] Grids (n = 2,3,4,5) - Magnetic and Redox Active Platforms for Molecular Device Behaviour*  
Dey S.K., Abedin T.S.M., Dawe L.N., Milway V.A., Thompson† L.K.

10:20 0063 *Paramagnetic Metal-Cyanide Complexes with Tris(pyrazolyl)borate Ligands: Precursors for the Construction of High Nuclearity Metal-Cyanide Clusters*  
DeGroot M. W., Harris T.D., Long J.R.

10:40 0064 *Paramagnetic Organometallic Palladium Compounds: A Family That is No Longer Rare*  
Harvey† P.D., Mugnier Y., Dalmolin S.

11:00 0065 *Metal Complexes Incorporating Single or Double Deprotonated Benzimidazole-2-Carboxylic Acid: Structure and Magnetism*  
Patrick B.O., Stevens C.L., Storr A., Storr T.J., Thompson R.C.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

IN5 CC-Port Royal C2

Recent Advances in Main Group Chemistry

Organizer(s) - Glen Briand  
Chair(s) - Lisa Rosenberg

08:00 0066 *New Aspects of the Chemistry of Dichalcogeno PNP Ligands*  
Copsey M., Eisler D.J., Konu J., Ritch J.S., Chivers† T.

08:20 0067 *Trimethylsilyl Aryl Selenides as Efficient Reagents in the Synthesis of Selenoesters*  
Taher D., Corrigan J.F.

08:40 0068 *π Ligands with CB<sub>2</sub>N<sub>2</sub> and B<sub>2</sub>N<sub>3</sub> Frameworks. Carbon-Free Cyclopentadienyl Analogs*  
Ly H.V., Forster T.D., Parvez M., MacDonald R., Roesler† R.

09:00 0069 *Unusual Phosphorus Species in Polymer Science and Catalysis*  
Gates† D.P.

09:20 0070 *Carboxylic Acids as Lewis Bases: Structures and Properties of Carboxylic Acid Adducts of B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub>*  
Mitu S., Baird M.C.

09:40 Coffee Break

10:00 0071 *B/Hg Polydentate Lewis Acids: Anion Complexation and Electrochemistry*  
Gabbai† F., Melaimi M.

10:40 0072 *Facile and Atom Efficient Catalytic C-C and C-N Formation Using Bifunctional Main Group Catalysts*  
Ong T.-G., Richeson D.S.

11:00 0073 *Bifunctional Lewis Acid-Base Compounds*  
Stephan† D.W., Welch G.C.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

Macromolecular Science and Engineering Division

MS1 CC-Mariner 1

Controlled Architecture Polymers as Nanomaterials (Joint with MT) (joint with MT1)

Organizer(s) - Alex Andronov and Guojun Liu  
Chair(s) - Alex Andronov

08:00 Introductory Remarks

08:20 0074 *Synthesis of Functional Monodisperse Polymeric Microspheres by Two-Stage Dispersion Polymerization*  
Song J.-S., Winnik M.A.

08:40 0075 *Patterning Wrinkle Architectures with Self-Inscribing Guided Waves*  
Andrews M.P., Belanger N.

09:00 0076 *Directed Self-assembly to Control Behavior of Nanoparticle-Polymer Composite Materials*  
Emrick† T.

09:40 Coffee Break

10:00 0077 *Synthesis and Assembly of Polymer Coated Magnetic Colloids into Nanoparticle Chains*  
Pyun† J.

10:40 0078 *Polyferrocenylsilane Block Copolymers under Multidimensional Confinement: Novel Solid State Morphologies and Applications* **Rider D.A.**, Manners I.

11:00 0079 *Asymmetric Functionalization of Carbon Nanotubes* **Perepichka D.F.**, Wei Z., Kondratenko M., Dao L.H.

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

### Materials Chemistry Division

#### MT1 CC-Mariner 1

**Controlled Architecture Polymers as Nanomaterials (Joint with MS)** (joint with MS1)

Organizer(s) - Alex Andronov and Guojun Liu  
Chair(s) - Alex Andronov

08:00 Joint with Macromolecular Science and Engineering Division - See MS1

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

#### MT2 DH-Baronet 1,2,3

**Energy Storage and Conversion (Joint with PT)** (joint with PT6)

Organizer(s) - Josef Zwanziger, Mary Anne White and Jeff Dahn  
Chair(s) - Jeff Dahn

08:40 0080 *Selecting the Right Li-Ion Cell Chemistry* **Reimers† J.**

09:20 0081 *Electrochemical and Physical Evolution of Particles of Metal and Metal Alloy Active-Materials in Composite Negative Electrodes for Li-Ion Batteries by In Situ Optical Microscopy* **Timmons A.**, Dahn J. R.

09:40 Coffee Break

10:00 0082 *Advanced Cathode Materials for High Power Applications* **Amine† K.**, Liu J., Belharouak I., Vissers D., Henriksen G.

10:40 0083 *Cathode Materials for Lithium-Ion Storage Cells* **Nazar† L.F.**, Ellis B., Makimura Y., Rho Y.H., Han A.

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

#### MT3 CC-CornwallisDraped

**Functional Materials**

Organizer(s) - Jeffrey Cutler  
Chair(s) - Mary Anne White

08:00 0084 *Crosslinked Silicon Sol-Gel Materials: The Advantages of Chemical Diversity in Creating Functional Materials* **Vreugdenhil† A.J.**, Woods M.E., Scotland K.M.

08:40 0085 *Preparation of a Maleimide-Modified Surface on Monolayer-Protected Nanoparticles and its Reactivity* **Zhu J.**, Kell A.J., Workentin M.S.

09:00 0086 *Exploring Applications of Amphiphilic Calixarenes for Storage and Delivery* **Pojarova M.**, Ananchenko G.S., Udachin K.A., Ripmeester J.A., Coleman A.W.

09:20 0087 *Supramolecular Approach to Crystal Engineering Using Self-Assembled Monolayers as Templates* **Quist F.**, Kakkar A.K.

09:40 Coffee Break

10:00 0088 *Natural Variability in the Surface Roughness of Combinatorial Libraries of Materials* **Rockwell G.P.**, Timmons A., Touhami A., Dahn J.R.

10:20 0089 *Femtosecond Laser Patterning of Hydrogels for Biomedical Applications* **Wosnick J.H.**, Miller R.J.D., Shoichet M.S.

10:40 0090 *Selection and Characterization of Materials for Dielectric Actuators* **Szabo J.P.**, Hiltz J.A., Cameron C.G., Underhill R.S., Leidner J., Massey J.

11:00 0091 *Combinatorial and High-Throughput Studies of Protein Adsorption on Metallic Libraries Using Electron Microprobe Analysis* **Bai Z.**, Rockwell G.P., Filiaggi M.J., Mar R.E., Stoffyn-Egli P., Chevrier V., Dahn J.R.

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

#### MT5 CC-CornwallisSuite

**Large Scale Canadian Science Opportunities (Joint with PT)** (joint with PT7)

Organizer(s) - Peng Zhang  
Chair(s) - Peng Zhang

09:00 0092 *The Centre for Molecular and Materials Science at TRIUMF* **Percival† P.W.**

09:20 0093 *The Canadian Synchrotron Radiation Facility* **Jurgensen† A.**

09:40 Coffee Break

10:00 0094 *The Canadian Light Source: A Bright Light Shining in a Cold Landscape* **Cutler† J.N.**, Ellis T.H.

10:40 0095 *X-ray Spectromicroscopy at the Canadian Light Source: Recent Scientific Results* **Urquhart† S.G.**, Lanke U., Kaznatcheev K., Karunakaran C., Hitchcock A.P., Hall R., Kenny K., Chiovelli S.

11:00 0096 *Advanced Electron Microscopy Characterization at National Institute for Nanotechnology* **Malac† M.**

11:20 End of Session

### REMINDER

11:25 Montreal Medal Lecture presented by Richard Puddephatt in CC-Port Royal C1

### Organic Chemistry Division

#### OR8 CC-Mariner 4

**Organic Reaction Mechanisms**

Organizer(s) - James Pincock and Frances Cozens  
Chair(s) - James Pincock

08:20 0097 *Aromatic versus Acyclic Dienyl Propargyldicobalt Cations. Preparation and Comparative Reactivity* **Amiralaei S.**, Green J.R.

08:40 0098 *A Tale of Two Silenes: A Comparison of the Reactivity of Brook- and Wiberg-Type Silenes* **Baines† K.M.**, Milnes K.K., Gottschling S.E.

09:20 0099 *The Reactions of Transient Germylenes with Alcohols and Ethers* **Lollmahomed F.B.**, Harrington C.R., McDonald J., Leigh W.J.

09:40 Coffee Break

10:00 0100 *Formation of Metalloaxetanes: C-O Bond Activation of 1,2-Epoxybutane by Ground-State Ga Atoms* **Joly H.A.**, Beaudet L.

10:20 0101 *A New Approach to Mechanistic Analysis. Estimation of Hammett  $\rho$  or Taft  $\rho^*$  Values by a Simple Procedure* **Guthrie J.P.**

10:40 0102 *Dynamics of Ion-Pair Intermediates of Solvolysis in Water* **Richard† J.P.**, Amyes T.L., Toteva M.M., Tsuji Y.

11:20 End of Session

### REMINDER

**11:25 Montreal Medal Lecture**  
presented by Richard Puddephatt in CC-  
Port Royal C1

**OR9 CC-Mariner 5**

**Peptide Science (Joint with BM)  
(joint with BM9)**

Organizer(s) - William Lubell  
Chair(s) - Robert Ben

**09:00 Joint with Biological and  
Medicinal Chemistry Division - See BM9**

**11:20** End of Session

**REMINDER**

**11:25 Montreal Medal Lecture**  
presented by Richard Puddephatt in CC-  
Port Royal C1

**OR10 CC-Port Royal C1**

**Recent Advances in Organic  
Synthesis**

Organizer(s) - Jean Burnell and Ian Pottie  
Chair(s) - Jean Burnell

**08:20 0103 Total Syntheses of the  
Xyloketal Natural Products** Wilson† P.D.

**09:00 0104 Adventures in Synthetic  
Methods Using Strained Intermediates** Yudin† A.K.

**09:40 Coffee Break**

**10:00 0105 New Annulation and  
Cycloaddition Strategies for the Synthesis of  
Heterocyclic Compounds** Danheiser† R.L.

**10:40 0106 An Enantioselective Synthesis  
of the Carbon Skeleton of Penostatin F** Ang  
P.J.A., Barriault L.

**11:00 0107 A New Acyclic Strategy for  
the Synthesis of Nucleoside Analogs** Prevost  
M., Chapdelaine D., Waltz M.-E., Guindon  
Y.

**11:20** End of Session

**REMINDER**

**11:25 Montreal Medal Lecture**  
presented by Richard Puddephatt in CC-  
Port Royal C1

**Physical, Theoretical and  
Computational Division**

**PT4 CC-Highland 8**

**Computational Methods in Drug  
Design (Joint with BM) (joint  
with BM3)**

Organizer(s) - Donald Weaver  
Chair(s) - Donald Weaver, Jack Bikker

**08:00 Joint with Biological and  
Medicinal Chemistry Division - See BM3**

**11:20** End of Session

**REMINDER**

**11:25 Montreal Medal Lecture**  
presented by Richard Puddephatt in CC-  
Port Royal C1

**PT5 CC-Highland 11**

**Electrochemistry at the Edge  
(Joint with AN) (joint with AN5)**

Organizer(s) - Sharon Roscoe and Vlad  
Zamlyny  
Chair(s) - Vlad Zamlyny, David Harrington

**08:40 Joint with Analytical Chemistry  
Division - See AN5**

**11:20** End of Session

**REMINDER**

**11:25 Montreal Medal Lecture**  
presented by Richard Puddephatt in CC-  
Port Royal C1

**PT6 DH-Baronet 1,2,3**

**Energy Storage and Conversion  
(Joint with MT) (joint with MT2)**

Organizer(s) - Josef Zwanziger, Mary Anne  
White and Jeff Dahn  
Chair(s) - Jeff Dahn

**08:40 Joint with Materials Chemistry  
Division - See MT2**

**11:20** End of Session

**REMINDER**

**11:25 Montreal Medal Lecture**  
presented by Richard Puddephatt in CC-  
Port Royal C1

**PT7 CC-Cornwallis Suite**

**Large Scale Canadian Science  
Opportunities (Joint with MT)  
(joint with MT5)**

Organizer(s) - Peng Zhang  
Chair(s) - Peng Zhang

**09:00 Joint with Materials Chemistry  
Division - See MT5**

**11:20** End of Session

**REMINDER**

**11:25 Montreal Medal Lecture**  
presented by Richard Puddephatt in CC-  
Port Royal C1

**PT12 DH-Baronet 6**

**General**

Organizer(s) - Josef Zwanziger  
Chair(s) - Dale Keefe

**08:00 0108 The Role of Water in  
Intermolecular Proton Transfer Reactions**  
Siwick B.J., Bakker H.J.

**08:20 0109 Enol Formation from Simple  
Aldehydes and Ketones by Charge-Transfer  
Ionization/Neutralization in Low-Temperature  
Matrices** West B.J., Robinson M.M.,  
Thompson M.G.K., Parnis J.M.

**08:40 0110 Chiral Resolution in Two-  
Dimensional Racemic Systems** Paci I., Ratner  
M.A., Szeifer I.

**09:00 0111 Chiral Stability in Solution:  
Effects of Decoherence and Intermolecular  
Interactions** Han H., Wardlaw D.

**09:20 0112 Prediction of Fibrinogen  
Adsorption for the Library of Biodegradable  
Polyarylates: Combined Computational  
Modeling Approach** Gubskaya A., Knight D.,  
Kohn J. PAPER WITHDRAWN

**09:40 Coffee Break**

**10:00 0113 Sacrificial Hydrogenation of  
Ethene Involving Neutral First-Row Transition  
Metal Atoms** Thompson M.G.K., Parnis J.M.

**10:20 0114 Chemical Force Microscopy  
of Alkyl Monolayer Derivatized Silicon (111)  
Surfaces** Goel V., Mengistu T.Z., Morin S.,  
Horton J.H.

**10:40 0115 Application of DFT Methods  
to the Thermochemistry of Organic Reactions:  
Advisable?** Viswanathan B., Brittain D.R.B.,  
Izgorodina E.I., Coote\* M.L.

**11:00 0116 Infrared and Raman Spectra  
of Asphaltenes and Model Compounds**  
Schmidt K.J., Michaelian K.H., Shaw J.M.,  
Lastovka V.

**11:20** End of Session

**REMINDER**

**11:25 Montreal Medal Lecture**  
presented by Richard Puddephatt in CC-  
Port Royal C1

**Sunday PM**

**Analytical Chemistry Division**

**AN1 CC-Highland 6**

**Analytical Chemistry in Biology  
and Medicine**

Organizer(s) - Peter Wentzell and John  
Walter  
Chair(s) - H el ene Perreault

**13:40 0117 Analysis of Phycotoxins in  
Hand-Picked Plankton Cells by Micro-Column  
Liquid Chromatography-Tandem Mass  
Spectrometry** Quilliam† M.A., Aasen J.A.,  
Hardstaff W.R., Lewis N.I.

**14:00 0118 Mass Spectrometry Profiling  
of Erythrocytes as a Tool for Clinical Study of  
Pt-Drug Chemotherapies** Li X.-F., Mandal R.

**14:20 0119** *Three Dimensional Analysis of the Solid Debris from Human Urine Using RP-LC, Solution Phase Isoelectric Focusing and 1D Gel Electrophoresis: Are There Urinary Proteins in the Solid Debris of Urine?* **Mataija D.M., Doucette A.A.**

**14:40 0120** *A Lipidomics Approach to Functional Genomics in *Sinorhizobium meliloti** **McCarthy B.E., Saborido L.**

**15:00 Coffee Break**

**15:20 0121** *Watching the Cellular Crockpot: An Analytical Approach to Gene Expression Monitoring with DNA Microarrays* **Wentzell P.D., Karakach T.K., Flight R.M.**

**15:40 0122** *Cell-Based Microarray Testing of Toxicity of Nanomaterials* **Huang L., Xie L., Li X.-F.**

**16:00 0123** *Quantitative Raman Based Studies of Nanoparticle Labeled Antibody-Antigen Binding* **Nsiah F., Grant C.F., McDermott M.T.**

**W.A.E. McBryde Award Lecture presented by John Brennan**

Introduction of John Brennan by William Leigh

**16:20 0124** *Entrapment of Proteins in Silica Materials for the Development of Bioanalysis Tools* **Brennan J.D.**

**17:00** End of Session

**AN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with EN) (joint with EN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Edward Lai, Ismail Fasfous

**13:40 0125** *Factors Affecting Bioaccessibility of Metals in Household Dust* **Rasmussen P.E., Beauchemin S., Hassan N., Nugent M., Lanouette M., Chénier M.**

**14:20 0126** *Simultaneous Speciation of Trace Elements by Chemical Separation and Neutron Activation Analysis* **Chatt A., Kiceniuk J.W., Bottaro C., Menendez Sanchez W., Isaac-Olive K.**

**15:00 Coffee Break**

**15:20 0127** *Microwave-Assisted Leaching On-Line with Inductively Coupled Plasma Mass Spectrometry to Determine Elemental Distributions in Minerals and Soils* **Beauchemin D., Silva M., Kyser K.**

**16:00 0128** *The Importance of Sample Preparation in "Real Life" Analytical Problems* **Packer A.P., Fawcett A., Larivière D., Kiser S., Li C., Cornett J.**

**16:40** End of Session

**AN5 CC-Highland 11**

**Electrochemistry at the Edge (Joint with PT) (joint with PT5)**

Organizer(s) - Sharon Roscoe and Vlad Zamlynyy  
Chair(s) - Christopher Brett, Peter Pickup

**13:40 0129** *Electrochemical and Mechanical Dynamics of Electroactive Polymer Films* **Hillman A.R., Efimov I., Mohamoud M., Ryder K.S.**

**14:20 0130** *Aryl Films on Gold Electrodes by Electrochemical and Spontaneous Deposition* **McDermott M.T., Shewchuk D., Yang N., Laurentius L.B.**

**14:40 0131** *Formation and Electrochemical Properties of Porphyrin Monolayers on a Gold Surface* **Medard C., Dodelet J.P., Morin M.**

**15:00 Coffee Break**

**15:20 0132** *Mechanistic Differences in the Dissociative Electron Transfer of O-O and S-O Bonds* **Workentin M.S., Stringle D.L.B.**

**15:40 0133** *Electrochemical Attachment of Aryl Molecular Films to Platinum* **Skelhorne A.W., McDermott M.T.**

**16:00 0134** *Electronic Properties of Organic Functionalized n-Si(111) Electrodes at the Si/Liquid Interface* **Chen S., Mengistu T.Z., Zheng S.H., Morin S.**

**16:20 0135** *Organic Modification of Silicon Surfaces* **Chahma M., Hamed E.M., Ahmida M., Houmam A., Thomas D.F.**

**16:40 0136** *Electrode Modifications with Thin Films of Amine Functionalised Mesoporous Silica Molecular Sieves* **Liu X., Villemure G.**

**17:00** End of Session

**AN8 DH-Baronet 6**

**Nuclear Analytical Chemistry**

Organizer(s) - Amares Chatt  
Chair(s) - Jan Kucera, Chunsheng Li

**13:40 0137** *A New Nuclear Method for Synthesis of Novel Fullerene Dimers: Reactor Neutron Irradiation* **Chen Z., Zhao Y., Chai Z.**

**14:00 0138** *Chemical Speciation by Perturbed Angular Correlation Spectroscopy* **Bode P.**

**14:20 0139** *Development of Extraction Methods for Organohalogenes from Marine Animals* **Kiceniuk J.W., Bottaro C.S., Indrasena M.W., Chatt A.**

**14:40 0140** *Determination of Trace Elements in Arabica Coffee Using Small and Large Sample INAA* **De Nadai Fernandes E.A., Tagliaferro F.S., Bode P., Bacchi M.A.**

**15:00 Coffee Break**

**15:20 0141** *A Comparison Between Portable and Laboratory Gamma-Ray Spectrometry Systems* **Bennett L.G.I., Kelly D.G., Mattson K.M., Nielsen K.S.**

**15:40 0142** *Multi-Element Analysis of Korean and Japanese Oyster Tissues from Selected Areas by Neutron Activation Analysis* **Fukushima M., Chatt A., Nakano Y.**

**16:00 0143** *Iodine, Bromine, and Strontium Content of some Staple Foodstuffs from Southern Ghana Using EINAA and Compton Suppression Gamma Ray Spectrometry* **Nyarko B.J.B., Akaho E.H.K., Fletcher J.J., Chatt A.**

**16:20 0144** *Cloud Point Extraction for Preconcentration of Antimony and Vanadium Prior to Neutron Activation Analysis of Environmental Samples* **Serfor-Armah Y., Carboo D., Akuamoah R.K., Chatt A.**

**16:40 0145** *Determination of Uranium, Lanthanum and Arsenic in Human Nail by Neutron Activation Analysis* **Laoharojanaphand S., Kongsakphaisal A., Kongsri S.**

**17:00** End of Session

**ANP CC-Port Royal D,E**

**Posters**

Organizer(s) - Peter Wentzell  
Chair(s) - Peter Wentzell

**See posters in other divisions with which there are joint symposia**

**0146** *Patterning of a Microenzyme Reactor by Photografting Cyclic Olefin Copolymer Microfluidic Chips* **Bedair M., Lewis R., Ballios B., Oleschuk R.**

**0147** *Analysis of Biofilms by Raman Microspectroscopy* **Sandt C., Smith Palmer T., Pink J., Pink D.**

**0148** *The Development of a Continuous Flow Competitive LC/MS Method for Screening Small Molecules against Immobilized Receptors* **Sharma J., Besanger T., Brennan J.D.**

**0149** *Two-Site Ionic Labeling with Pyranine: Implications for Structural Dynamics Studies of Polymers and Polypeptides by Time-Resolved Fluorescence Anisotropy* **Sharma J., Tleugabulova D., Czardybon W., Brennan J.D.**

**0150** *Analysis of Quantum Dots and Their Bioconjugates with Proteins by Capillary Electrophoresis* **Pereira M., Lai E.P.C.**

**0151** *Evaluation of ER Based High-Throughput Screening Technologies Involving On-Line MS/MS Detection as Applied to GSK3 Inhibitor Screening* **Partserniak I., Capretta F., Werstuck G., Brennan J.D.**

**0152** *Hydroxypropyl Cellulose Hydrogels as Sensors for Ultrasonic Molecular Contrast Agents* **Dion J.R., Burns D.H.**

**0153** *Vibrational Spectroscopy of Biomolecules Subjected to Oxidative Modification* **Kwok C.S., Schipper H.M., Burns D.H.**

0154 *Some Reducing Agents and Pharmaceutical Compound-Induced Growth of Au Nanoparticles: Assays for the Detection of Reducing Agents* **Tashkhourian J.**, Hormozi Nezhad M.R.

0155 *Branched Alkyl Mono-Layers on Si (111) Provide Enhanced Stability in Aqueous Environments* **Mischki T.K.**, Bin X., Lopinski G.P., Wayner D.D.M.

0156 *Analysis of Dicarboxylic Compounds in Drinking Water by MALDI-TOF MS Using 9-(3,4-Diaminophenyl)acridine (DAA) as a Reactive Matrix* **Mugo S.M.**, Bottaro C.S.

0157 *Single-Step Analysis of Co-Enzyme Redox Status by Capillary Electrophoresis with Dual Channel Laser-Induced Native Fluorescence Detection* **Britz-McKibbin P., Seguí Lines G.**

0158 *Evaluation of Micellization of Ionic Surfactants in the Presence of Room Temperature Ionic Liquids (RTILs)* **Hormozi Nezhad M.R.**, Safavi A., Maleki N.

0159 *The Potential of Comprehensive Two-Dimensional Gas Chromatography (GCxGC) for Environmental Field Analysis* **Panic O.**, Górecki T., Goldstein A.H., Williams B.J., Kreisberg N.M., Hering S.V.

0160 *Time-Series Fingerprinting through Fractal Analysis in Capillary Electrophoresis and Capillary Electrochromatography* **Bandilla D.**, Pandozzi F., Skinner C., Burns D.H.

0161 *Separation of Quantum Dots and Quantum Dot Conjugates Using a Capillary Electrophoresis Microfluidic Device* **Revesz E., DeRosa M., Lai E.P.C.**

0162 *Analysis of Chemical Composition of Various Lipophilic Pulp Extractives* **Shirin S.**, Sithole B.

0163 *Enhancing Text Legibility with Visible Hyperspectral Imaging* **Goltz D.M.**, Norman L., Charleton K., Cloutis E., Attas M., Ridgen R.

0164 *Low Voltage Electro-Corrosion for Sample Preparation* **Charleton K.**, Buffie T., Goltz D.M.

0165 *Analysis of Products of Ethanol Oxidation from Direct Ethanol Fuel Cells* **Bennett D.V.**, Pickup P.G., Helleur R., Li G.

0166 *Molecularly Imprinted Polymers (Monolith, Encapsulated Carbon Nanotubes Network, and Stainless Steel Frits) for Biochemical Analysis* **Salman M.**, Yu J.C.C., Lai E.P.C.

0167 *Influence of Temperature, Pressure, pH, and Oxidizing Agents on the Hydrometallurgical Processes for the Treatment of Copper and Zinc from their Sulfide-Based Ores* **Moore C.**, Kariuki S.

0168 *Quantification of Halide Residues in Water Immiscible Ionic Liquids Using ICP-MS* **Li D.**, Singer R.

0169 *Exploration of Corrosion Resistance of Colored Anodized Aluminum with Quinizarin Using Electrochemical Methods* **Ahmadi A.**, Norouzi P., Ganjali M.R.

0170 *Scanning Electrochemical Microscopy of Live COS-7 Cells* **Zhao X.**, Zhu R., Ding Z.F.

0171 *Electrochemical Investigations on Ferrocene Peptide Films* **Orlowski G.A.**, Chowdhuri S., Kraatz H.B.

0172 *Electrochemical Co-Deposition of Calcium Phosphate-Protein Coatings onto Titanium: Morphology and Chemical Composition Studies* **Blatt S.E.**, Mendez A.I., Filiaggi M., Roscoe S.G.

0173 *Development of a Novel SEIRAS Setup for Studying a Single Living Cell* **Li J.**, Szymanski G., Lipkowski J.

0174 *STM Imaging of Electrochemical Potential Control of Protein Immobilization on Gold* **Zhou C.**, Roscoe S.G.

0175 *An Electrochemical Investigation of Cellulose Films on Au(111)* **Quirk A.I.**, Brosseau C., Vandenberg C., Roscoe S.G., Lipkowski J., Clarke A.

0176 *Exchange Kinetics and Defect Detection of Alkylthiol SAMs Studied with Ferrocenylalkylthiolates* **Lee L.Y.S.**, Rucareanu S., Sutherland T.C., Lennox R.B.

0177 *Investigation of the Electrochromic Properties of Ni-Al-Cl and Ni-Al-CO<sub>3</sub> Layered Double Hydroxide Thin Films* **Yu L.**, Villemure G.

0178 *Electrochemical Impedance Spectroscopy Study of Nickel-Aluminium Layered Double Hydroxide Anion Exchangers as Cathode Materials For Rechargeable Batteries* **Yu L.**, Villemure G.

0179 *Immobilization of Histidine-Tagged Proteins for Surface Plasmon Resonance Imaging Studies* **Shang H.**, Zhang G., Weiner J., McDermott M.T.

0180 *Chemical Force Microscopy of Phase Segregated Langmuir-Blodgett Films* **Qaqish S.**, Paige M.F.

0181 *Tailoring Materials with a Controlled Nanoscale Orientational Morphology with X-ray Spectromicroscopy* **Urquhart S.G.**, Fu J., Ahmad F.

0182 *Quantitative Discrimination of Water and Hydrocarbons in Porous Media by Magnetization Prepared Centric-Scan SPRITE* **Li L.**, Marica F., Quan C., Cheng Y., MacMillan B., Balcom B.

0183 *Imaging Molecular Changes in APP Transgenic Mice* **Gallant M.**, Rak M., Szeghalmi A., Gough K.M., Del Bigio M.R., Westaway D., Julian R.

0184 *Characterization of Tips to Improve Force Measurements made with Inverted AFM* **Chisholm R.A.**, Qiu W., Green\* J.B.D.

1481 *A Novel Nonlinear Optical Tool Based on Second Harmonic Generation (SHG) for Imaging Living Cells* **Sun Y.**, Wang F., Ding Z.F.

0185 *Rapid Detection and Identification of Impurities in an Active Pharmaceutical Raw Material, N-t-Butylglycine, by HPLC-MS-MS* **Kiyota T.**, Fechner F., Glasier G.

0186 *Residual Solvent Drying Endpoint Detection Using Process Mass Spectrometry* **Glasier G.**, Chew W., Fournier E., Karim L.

## Biological and Medicinal Chemistry Division

### BM3 CC-Highland 8

#### Computational Methods in Drug Design (Joint with PT) (joint with PT4)

Organizer(s) - Donald Weaver  
Chair(s) - Donald Weaver, Jack Bikker

13:40 0187 *Improving Hit Enrichment in Structure-Based Virtual Screening Using Interfacial Surface and Pharmacophore Filters* **Cross† J.B.**, Jalaie M., Narasimhan L.S., Domagala M., Bardouniotis E., Sharma V., Fiebig K.

14:20 0188 *Practical Application of Integrated Virtual Screening Methods* **Bikker† J.A.**, Dunbar J.B., Jalaie M., Kirchhoff P., Mack D., Narasimhan L., Shanmugasundaram V.

#### 15:00 Coffee Break

15:20 0189 *Computer-Aided Design of Anti-Amyloid Drugs for the Treatment of Alzheimer's Disease* **Barden† C.J.**, Carter M.D., Weaver D.F.

16:00 0190 *Design and 'Virtual' Screening of Potent Peptidic  $\beta$ Amyloid Oligomerization Blocker Ligands Using Computer Aided Drug Design Techniques.* **Roy S.**, Rauk A.

16:20 0191 *Computational Modelling of Enzymes: The Ability of Uracil Derivatives to Act as Pro-Drugs for  $\beta$ -Amino Acid Antiepileptogenic Agents* **Tiedje K.E.**, Weaver D.F.

16:40 0192 *Determining Putative Pharmacophores for General Anaesthetics: A Molecular Modelling Study* **Campagna-Slater V.**, Weaver D.F.

#### 17:00 End of Session

### BM5 CC-Highland 7

#### Enzymes: Mechanism, Function and Structure

Organizer(s) - Stephen Bearn  
Chair(s) - Stephen Bearn

13:40 0193 *Transition State Analysis of MutY, a DNA Repair Enzyme* **McCann J.A.B.**, Berti P.J.

**14:20 0194** *How do Enzymes Enhance Reaction Rates? Alternative Thermodynamic Strategies* Schroeder G.K., Wolfenden† R.

**15:00 Coffee Break**

**15:20 0195** *Recent Progress in the Study of Inhibition of Fungal Saccharopine Dehydrogenase: Towards Antifungal Agents with a Novel Mode-of-Action* Fletcher R.S., Maronne L., Goodfellow V., Shang M., Brown M., Beshara C., Dmitrienko G.I.

**15:40 0196** *Synthesis of Sialyl-Lactose Analogues for Continuous Assay of Stalidase Activity* Indurugalla D., Watson J.N., Bennet A.J.

**16:00 0197** *Mechanistic Requirements for the Hydrolysis of 2-Thioaliosides* Bennet A.J., Narine A.A., Watson J.N.

**Bernard Belleau Award Lecture presented by Jik Chin**

Introduction of Jik Chin by Peter Guthrie

**16:20 0198** *Ligand Design: From Artificial Hydrolytic Metalloenzymes to Stereoselective Recognition* Chin† J.

**17:00** End of Session

**BM9 CC-Highland 10**

**Peptide Science (Joint with OR) (joint with OR9)**

Organizer(s) - William Lubell  
Chair(s) - David Perrin

**13:40 0199** *Self-Assembly of Non-Cyclic Bis-D- and L-tripeptides into Higher Order Tubular Constructs - Design, Synthesis and X-ray Crystal Superstructure* Hanessian† S., Fétis K., Maris T., Vinci V., Phan Viet M.T.

**14:20 0200** *Searching for a Common Link: Applications of the "Promiscuous Drug Concept" to Alzheimer's Disease* Meier-Stephenson V.C., Weaver D.F.

**14:40 0201** *Genomic Prospecting of the Oceans for Therapeutic Peptides* Douglas† S.E., Gallant J.G., Patrzykat A.

**15:00 Coffee Break**

**15:20 0202** *Synthesis and Properties of Conformationally-Constrained Glycopeptides* Schweizer† F., Owens N., Zhang K.

**15:40 0203** *C-Linked Antifreeze Glycoprotein Analogues as Potent Inhibitors of Recrystallization* Liu S., Ben† R.N.

**16:20** End of Session

**REMINDER**

**16:20 R.U. Lemieux Award Lecture presented by André Charette in CC-Port Royal C1**

**Chemical Education Division**

**CE1 CC-Mariner 3**

**Changes in Chemical Education: New Approaches for Labs and Lectures Based on Chemical Education Research**

Organizer(s) - Patricia Laws  
Chair(s) - Katherine Darvesh

**13:40 0204** *The Internet, the Second Revolution in Education* Kroto† H.

**14:20 0205** *Myths, Misconceptions, and Missed Connections in the Study of Quantum Concepts by Students in General Chemistry* Hoffman M.Z., Dill D., Garik P., Golger A.

**14:40 0206** *National Diploma in Science: Laboratory Technician Training in New Zealand 2006* Shillington D.P.

**15:00** End of Session

**CE8 CC-Mariner 3**

**General**

Organizer(s) - Pippa Lock  
Chair(s) - Leslie Barton

**15:20 0207** *Science Education for the Science Phobic - Targetting Elementary School Teachers* MacKinnon C.D., Gottardo C., Hill M.-L.

**15:40 0208** *The "Annual Chemistry Workshops for Teachers": An Efficient Way of Bringing New Ideas into High School Classrooms* Gauvin F.

**16:00 0209** *The National High School Chemistry Examination Revisited* Barton L.

**16:20** End of Session

**Environment Division**

**EN1 CC-Highland 9**

**Agent Orange and Other Pesticides**

Organizer(s) - William Cullen  
Chair(s) - Ken Reimer

**13:40 0210** *Dioxin Debates in Canada: The Exposure Connection* Solomon† K.R.

**14:20 0211** *Dioxin Debates in Canada* Stephenson† G.R.

**15:00 Coffee Break**

**15:20 0212** *Arsenic from Anthropogenic Sources: Two Case Studies in Florida* Cai† Y.

**16:00 0213** *The Regulation of Pesticides in Canada* Flint† J.

**16:20** End of Session

**EN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with AN) (joint with AN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Edward Lai, Ismail Fasfoos

**13:40 Joint with Analytical Chemistry Division - See AN3**

**16:40** End of Session

**ENP CC-Port Royal D,E**

**Posters**

Organizer(s) - John Murimboh  
Chair(s) - John Murimboh

**From 17:00 until 19:00**

**See posters in other divisions with which there are joint symposia**

**0214** *Partitioning and Bioavailability of Pesticides Leading to Behavioural Effects in Invertebrates* Leonard J., Dunphy K., Tremblay L., Hellou J.

**0215** *Investigation of the Interaction of Diazinon, an Organophosphorus Insecticide, with  $\alpha$ -,  $\beta$ - and  $\gamma$ -Cyclodextrin (CD) Using NMR and Computational Studies* Churchill D.C., Smith V.H., Cheung J.C.F., Park Y.S., Buncel E.

**0216** *Spatial Distribution of Total and Methyl Mercury in Pore Water and Sediment in the Small Lakes in Ontario* He T., Lu J., Yang F., Feng X.

**0217** *The Study of Toxic Metals and Effluents in Wastewater* Sharma M., Bhardwaj R.K.

**0218** *Synchrotron Radiation Analysis of Human Teeth* Martin R.R., Naftel S.J., Nelson A.J., Gerson A., Flemming R.

**0219** *Artificial Self-Sealing Hydrothermal System in Alkalic Rock Complexes as the Basis for the Nuclear Waste Burial Technology* Gnidash N., Gnidash M.

**0220** *Pesticide Fate and Transport Models for Crop and Watershed Protection* Gamble D.S., Prasher S.O., Langford C.H.

**0221** *Removal of the Enzymatically Generated Polymeric Products of Dinitrotoluene via Sodium Lauryl Sulfate and Alum* Patapas J.C., Taylor K.E., Biswas N., Bewtra J.K.

**0222** *New Marine Species of Shewanella from Halifax Harbor that Remove a Wide Range of Chemical Pollutants* Zhao J.S., Manno D., Hawari J.

**0223** *Estrogenic Compounds in Halifax Harbour: Analytical Methods of Detection and Environmental Fate Studies* Robinson B., Hellou J.

**0224** *Enzymatic Treatment of Phenolic Compounds with the Aid of a Hydrophilic Synthetic Polymer, Polyethylene Glycol (PEG)* Steevensz A., Taylor K.E., Biswas N., Bewtra J.K.

**0225** *Fate of Estrogenic Compounds in the Mud Snail* Parsons A., Campbell K., Hellou J.



0226 *Investigation of Methyl Benzoate as a Potential Biomarker of Mold in Building Materials in Determining Indoor Air Quality* **Parkinson D.-R.**, Rolls W., Wady L., Pawliszyn J.

0227 *Microbial Contributions to Natural Organic Matter Composition and Preservation* **Tremblay L.**, Benner R.

0228 *Development of a Technique for the Measurement of the Stable Carbon Isotope Ratios of Isoprene, Methacrolein, and Methyl Vinyl Ketone from Ambient Air Samples* **Iannone R.**, Koppmann R., Rudolph J.

0229 *Laboratory Studies of Stable Carbon Isotopic Composition of Secondary POM* **Irei S.**, Huang L., Collin F., Zhang W., Hastie D., Rudolph J.

0230 *How to Quantify Gases in Air with an Open-Path FTIR* **Bussieres D.**

0231 *Kinetic, Product and Mechanism Studies of the Transformations of Hg<sup>II</sup> to Hg<sup>0</sup> by Dicarboxylic Acids* **Si L.**, Ariya P.A.

0232 *Kinetic, Product, and Theoretical Studies of the Gas-Phase Reactions of Toluene and Benzene with Chlorine Atoms* **Ryzhkov A.B.**, Niki H., Harris G.W., Raofie F., Ariya P.A.

## Inorganic Chemistry Division

### IN4 CC-Mariner 2

#### Paramagnetic and Mixed-Valent Complexes in Organometallic and Inorganic Chemistry

Organizer(s) - Kevin Smith, Daniel Leznoff and Manuel Aquino  
Chair(s) - Manuel Aquino

13:40 0233 *Toward NMR Spectroscopy of Paramagnetic Inorganic Solids* **Kroeker S.**, Aguiar P.M., Leznoff D.B.

14:00 0234 *High-Field and Frequency Electron Paramagnetic Resonance (HF-EPR) Studies of Cobalt(II) and Nickel(II) Scorpionate Complexes* **Telser J.**, Krzystek J., Ozarowski A., Smirnov D., Desrochers P.J., Trofimenko S., Swenson D.C.

14:20 0235 *EPR and Magnetic Susceptibility Studies of Malaria Pigment Analogues* **Kosar A.J.**, Bohle D.S., Suarez L.Y., Sienkiewicz A., Yee G.T.

14:40 0236 *Theoretical Investigations of Paramagnetic Group 13-Diazabutadiene Complexes: Insights into the Interpretation and Simulation of EPR Spectra* **Tuononen H.M.**, Armstrong A.F.

#### 15:00 Coffee Break

15:20 0237 *Radical and/or Mixed-Valent Diruthenium Complexes - Criteria to Establish the True Nature of Paramagnetic Species* **Kaim W.**

16:00 0238 *Mixed-Valence Ruthenium Complexes of the 4,4-Azo-di(phenylcyanamido) Dianion Bridging Ligand* **Crutchley R.J.**, Al-Noaimi M.

16:20 0239 *Modulation of Mixed Valency and Redox Potentials of Cu<sub>A</sub> Center and its Roles in Controlling Proton-Coupled Electron Transfer in Biology* **Lu Y.**, Hwang H.-J., Berry S.M.

16:40 End of Session

### IN5 CC-Port Royal C2

#### Recent Advances in Main Group Chemistry

Organizer(s) - Glen Briand  
Chair(s) - Paul Ragogna

13:40 0240 *Boron-Nitrogen Analogues of Polycyclic Aromatic Hydrocarbons: Synthesis, Structure and Properties* **Jaska C.A.**, Bosdet M., Emslie D.J.H., Piers\* W.E.

14:00 0241 *Synthesis and Unexpected Reactivity of Si-H Functionalized Dithieno[3,2-b:2',3'-d]phospholes* **Baumgartner T.**, Wilk W.

14:20 0242 *Borane-Catalyzed S-Si Bond Formation* **Harrison D.J.**, Kobus D.N., **Rosenberg L.**

14:40 0243 *Mechanistic Studies of Acid Catalyzed Dehydrocoupling of Ammonia-Borane* **Baker R.T.**, Stephens F.H.

#### 15:00 Coffee Break

15:20 0244 *Verdazyl Radicals and Diradicals: Recent Advances in Synthesis and Electronic Structure Studies* **Gilroy J.B.**, McKinnon S.D.J., Koivisto B.D., **Hicks R.G.**

15:40 0245 *(CNSSS)<sub>2</sub>(A)<sub>2</sub> (A = AsF<sub>6</sub>, SbF<sub>6</sub>, Sb<sub>2</sub>F<sub>11</sub>): A Non-Sterically Hindered Main Group Diradical that Retains its Paramagnetism in the Solid State* **Cameron T.S.**, Decken A., **Knapp C.**, Palacio F., Passmore J., Mawhinney R.C., Rautiainen J.M., Shuvaev K.V., Thompson R.C., Wood D.J.

16:00 0246 *Radical Stereospecificity: Mechanistic Studies of Nitric Oxide's Addition to Nucleophiles* **Smith K.N.**, Bohle D.S.

16:20 0247 *The Effect of Selenium Incorporation on the Bandwidth and Conductivity of Neutral Radical Conductors* **Brusso J.L.**, Oakley R.T., Reed R.W., **Robertson C.M.**

16:40 0248 *Binary Sulfur-Nitrogen Radicals* **Boeré R.T.**, Roemmele T.L., Chivers T., Tuononen H.M.

17:00 End of Session

### INP CC-Port Royal D,E

#### Posters

Organizer(s) - Neil Burford  
Chair(s) - Neil Burford

From 17:00 until 19:00

See posters in other divisions with which there are joint symposia

0249 *Studies of the Mechanism of Chromium Catalyzed Oligomerization of Ethylene* **Jabri A.**, Gambarotta S.

0250 *Organized Molecular Architecture via Self-Assembly* **Dey S.K.**, Parson S.R., Thompson L.

0251 *The Disassembly of Mixed-Valent Diruthenium(II,III) Tetracarboxylates as a Route to the Preparation of Novel Ru(II) Complexes* **Aquino M.A.S.**, Conrad E.D., Wallbank A.I., Murray A.H., MacLean B.J., Yue Z., Cameron T.S., Robertson K.N.

0252 *Bis(phenoxide) Amine Complexes of Iron* **Roychowdhury R.**, Sheridan K., Kozak C.M.

0253 *The Brook-Rearrangement of Diamidosilyl Ether Ligands to Mixed-Donor Siloxo-Amino-Amido Ligands and their Coordination Chemistry* **Leznoff D.B.**, Haftbaradaran F., Kuchison A.M., Mund G., Katz M.J., Batchelor R.J., Schatte G., Britten J.F.

0254 *Structure-Activity Relationships in the Activation of Iodomethane by Cyclopentadienyl Chromium(II) Complexes* **Smith K.M.**, Corcoran L.D., Tang L., Dickieson L.S.

0255 *Synthesis and Characterization of [1]Metalloarenes Equipped with Heavier Group 13 Elements* **Lund C.L.**, Quail J.W., Müller J.

0256 *Synthesis and Characterization of Fluorinated Phosphonium Ionic Liquids* **Tindale J.J.**, Ragogna P.J.

0257 *Hemilabile Tridentate Iminophosphine Ligands: Applications to Ruthenium-Vinylidene and -Carbyne Chemistry* **Spivak G.J.**, Beach N.J., Walker J.M., Jenkins H.A.

0258 *Formation of Metal Telluride Thin Films and Nanoplates from Novel Single-Source Precursors* **Ritch J.S.**, Eisler D.J., Chivers T., Sarje S.S., Afzaal M., O'Brien P.

0259 *Interactions of Toxic Heavy Metals with Biologically Relevant Chelating Ligands* **Saunders C.D.L.**, Burford N.

0260 *Kinetics of Catechol Oxidation by a Cobalt Salen in Organic Media: A Study on Peroxidase Mimicking Behavior* **Mahmoudi A.**, Khalafbeigi M., Nazari K., Dehghanpour S.

0261 *Low Oxidation State Group 15 Compounds: Approaches to New P-Containing Polymers* **Norton E.**, Ellis B.D., Macdonald C.L. B.

0262 *Low Oxidation State Group 13 Salts: Synthesis and Reactivities* **Cooper B.F.T.**, Macdonald C.L.B., Andrews C.G.

0263 *Towards Neutral Phosphorus Analogs of N-Heterocyclic Carbenes* **Corrente A.M.**, Roesler R.

0264 *A Mechanistic Approach to Ligand Exchange in Amidinates Using Density Functional Theory* **Brazeau A.L.**, DiLabio G.A., Barry S.T.

0265 *Investigating Low Oxidation State Pnictogens: P<sup>1</sup> and As<sup>1</sup> Salts* **Ellis B.D.**, Macdonald C.L.B.

0266 *Further Developments in Fundamental catena-Cyclopolyphosphorus Cation Chemistry* **Riegel S.D.**, Burford N., Decken A.

0267 *Synthesis and Coordination Chemistry of the 1,3,4-Triaza-3,5-diborohyl Ligand, a Carbon-Free Inorganic Analog of Cyclopentadienyl* **Ly H.V.**, Parvez M., McDonald R., Roesler R.

0268 *Coordination Complexes of Alkali Metal-Crown Ether Cations with Group 13 Hydride Anions* **Onut L.**, McGrady G.S., Decken A.

0269 *Novel Reactivity of 1,2-Di-tert-butylmethylphosphine* **Bates J.I.**, Gates D.P.

0270 *Substituent Effects on the Oligomerization of NP Analogues of Olefins* **Ovans R.**, Burford N.

0271 *New Amidate Complexes of the Group 4 Metals: Stabilization of Highly Reactive Bond Fragments and their Stoichiometric and Catalytic Reactivity* **Thomson R.K.**, Schafer L.L.

0272 *Synthesis and Spectroscopic Characterization of Novel Pt(II) Complexes Containing Sulfoxide Ligands and Pyrazine* **Priqueler J.R.L.**, Butler I.S., Rochon F.D.

0273 *Novel Mixed-Ligands Pt(II) Complexes Containing a Pyridine Derivative and Pyrazine or Pyrimidine: Synthesis and Characterisation by IR and Multinuclear Magnetic Resonance Spectroscopies* **Rochon F.D.**, **Fakhfakh M.**

0274 *DFT Study of S<sub>7</sub>, Se<sub>7</sub> and Te<sub>7</sub> Ring Systems* **Bajorek T.**, Laitinen R.S., Suontamo R.J.

0275 *Coordinating Allenylidene Complexes as Models for Molecular Wire Systems* **Koutsantonis G.A.**, Lengkeek N.A., Sanford V., **Schauer P.A.**, Skelton B. W., White A.H.

0276 *Group IV Complexes of Hemilabile Ligand Systems* **Dureen M.A.**, Stephan D.W.

0277 *Mechanistic studies of Methane Elimination from Organoscandium Dialkyl Complexes with bis-Pentafluorophenylborane* **Conroy K.D.**, Piers W.E., Parvez M.

0278 *Thermal Decomposition of Ruthenium Phosphonium Alkylidenes* **van der Eide E.F.**, Piers W.E., Romero P.E., Dubberley S.R., McDonald R.

0279 *Reactions of Secondary Phosphines with Transition Metals: Co-Ordination and P-H Bond Activation* **Geier S.J.**, Masuda J.D., Stephan D.W.

0280 *Synthesis and Reactivity of Group 8 Stylyene and Stylyne Complexes* **Hayes P.G.**, Waterman R., Tilley T.D.

0281 *High-Pressure Micro-Raman Spectroscopic Investigation of Ternary Metal Hydrides and their Deuteride Analogues* **Barsan M.M.**, Moyer Jr. R.O., Butler I.S., Gilson D.F.R.

0282 *Structure of Bismuth(III) Complexes with Cysteine in Aqueous Solution and the Solid State* **Schell A.C.**, Jalilievand F.

0283 *Synthesis of Novel Selenosulfide Reagents used in the Formation of Molecular Complexes and Nanoclusters Containing Both Sulfur and Selenium* **Turner E.A.**, Huang Y., Corrigan J.F.

0284 *Positional Grafting Palladium onto SBA-15* **Allen D.P.**, **Webb J.D.**, Crudden C.M.

0285 *A Metal-Organic Framework with a Hierarchical System of Pores and Supertetrahedral Building Blocks* **Cote A.P.**, Sudik A.C., Wong-Foy A.T.K., O'Keefe M., Yaghi O.M.

0286 *Developing a New Ionic Hydrogenation Catalyst for the Selective Deoxygenation of Glycerol* **Dykeman R.**, Schlaf M.

0287 *Synthesis and Characterization of Novel Benzimidazole Functionalized Ligands* **White W. M.**, Wang S.

0288 *Intra- and Intermolecular Interactions in Square-Planar d<sup>8</sup> Complexes Probed by Pressure-Dependent Luminescence Spectroscopy* **Reber C.**

0289 *Synthesis and Catalytic Activity of Titanium Oxazoline Complexes* **Etkin N.**, MacDonald J.K., Gossage R.A.

0290 *Synthesis, Characterization and Redox Properties of New Phosphine Quinones* **Caldwell S.L.**, Hicks R.G.

0291 *Synthesis and Characterization of Verdazyl Ligands and Metal-Verdazyl Complexes* **Anderson K.J.**, Hicks R.G.

0292 *Group VI Metal Imido Complexes bearing N,N'-Disubstituted 1,8-Diaminonaphthalene Ligands* **Lavoie N.**, Ong T.G., Richeson D.S.

0293 *Electrospray Ionization Mass Spectra from Non-Polar Solvents* **McIndoe J.S.**, Henderson M.

0294 *A 12-Hydride-Rhodium Cluster that Reversibly Adds Two Molecules of H<sub>2</sub>* **McIndoe J.S.**, Weller A.S.

0295 *Formation of a Dinuclear Ni(I) Complex via C-H Bond Activation* **Keen A.L.**, Johnson S.A.

0296 *Synthesis, Reactivity and Catalytic Applications of Group IV and V Transition Metal Complexes Supported by Diaminonaphthalene-Based Ligands* **O'Brien J.S.**, Ong T.G., Richeson D.S.

0297 *Coordination Polymers based on Ag(I): Mixed-Donor Systems to Promote Closed-Shell Interactions* **Jenkins H.A.**, Beaton S.A., Jacobs J.-L., Merchant S.

0298 *The Development of Ruthenium-Based Bifunctional Catalysts for the Selective Deoxygenation of Glycerol* **Thibault M.E.**, Schlaf M.

0299 *Stereochemistry of the Products of Nucleophilic Addition to Pt Coordinated Alkene Complexes* **Bickley D.G.**, Jessop P.G.

0300 *Pressure-Dependent Luminescence Spectroscopy of Molybdenum(IV) Oxo Complexes* **Reber C.**, Lanthier E.

0301 *Use of Platinum and Nickel Phosphine Macrocyclic Clusters as Templating Reagents in C-C Coupling Reactions* **Scoles L.**, Martin-Redondo M.P., Sterenberg B.T., Udachin K.A., Carty A.J.

0302 *Metal Complexes with Potential Tetradentate Bridging Chelators* **Gruia L.**, Rochon F., Beauchamp A.L.

0303 *Using ESI-MS/MS Fragmentation Analysis to Screen the Coordination Geometry of Diamagnetic Surrogate Metals Expected to Mimic Cu<sup>2+</sup>-binding to the Mammalian Prion Protein Octarepeat Region* **Pushie M.J.**, Vogel H.J.

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## Macromolecular Science and Engineering Division

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### MS4 CC-Mariner 1

#### Methods for Controlled Polymerization (Joint with MT) (joint with MT6)

Organizer(s) - Michael Georges and Michael Cunningham  
Chair(s) - Michael Georges, Michael Cunningham

13:40 0304 *Preparation and Use of Thermally Responsive Polymers* **Stöver† H.D.H.**, Yan X., Yin X., Burke N.

14:20 0305 *Group Transfer Polymerizations of Acrylates Catalyzed by Mononuclear Early d-Block and f-Block Metallocenes: A DFT Study* **Tomasi S.**, Ziegler T.

14:40 0306 *Mechanistic and Kinetic Studies of the Nitroxide-Mediated Living Radical Polymerization Process* **Li L.**, Hamer G.K., **Georges M.K.**

#### 15:00 Coffee Break

Catalysis Award Lecture presented by **Stephen Brown**

Introduction of Steve Brown by Warren Piers

15:20 0307 *The Development of Catalysts at NOVA Chemicals for Polyethylene Production Using the Solution Process* **Brown† S.J.**, Sibtain F., Price G., Clavelle E., Baar C.

16:00 0308 *High Molecular Weight, Narrow Polydispersity Polymers Mediated by Reverse Atom Transfer Radical Polymerization in Miniemulsion* **Simms R.**, **Cunningham M.**

**16:20 0309** *Synthesis and Characterization of Optically Pure Poly-L-lactide and Poly-D-lactide of Controlled Molecular Weight* **Jalabert M.**, Prud'homme R.E.

**16:40 0310** *Composite Polyurea Capsules* **Li J.**, Reijerkerk S., Foley P., Hitchcock A.P., Stöver H.D.H., Shirley I.

**17:00 0311** *ATRP Emulsion Polymerization Using a Novel Nanoprecipitation Technique* **Chan-Seng D.**, Georges M.K.

**17:20** End of Session

### Materials Chemistry Division

#### MT2 DH-Baronet 1,2,3

#### Energy Storage and Conversion (Joint with PT) (joint with PT6)

Organizer(s) - Josef Zwanziger, Mary Anne White and Jeff Dahn  
Chair(s) - Gillian Goward

**13:40 0312** *PEM Fuel Cell Electrocatalysis: From Combinatorial Screening to Structure-Activity-Stability Relations* **Strasser† P.**, Koh S.

**14:20 0313** *Investigation of Sputtered Ta-Ni-C as an Electrocatalyst for the Oxygen Reduction Reaction* **Yang R.**, Bonakdarpour A., Dahn J.R.

**14:40 0314** *Tin Transition Metal Carbon Alloys for Li Ion Battery Negative Electrodes* **Todd A.D.W.**, Mar R.E., Dahn J.R.

#### 15:00 Coffee Break

**15:20 0315** *NMR Studies of Battery Materials: Applications to the Li<sub>2</sub>MnO<sub>3</sub>-Li(NiMn)<sub>0.5</sub>O<sub>2</sub> System, Lithium Manganese Nitrides and other Paramagnetic Materials* **Bréger J.**, Jiang M., Dupré N., Cabana J., Grey† C.P.

**16:00 0316** *<sup>7</sup>Li 2D Exchange NMR and <sup>6</sup>Li/<sup>31</sup>P REDOR Studies of Ion Dynamics in Cathode Materials* **Cahill L.S.**, Chapman R.P., Kirby C.W., Goward G.R.

**16:20 0317** *Revisiting Materials with the Layered α-NaFeO<sub>2</sub> Structure as Cathode Material in Lithium Ion Batteries* **Schougaard S.B.**, Goodenough J.B.

**16:40** End of Session

#### MT3 CC-CornwallisDraped

#### Functional Materials

Organizer(s) - Jeffrey Cutler  
Chair(s) - Jeffrey Cutler

**13:40 0318** *Real-Time Monitoring of Growing Nanoparticles by Synchrotron X-ray Scattering: in situ GISAXS and GIXS in UHV during MBE Growth* **Renaud† G.**

**14:20 0319** *Production and Visualization of Combinatorial Libraries of Quaternary Compositions* **Chevrier V.**, Dahn J.R.

**14:40 0320** *Monitoring Fluid Ingress into a Calcium Polyphosphate Bioceramic using MRI Microscopy* **Bray J.M.**, Beyea S.D., Filiaggi M.

#### 15:00 Coffee Break

**15:20 0321** *Nano-Structured Coatings Designed for Multiple Environments* **Voevodin A.A.**, Sanders† J.H.

**16:00 0322** *Polyferrocenylsilane Block Copolymers: Functional Self-Assembling Macromolecules* **Rider D.A.**, Manners I.

**16:20 0323** *Electrochemical Preparation and Characterization of Biocompatible Passive Layers on Titanium* **Zhao B.**, Jerkiewicz G.

**16:40 0324** *Dielectric Composites with Conductive Fillers* **Cameron C.G.**, Freund M.S., Fisher G.

**17:00** End of Session

#### MT5 CC-CornwallisSuite

#### Large Scale Canadian Science Opportunities (Joint with PT) (joint with PT7)

Organizer(s) - Peng Zhang  
Chair(s) - Astrid Jurgensen

**13:40 0325** *The Canadian Neutron Beam Centre* **Root† J.H.**

**14:20 0326** *National Ultrahigh Field NMR Facility for Solids* **Detellier† C.**

**14:40 0327** *Research Opportunities Using the National Ultrahigh-field NMR Facility for Solids* **Auger M.**, Detellier C., Ripmeester J.A., Terskikh V., Wasylshen† R.E.

#### 15:00 Coffee Break

**15:20 0328** *Canadian Participation at the Spallation Neutron Source* **Gaulin† B.D.**

**15:40 0329** *Canada's NMR Resource: NANUC - The National High Field Nuclear Magnetic Resonance Centre* **McKay† R.T.**

**16:00 0330** *Neutron Scattering for Characterizing the Structure of Soft Materials* **Nieh M.-P.**

**16:20 0331** *The Canadian Ultra-High Resolution Electron Microscopy Facility* **Botton† G.A.**

**17:00** End of Session

#### MT6 CC-Mariner 1

#### Methods for Controlled Polymerization (Joint with MS) (joint with MS4)

Organizer(s) - Michael Georges and Michael Cunningham  
Chair(s) - Michael Georges, Michael Cunningham

**13:40** Joint with Macromolecular Science and Engineering Division - See MS4

**15:20** Catalysis Award Lecture presented by Stephen Brown

**17:20** End of Session

### Organic Chemistry Division

#### OR2 CC-Mariner 5

#### Heterocycles and Heteroatom-Containing Rings

Organizer(s) - Alison Thompson  
Chair(s) - Alison Thompson

**13:40 0332** *Design Synthesis and Evaluation of Heterocyclic Ligands and Catalysts for Asymmetric Reactions* **Wilson P.D.**

**14:00 0333** *Efficient 3-Component Synthesis of Pyrroles: The Development of a new Class of 1,3-Dipolar Heterocycles* **St.Cyr D.J.**, Dhawan R., Arndtsen B.A.

**14:20 0334** *Münchnones and Azomethine Ylids in New Cascades of Intramolecular Reactions Leading to Bi- and Tricyclic Adducts* **Belanger G.**, April M., Dauphin E., Lévesque F., Roy S.

**14:40 0335** *A Tandem Cyclopropanation/Cyclopropane Rearrangement/1,3-Dipolar Cycloaddition in the Synthesis of Functionalized γ-Lactams* **Kendall C.**, Wurz R.P., Charette A.B.

#### 15:00 Coffee Break

**15:20 0336** *An Efficient Regiospecific Synthesis of Pyrroles and Related Heterocycles by the Annulation of Nitriles with Donor-Acceptor Cyclopropanes* **Pagenkopf† B.L.**

**16:00 0337** *Indole N-CONEt<sub>2</sub> DreM Migration. Toward a Total Synthesis of Furostifoline* **Zhao Z.D.**, Snieckus V.

**16:20** End of Session

#### REMINDER

**16:20 R.U. Lemieux Award Lecture** presented by André Charette in CC-Port Royal C1

#### OR3 CC-Mariner 4

#### Innovative Chemistry in Novel Media

Organizer(s) - Robert Singer  
Chair(s) - Robert Singer

**13:40 0338** *Approaches to Crystallization from Ionic Liquids: Complex Solvents-Complex Results or A Strategy for Controlled Formation of New Supramolecular Architectures* **Rogers† R.D.**, Reichert W.M.

**14:20 0339** *Electron Rich Ionic Liquids: New Chemistry and Applications* **Clyburne† J.A.C.**

**15:00** Coffee Break

15:20 0340 *The Role of Co-Crystals in Pharmaceutical Science and Solid-State Synthesis* **Zaworotko† M.J.**, Cheney M., Gherco O., Peddy V.

16:00 0341 *Functionalization of Imidazolium Salts with Amino Diacetic Acid Groups* **Harjani J.**, Singer R.

16:20 End of Session

### REMINDER

16:20 R.U. Lemieux Award Lecture presented by André Charette in CC-Port Royal C1

### OR9 CC-Highland 10

**Peptide Science (Joint with BM) (joint with BM9)**

Organizer(s) - William Lubell  
Chair(s) - David Perrin

13:40 Joint with Biological and Medicinal Chemistry Division - See BM9

16:20 End of Session

### REMINDER

16:20 R.U. Lemieux Award Lecture presented by André Charette in CC-Port Royal C1

### OR10 CC-Port Royal C1

**Recent Advances in Organic Synthesis**

Organizer(s) - Jean Burnell and Ian Pottie  
Chair(s) - Mike Chong

13:40 0342 *Rhodium-Catalyzed C-H Insertion of Nitrene Intermediates* **Huard K.**, Lebel H.

14:00 0343 *Synthetic Approaches to (+)-Halenaquinone and (+)-Virdin* **Gorobets E.**, Hopkins J.M., Lucciola D., Wheatley B.M.M., **Keay† B.A.**

14:40 0344 *Enantioselective Synthesis of Functionalized Cyclohexanes and Medium-Sized Oxacycles and Carbocycles* **Pansare S.V.**, Adsool V.A.

15:00 Coffee Break

15:20 0345 *An Unprecedented Regioselective Intermolecular Pd-Catalyzed Cross-Coupling Reaction Employing Heterocyclic Carboxylic Acids with Aryl Halides* **Bilodeau F.**, Brochu M.-C., St-Onge M., **Forgione P.**

15:40 0346 *Towards the Total Synthesis of Cervinomycin and its Derivatives* **Anctil E.J.-G.**, Nolte B., Hartung C.G., Igancio Diez R., Snieckus V.

16:00 0347 *A Stereodivergent Synthesis of Virantmycin* **Wulff J.E.**, Back T.G.

R.U. Lemieux Award Lecture presented by André Charette

Introduction of André Charette by Hélène Lebel

16:20 0348 *New Methods for the Stereoselective Synthesis of Organic Compounds* **Charette† A.B.**

17:00 End of Session

### ORP CC-Port Royal D,E

**Posters**

Organizer(s) - Bruce Grindley  
Chair(s) - Bruce Grindley

From 17:00 until 19:00

0349 *Phase Switch Chemistry with N,N-Diethanolaminomethyl Polystyrene Resin and Boronic Acids as Convertible Tags* **Mothana S.**, Chahal N., Vanneste S., Hall\* D.G.

0350 *Regioselective Preparation of 3-Substituted  $\beta$ -Naphthols, 1,3 and 3,4-Disubstituted  $\beta$ -Naphthols via Directed ortho Metalation (DoM)* **Morin J.A.**, Snieckus V.

0351 *New Aromatic Anionic Synthetic Methods: Towards the Total Synthesis of Schumanniphytine* **Macklin T.**, Snieckus V.

0352 *Synthetic Approaches Towards (+)-Halenaquinone* **Lucciola D.**, Keay B.A.

0353 *Synthetic Uses of Novel P-Chiral Spiro Oxazaphosphinanes* **Lines W.L.**, Keay B.A.

0354 *A Simple and Expeditious Synthesis of No-Carrier Added  $^{11}\text{C}$ -Methylamine for Application in Positron Emission Tomography (PET) Radiotracer Synthesis* **Lakhrissi Y.**, Mzengeza S., Soucy J.-P., Jean-Claude B.

0355 *Synthesis of 2-Hydroxy-1-(1-phenyltetrahydropiperidine and Some of its Intermediates as the Derivatives of Phencyclidine* **Kassiri M.**, Ahmadi A., Fathollahi Y.

0356 *Geminal Acylation with a Facially Biased Acyloin* **Hughes J.A.**, Burnell D.J.

0357 *Copper Catalyzed Formation of Enol Ester from Potassium Trifluoroborate and Carboxylate Salts or Carboxylic Acids* **Huang F.**, Quach T.D., Batey R.A.

0358 *Kinetics, Mechanism and Regioselectivity of Glycoluril-Mediated Claisen-Like Condensations* **Harrison P.H.M.**, Kam K., Chen M.

0359 *Investigating Rebeccamycin Biosynthesis. Development of Directed ortho and Remote Metalations / Cross-Coupling Strategies for the Synthesis of Bioactive Molecules* **Groom K.**, Snieckus V., Zechel D.L.

0360 *Development and Evaluation of New Chiral Catalysts for Olefin Metathesis* **Fournier P.-A.**, Collins S.K.

0361 *Using the McMurry Reaction to Synthesize Ligands Based on a Tetraarylethylene Framework* **Fancy P.D.**, Chung M.K., Stryker J.M.

0362 *Indium (III) Catalyzed Friedel-Crafts Hydroxyalkylation of Mucohalic Acids: A Green and Efficient Procedure for Highly Functionalized  $\gamma$ -Aryl  $\gamma$ -Butenolides* **Zhang J.**, **Blazecka P.G.**, Curran T.T.

0363 *Ring-Closing Metathesis and Direct Arylation Reactions en route to Functionalized Higher Helicenes* **Vachon M.P.**, Grandbois A., Collins S.K.

0364 *Progress Towards an Asymmetric Preparation of Helicenes* **Grandbois A.**, Fournier P.-A., Collins S.K.

0365 *Green Catalytic Oxidations of Alcohols to Carbonyl Compounds by Oxygen under Solvent-Free and Transition-Metal-Free Conditions* **Herrerias C.I.**, Zhang T.Y., Li C.-J.

0366 *Disparate Reactivity of Grignard Reagents in Molecular and Ionic Solvents* **Taylor S.A.**, Ramnial T., Clyburne J.A.C., Walsby C.J.

0367 *Synthesis and Applications of DABCO-Based Ionic Liquids* **Wykes A.**, **MacNeil\* S.**

0368 *Using Electrochemistry for the Synthesis of Unnatural Sequence-Defined Oligomers* **Chesneau F.F.R.M.**, Sweeney M.D., Vocadlo D.J.

0369 *Polypyrroles as Radical-Trapping Antioxidants. Distinguishing Hydrogen-Atom Transfer (HAT) and Single Electron Transfer (SET) Pathways* **MacLean P.D.**

0371 *Regio- and Stereoselectivity of the 1,3-Dipolar Cycloaddition of Cyclopropanes and Nitrones: A Theoretical Study* **Wanapun D.**, Kerr M.A., Woo T.K.

0372 *Photoinduced Intramolecular Electron Transfer in Tethered Ru(bpy)<sub>3</sub>-Toluidine Systems* **Schepp N.P.**, Lee F.

0373 *An Unusual Dienone-Phenol Rearrangement and Formation of a Quinhydrone Complex* **Alarcon I.Q.**, **Nelson K.M.**, Quail J.W., Abrams S.R.

0374 *Sulfur Ylide Epoxidations: A Mechanistic Investigation* **Montoya-Peleaz P.J.**, **Edwards D.**, Crudden C.M.

0375 *On the Interplay of Weak Interactions in RNSO.Pyridine Complexes* **Li S.**, Ivanova E.V., **Muchall H.M.**

0376 *Mediation of Photoisomerization and Photodimerization Reactions by Cucurbit[7]uril and Cucurbit[8]uril in Aqueous Solution* **Macartney D.H.**, Wang R., Yuan L., Hettiarachchi D.S.

0377 *Excited State Intramolecular Redox Reactions of Anthraquinone System and Applications as a Photoremovable Protecting Group* **Hou Y.Y.**, Wan P.

0378 *Insight into the Kinetics and Regioselectivity of the Hydroboration of Vinyl Arenes with Pinacolborane Catalyzed by Iridium Complexes* **Heba Y.B.**, Crudden C.M.

0379 *Pathways of Decomposition of the Insecticide, Diazinon, in Moderately Acidic Sulfuric Acid Media. Excess Acidity Analysis* **Dust J.M.**, Churchill D.C., vanLoon G.W., Buncel E.

0380 *Laser Flash Photolysis of Aryl(halo)- and Pyridyl(halo)carbenes in Y Zeolites: The Role of Zeolite Encapsulation on Carbenic Stability and Reactivity* **Moya-Barrios R.**, Cozens F.L.

0381 *Photoregulated Liposomes: The Effect of Spirooxazine Structure on Membrane Permeability* **Louis K.M.**, Murphy R.S.

0382 *Mechanistic Studies on the Effects of Bulky Groups on Allene Oxide Stability* **Konecny M.**, Schepp N.P.

0383 *Selective Modification of Monolayer-Protected Gold Nanoparticles via the Photo-Wolff Rearrangement* **Johnson M.B.**, Workentin\* M.S.

0384 *Mechanistic Studies of the Reactions of Diarylgermylenes and Tetraaryldigermenes in Solution* **Huck L.A.**, Leigh W.J.

0385 *Autoxidation of 1-Naphthol-Formaldehyde Polymer in Alkaline Aqueous Solution* **Esmaeili N.**, Nazari K., Kameli M., Mohajerani B.

0386 *Photodecarboxylation of Xanthone Acetic Acids: C-C Bond Heterolysis from the Singlet Excited State* **Blake J.A.**, Lukeman M., Scaiano J.C.

0387 *The Photochemistry of a Potential Precursor to GeH<sub>2</sub> and Ge<sub>2</sub>H<sub>4</sub> in Solution* **Billone P.S.**, Harrington C.R., Beleznay K., Leigh W.J.

0388 *Comparative Chemical and Electrochemical Oxidation of Dihydroxybenzoic Acids in the Presence of Arylsulfonic Acids: Diversity in the Electroorganic and Organic Synthesis of Diaryl Sulfones* **Alizadeh A.**, Nematollahi D., Habibi D., Hesari M.

0389 *Synthesis and Application of Sugar-Lysine Chimera* **Zhang K.**, Sun Z., Nguyen D., Schweizer F.

0390 *Efficient Synthesis of Hydroxyethylene Dipeptide Isosteres of Phe-Aib and Ala-Aib* **Genest N.**, Lama T., Lubell W.D.

0391 *Synthesis of Pi-Excessive and Pi-Deficient Phenylalanine Derivatives from a Common 1,4-Diketone Intermediate* **Dorr A.A.**, Lubell W.D.

0392 *Development of New Chiral Ligands for Asymmetric Synthesis* **Boudreaux P.L.**, Voyer N.

0393 *Synthesis of Macrocyclic Peptides: Toward Larger Nanopores* **Blanchette J.P.**, Ferland P., Voyer N.

**Physical, Theoretical and Computational Division**

**PT4 CC-Highland 8**

**Computational Methods in Drug Design (Joint with BM) (joint with BM3)**

Organizer(s) - Donald Weaver  
Chair(s) - Donald Weaver, Jack Bikker

**13:40 Joint with Biological and Medicinal Chemistry Division - See BM3**

**PT5 CC-Highland 11**

**Electrochemistry at the Edge (Joint with AN) (joint with AN5)**

Organizer(s) - Sharon Roscoe and Vlad Zamlynyy  
Chair(s) - Christopher Brett, Peter Pickup

**13:40 Joint with Analytical Chemistry Division - See AN5**

**17:00 End of Session**

**PT6 DH-Baronet 1,2,3**

**Energy Storage and Conversion (Joint with MT) (joint with MT2)**

Organizer(s) - Josef Zwanziger, Mary Anne White and Jeff Dahn  
Chair(s) - Gillian Goward

**13:40 Joint with Materials Chemistry Division - See MT2**

**16:40 End of Session**

**PT7 CC-CornwallisSuite**

**Large Scale Canadian Science Opportunities (Joint with MT) (joint with MT5)**

Organizer(s) - Peng Zhang  
Chair(s) - Astrid Jurgensen

**13:40 Joint with Materials Chemistry Division - See MT5**

**17:00 End of Session**

**Monday AM**

**Analytical Chemistry Division**

**AN1 CC-Highland 6**

**Analytical Chemistry in Biology and Medicine**

Organizer(s) - Peter Wentzell and John Walter  
Chair(s) - Michael Sowa

**08:00 0394 Biospectroscopy in Medicine: Recent Advances in Measurements from Womb to Tomb** **Burns† D.H.**

**08:40 0395 Mining the Human Body: Optical Tools for Cancer Diagnosis** **Jackson† M.**

**09:20 0396 Update on Tissue Autofluorescence and Reflectance for Early Cancer Detection** **MacAulay† C.**, Zeng H., Follen M., Richards-Kortum R., Rosin M., Lam S., Lane P., Guillaud M.

**09:40 Coffee Break**

**10:00 0397 Multispectral Imaging Methods for Multilabel Microscopy: The More the Merrier** **Levenson† R.**

**10:40 0398 Raman Spectroscopy of Early Dental Caries: Unpolarized and Polarized Approaches** **Choo-Smith† L.-P.**, Ko A.C.-T., Hewko M.D., Dong C.C.S., Cleghorn B., Sowa M.G.

**11:00 0399 Scanning Electrochemical Microscopy: Plant Photosynthesis Affected by Cadmium** **Zhu R.**, Macfie S., Ding Z.F.

**11:20 0400 Studies of After-Cooking Darkening in Potatoes Using Proteomics** **Murphy P.**, Pinto D.M., Wang-Pruski G.

**11:40 End of Session**

**AN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with EN) (joint with EN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Herman van Leeuwen, Robert Hudson

**08:00 0401 A Critical Evaluation of the Biotic Ligand Model Approach: Progress, Problems and Future Perspectives** **Niyogi† S.**

**08:40 0402 Validation of the Use of Geochemical Equilibrium Models in Receiving Waters: Comparison with Ion-Exchange and Ultrafiltration Measurements** **Vigneault† B.**, Gagnon C., Turcotte P.

**09:20 0403 Development of a Kinetics-Based Biotic Ligand Model to Solve the Problem of Diffusion Limitations to Metal-Bioavailability to Freshwater Biota** **Chakrabarti† C.L.**

**09:40 Coffee Break**

**10:00 0404 Metal-Impaired Chemosensory Function in Aquatic Animals** **Pyle† G.G.**

**10:40 0405 Kinetic Studies of the Speciation of Trace Metals (Pb, Cd, Cu) in the Soil and the Soil Solution. Application to the Prediction of the Availability of Lead, Copper and Cadmium** **Bermond† A.**, Manouchehri N.

**11:20 0406 Exploring the Link between the Equilibria and Kinetics of Trace Metal Speciation in Model Solutions of Laurentian Fulvic Acid** **Fastfous† I.L.**, Chakrabarti C.L., Murimboh J.D., Yapici T.

**11:40 End of Session**

**AN5 CC-Highland 11**

**Electrochemistry at the Edge (Joint with PT) (joint with PT5)**

Organizer(s) - Sharon Roscoe and Vlad Zamlynyy  
Chair(s) - Sharon Roscoe, Robert Hillman

08:40 0407 *Spectroelectrochemical studies of Gramicidin D in a Model Membrane Supported on a Au(111) Surface* **Laredo T.**, Dutcher J.R., Lipkowski J.

09:00 0408 *Novel Materials for Electrochemical Sensors and Biosensors: Characterization and Application* **Brett C.M.A.**

09:40 Coffee Break

10:00 0409 *Fluorescence Imaging of the Oxidative Desorption of a BODIPY Tagged Alkyl-Thiol Monolayer Coated Au Bead* Musgrove A., **Bizzotto D.**

10:20 0410 *Electrochemical Quantitation of Probe Densities on DNA Biochips Revisited* **Yu H.-Z.**

10:40 0411 *Electrochemical Evaluation of Citrate Adsorption on Au(111) and the Stability of Citrate-Reduced Gold Colloids* **Burgess I.**, Kunze J., Nichols R.J., Buess-Herman C., Lipkowski J.

11:00 0412 *Electrochemical Behaviour of Cysteine and Cystine adsorbed on Au(111) Electrodes from Neutral and Basic Media* **Brolo A.G.**, Hager G.

11:20 0413 *Electron Transfer in Peptides: More Questions than Answers* **Kraatz H.B.**

11:40 End of Session

**AN10 DH-Baronet 6**

**Quality Assurance and Metrology in Analytical Chemistry**

Organizer(s) - Amares Chatt  
Chair(s) - Zhifang Chai, Elisabete De Nadai Fernandes

08:00 0414 *Analytical Chemistry. Chemical Metrology. What's the Difference?* **McLaren J.W.**

08:40 0415 *Nuclear Magnetic Resonance and Liquid Chromatography-Chemiluminescence Nitrogen Detection for the Preparation of Biotoxin Reference Materials* **Quilliam M.A.**, Walter J.A., Wechsler D., Fraser H., Chen Y.

09:00 0416 *Validation of Analytical Methods in a Regulatory Laboratory Accredited under ISO/IEC-17025* **MacNeil J.D.**, Boison J.O.K., Dickson L.C., Fedeniuk R., Martz V.K.

09:20 0417 *Determination of As(III) and As(V) in Drinking Water by Solid Phase Extraction and Neutron Activation* **Menendez Sanchez W.**, Zwicker B., Chatt A.

09:40 Coffee Break

10:00 0418 *An Overview of INAA's Contribution to Metrology in Chemical Measurements* **Bode P.**

10:40 0419 *Neutron Activation Analysis in the Certification of Reference Materials and in Multidisciplinary Research* **Kucera J.**

11:20 0420 *Estimation of Expanded Uncertainties of Various Types of Instrumental Neutron Activation Analysis Method for Total Arsenic in Shell Fish* **Acharya R.**, **Chatt A.**

11:40 End of Session

**Biological and Medicinal Chemistry Division**

**BM5 CC-Highland 7**

**Enzymes: Mechanism, Function and Structure**

Organizer(s) - Stephen Bearne  
Chair(s) - Stephen Bearne

08:00 0421 *Insights of Interfacial Function for the Secreted Phospholipase A2 Family* **Bahnson B.J.**

08:40 0422 *Structural Studies of Ni Trafficking Proteins: Nika and HypA* **Kennedy D.C.**, Iwig J.S., Chivers P.T., Maroney M.J.

09:00 0423 *The Mechanism of ADP-Heptose 6-Epimerase* **Morrison J.P.**, Read J.A., **Tanner M.E.**

09:40 Coffee Break

10:00 0424 *Catalytic Functions of the Anthrax Lethal Factor* **Dabous J.R.**, Carbone R.X., **Siemann S.**

10:20 0425 *Inhibition by Tyrosine of a Cyclohexadienyl Dehydrogenase from Aquifex aeolicus* **Bonvin J.**, Turnbull J.L.

10:40 0426 *Identification and Characterization of Recognition Motifs Governing O-GlcNAc Modification* **Macauley M.S.**, Chan H.W., Kim Y.-N., Drapala R., **Vocadlo D.J.**

11:00 0427 *Critical Steps in Thiamin-Dependent Decarboxylations - And What Does the Protein Do to Help?* **Kluger R.**, Hu Q., Yu D., Ikeda G.

11:40 End of Session

**BM9 CC-Highland 10**

**Peptide Science (Joint with OR) (joint with OR9)**

Organizer(s) - William Lubell  
Chair(s) - William Lubell

08:00 0428 *Exploiting Diversity in Chemistry and Biology Space with Integrated Combinatorial Technologies* **St. Hilaire P.M.**

08:40 0429 *The Ring of Truth: Do Cyclic Peptides Really Possess an Entropic Advantage when Binding Proteins?* **Udugamasooriya G.**, **Spaller M.R.**

09:00 0430 *Structural Relationships between the Peptidic Antimicrotubule Agents Taltobulin and the Dolastatins* **Zask A.**, Kaplan J., Loganzo F., Ayril-Kaloustian S.

09:20 0431 *Synthesis and Conformational Analysis of a Pro-Aib Hydroxyethylene Dipeptide Isostere* **Lama T.**, Seaman S., Genest N., Lubell W.D.

09:40 Coffee Break

10:00 0432 *Synthesis of the Bicyclic Amatoxins and Phallotoxins via Hydroxypyrrroloindole Containing Linear Peptides* **May J.P.**, Perrin D.M.

10:20 0433 *Multivalent and Stereoregular Oligopeptide Polymers to Probe FertilinB Function in Fertilization* **Sampson N.S.**, Lee Y., Lee J., Baessler K., Parker K.A.

11:00 End of Session

**REMINDER**

11:00 **Alfred Bader Award Lecture presented by Mark Lautens in CC-Port Royal C1**

**Chemical Education Division**

**CE3 CC-Mariner 3**

**History of Chemistry**

Organizer(s) - Mel Usselman  
Chair(s) - Mel Usselman

09:00 0434 *The Polariscope Enters the Laboratory, 1830s-1860s* **Laszlo P.**

09:40 Coffee Break

10:00 0435 *Precision, Accuracy, Error and Uncertainty: Metrology and Chemistry* **Graves Smith H.P.**

10:20 0436 *The Remarkable Chemical Discoveries of William Hyde Wollaston: Malleable Platinum, and New Platinum Group Metals* **Usselman M.C.**

10:40 0437 *Toluene and TNT in Canada* **Anderson H.J.**

11:00 End of Session

**Environment Division**

**EN2 CC-CornwallisSuite**

**Atmospheric Chemistry: A Canadian Perspective (Joint with PT) (joint with PT2)**

Organizer(s) - John Roscoe  
Chair(s) - James Donaldson, Richard Bowles, John Roscoe

09:00 0438 *Laboratory Studies of Ice Formation: Cubic Ice and Heterogeneous Nucleation of Ice on Soot* **Murray B.J.**, Dymarska M., Knopf D.A., Eastwood M., **Bertram A.K.**

09:40 Coffee Break

10:00 0439 *Crystal Growth of Ice: Insights from Molecular Simulations* **Kusalik P.G.**

10:20 0440 *Surface Induced Nucleation versus Bulk Nucleation in the Freezing of Small Clusters* Saika-Voivod I., Bowles R.K.

10:40 0441 *Modeling Arctic Halogen Chemistry during Ozone Depletion Events* Gong† S.L., Zhao T.L., Bottenheim J.W., McConnell J.

11:00 0442 *Effects of Relative Humidity on Oxidation Rate of O<sub>3</sub>-Initiated Reaction with Hg<sup>0</sup>* Snider G.A., Raofie F., Ryzhkov A., Ariya\* P.A.

11:20 End of Session

**EN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with AN) (joint with AN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Herman van Leeuwen, Robert Hudson

08:00 Joint with Analytical Chemistry Division - See AN3

11:40 End of Session

**EN4 CC-Highland 9**

**Environmental Risk Assessment**

Organizer(s) - Ken Reimer and Chris Ollson  
Chair(s) - Chris Ollson

08:20 0443 *New Approaches for Environmental Risk Assessment* Reimer† K.J., Koch I., Ollson C.A.

09:00 0444 *Using in vitro Gastrointestinal Methods to Measure Contaminant Bioaccessibility and Risk from Soil Ingestion* Basta† N.T.

09:40 Coffee Break

10:00 0445 *Use of Biomarkers in Understanding Environmental Exposure* Ollson† C.A., Knopper L.D., Sandau C.D.

10:40 0446 *Assessing Personal Exposures to Metals in Airborne Particulate Matter: Challenges and Solutions* Rasmussen† P.E., Wheeler A.J., Hassan N., Filiatreault A., Lanouette M.

11:20 End of Session

**Inorganic Chemistry Division**

**IN1 CC-CornwallisDraped**

**Inorganic Solid State Chemistry (Joint with MT) (joint with MT4)**

Organizer(s) - Mario Bieringer and Arthur Mar  
Chair(s) - Arthur Mar

08:00 0447 *Synthesis, Magnetic Properties and Structures of the Pillared Perovskites, La<sub>5</sub>Re<sub>2</sub>TaMO<sub>16</sub> (M = Mn, Fe, Co, Ni)* Cuthbert H.L., Greedan J.E.

08:20 0448 *Polar Nanostructure and Dynamics of Relaxor Ferroelectrics* Ye† Z.-G.

09:00 0449 *Anatomy of the Mott Transition in Vacancy-Doped Nd<sub>1-x</sub>TiO<sub>3</sub>* Greedan† J.E., Sefa-Sefat A.

09:20 0450 *Inorganic-Organic "Hybrid" High-Temperature Magnets* Jain R., Hicks R.G.

09:40 Coffee Break

**REMINDER**

10:00 Pure or Applied Inorganic Chemistry Award Lecture presented by Heinz-Bernhard Kraatz in CC-Mariner 5

10:40 0451 *Crystal Structure Evolution and Magnetism in Sc<sub>(1-x)</sub>Lu<sub>x</sub>VO<sub>3</sub> (0 ≤ x ≤ 1)* Bieringer M.

11:00 0452 *Structural Properties of Framework Materials* Evans† J.S.O., Stinton G.W., Lister S.E.

11:40 End of Session

**IN3 CC-Mariner 5**

**Macromolecular and Supramolecular Chemistry (Joint with MS and OR) (joint with OR4)**

Organizer(s) - Bruce Grindley  
Chair(s) - Laurence Thompson

08:20 0453 *Novel Star-Shaped Organoiron Molecules and their Polymerizations* Abd-El-Aziz A.S., Shipman P.O., Carruthers S.A., Pereira N.M.

08:40 0454 *[2×2] and [3×3] Grid, and Pentanuclear Cluster Complexes: Structural, Magnetic and Electrochemical Studies* Dawe L.N., Thompson L.K.

09:00 0455 *Functionalized Mn(II)<sub>9</sub> [3×3] Grids: Intermolecular Interactions and Secondary Coordination* Milway V.A., Thompson L.K., Dawe L.N., Miller D.O.

09:20 0456 *Building Block Approach to the Assembly of Zeolite-Like Metal-Organic Frameworks (ZMOFs)* Eddaoudi M., Liu Y., Larsen R.

09:40 Coffee Break

Pure or Applied Inorganic Chemistry Award Lecture presented by Heinz-Bernhard Kraatz

Introduction of Heinz-Bernhard Kraatz by Ron Steer

10:00 0457 *Redox Active Peptides: From Macrocycles to Barrels and Helicates* Kraatz† H.B.

10:40 0458 *Luminescent and Microporous Metal-Organic Frameworks Formed by a Stepwise Assembly Approach* Shimizu G.K., Chandler B.D., Cramb D.T.

11:00 End of Session

**REMINDER**

11:00 Alfred Bader Award Lecture presented by Mark Lautens in CC-Port Royal C1

**IN4 CC-Mariner 2**

**Paramagnetic and Mixed-Valent Complexes in Organometallic and Inorganic Chemistry**

Organizer(s) - Kevin Smith, Daniel Leznoff and Manuel Aquino  
Chair(s) - Kevin Smith

08:00 0459 *New Sterically Protected Paramagnetic Organometallic Hydrides* Poli† R., Baya M., Houghton J., Daran J.-C., Male L., Albinati A.

08:40 0460 *Correlation Between Metal Spin State and Catalytic Reactivity: Polymerizations Mediated by α-Diimine Iron Complexes* Shaver M.P., Allan L.E. N., Rzepa H.S., Gibson V.C.

09:00 0461 *Spin State, Unsaturation, and Pi-Donation: Impact on Reactivity?* Caulton† K.G.

09:20 0462 *Paramagnetic or Not - And Does it Matter?* Budzelaar† P.H.M.

09:40 Coffee Break

**REMINDER**

10:00 Pure or Applied Inorganic Chemistry Award Lecture presented by Heinz-Bernhard Kraatz in CC-Mariner 5

10:40 0463 *Oxidatively-Induced α-H Abstraction: A Convenient Protocol to Reactive Ti=C and Ti≡C Linkages* Bailey B.C., Basuli F., Huffman J.C., Baik M.-H., Mindiola† D.J.

11:00 0464 *Synthetic Routes to (LLL)FeR<sub>2</sub> Complexes* Phillips C.D., Kleckner J.R., McNeil W.S.

11:20 0465 *Small Molecule Activation with Chromium(I) Complexes* Theopold† K.H., Kreisel K.A., Monillas W.H., Yap G.P.A.

11:40 End of Session

**IN5 CC-Port Royal C2**

**Recent Advances in Main Group Chemistry**

Organizer(s) - Glen Briand  
Chair(s) - Charles Macdonald

08:00 0466 *SBI: Chemical Bonds that were not Supposed to Exist* Vargas-Bacá† I., Cozzolino A.F., Elder P.J.W.

08:20 0467 *Recent Advances in the Synthesis and Characterization of New Cyclic catena-Polyphosphorus Dications* Weigand J.J., Burford N., Decken A., Lumsden M.

08:40 0468 *Homogeneous, Early Transition Metal-Catalyzed Dehydrocoupling of Group 13/15 Adducts* Clark T.J., Manners I.

09:00 0469 *Homoleptic Thiolates of Groups 12, 14 and 16 as Precursors for Binary Composite Semiconducting Materials* **Fleischer† H.**

09:40 Coffee Break

**REMINDER**

10:00 **Pure or Applied Inorganic Chemistry Award Lecture presented by Heinz-Bernhard Kraatz in CC-Mariner 5**

10:40 0470 *Mechanisms for Synthesis and Thermolysis of Main Group Amidinates and Guanidinates* **Barry† S.T.**

11:00 0471 *Synthesis, Molecular and Electronic Structures of the Cyclic  $[N(PR_2E)_2]^+$  ( $E = Se, Te; R = ^iPr, Ph$ ) Cations* **Konu J., Chivers T., Tuononen H.M.**

11:20 0472 *Synthetic Routes to Heteroleptic Indium(III) Thiolates* **Briand† G.G., Cooper B.F.T., MacDonald D.B.S., Martin C.D., Schatte G.**

11:40 End of Session

**Macromolecular Science and Engineering Division**

**MS1 CC-Mariner 1**

**Controlled Architecture Polymers as Nanomaterials (Joint with MT) (joint with MT1)**

Organizer(s) - Alex Andronov and Guojun Liu  
Chair(s) - Alex Adronov

08:00 0473 *Chemistry of the P=C Bonds: Synthesis and Polymerization* **Yam M., Tsang C.-T., Gates D.P.**

08:20 0474 *Induced Association of Arborescent Polystyrene-graft-Poly(ethylene oxide) Copolymers at the Air-water Interface* **Gauthier M., Njikang G.N.**

08:40 0475 *A Solid-State NMR Study of Block Copolymer Adsorbed on a Metal Oxide Surface* **McAlduff M., Reven L.**

09:00 0476 *Self-Assembly of Biologically Enabled and Luminescent Polymers* **Sleiman† H.F., Metera K., Ishihara Y., Bazzi H., Chen B.**

09:40 Coffee Break

10:00 0477 *Composite Nanomaterials from Functional Copolymers* **Grubbs† R.B.**

10:40 0478 *Fabrication of Organic Nanofibers via Surface Induced Vapour Phase Polymerization of Unsaturated Organotrichlorosilanes* **Rollings D., Veinot J.G.C.**

11:00 0479 *Deposition of Supramolecular Block Copolymer Thin Films with Hexagonal Nanopatterns and Functionalizable Nanopores* **Laforge A., Bazuin C.G., Prud'homme R.E.**

11:20 0480 *Arborescent Polymers as Templates for the Preparation of Metallic Nanoparticles* **Dockendorff J., Gauthier M.**

11:40 End of Session

**MS2 CC-Mariner 5**

**Macromolecular and Supramolecular Chemistry (Joint with IN and OR)**

Organizer(s) - Bruce Grindley  
Chair(s) - Laurence Thompson

08:00 **Joint with Inorganic Chemistry and Organic Chemistry Divisions - See IN3**

10:00 **Pure or Applied Inorganic Chemistry Award Lecture presented by Heinz-Bernhard Kraatz**

11:00 End of Session

**REMINDER**

11:00 **Alfred Bader Award Lecture presented by Mark Lautens in CC-Port Royal C1**

**Materials Chemistry Division**

**MT1 CC-Mariner 1**

**Controlled Architecture Polymers as Nanomaterials (Joint with MS) (joint with MS1)**

Organizer(s) - Alex Andronov and Guojun Liu  
Chair(s) - Alex Adronov

08:00 **Joint with Macromolecular Science and Engineering Division - See MS1**

11:40 End of Session

**MT2 DH-Baronet 1,2,3**

**Energy Storage and Conversion (Joint with PT) (joint with PT6)**

Organizer(s) - Josef Zwanziger, Mary Anne White and Jeff Dahn  
Chair(s) - Josef Zwanziger

08:20 0481 *Non-Noble Metal Catalysts for Oxygen Reduction in PEM Fuel Cell: Importance of the Carbon Support in the Activity of Fe-Based Catalysts* **Dodelet† J.P., Jaouen F., Charretre F.**

09:00 0482 *Sputtered Fe-C-N Based Oxygen Reduction Catalysts* **Easton E.B., Bonakdarpour A., Stevens D.A., Dahn J.R.**

09:20 0483 *Oxygen Reduction Activity of a Combinatorial Array of Magnetron-Sputtered  $PtCo_x$  ( $0 < x < 1$ ) Samples* **Bonakdarpour A., Dahn J.R.**

09:40 Coffee Break

10:00 0484 *Alloy Anode Materials for Lithium Ion Batteries* **Obrovac† M.N.**

10:40 0485 *Effect of Transition Metal Variety on Si-M ( $M = Co, Cr, Fe, Mn, Ni$ ) Negative Electrode Performance* **Fleischauer M.D., Mar R., Dahn J.R.**

11:00 0486 *Expansion and Contraction of Sn-Co-C Alloy Negative Electrode Materials for Li-ion Batteries Using In Situ Atomic Force Microscopy* **Lewis R.B., Timmons A., Dahn J.R.**

11:20 0487 *A Study of Sodium Carboxymethyl Cellulose Binder for Si Negative Electrodes for Li-ion Batteries* **Li J., Dahn J.R.**

11:40 End of Session

**MT3 CC-Highland 8**

**Functional Materials**

Organizer(s) - Jeffrey Cutler  
Chair(s) - Andrew Vreugdenhil

08:00 0488 *High Fidelity, High Yield Production of Microfluidic Devices by Hot-Embossing Lithography* **Cameron N.S., Roberge H., Veres T., Jakeway S.C., Crabtree H.J.**

08:20 0489 *Micro- and Nanoscale Patterning of Alkanethiol Monolayers on Gold Using Edge-Spreading Lithography* **Geissler M., Cameron N.S., Veres T., Xia Y.**

08:40 0490 *Photo-Functional Azobenzene-Polymer Thin Film Thermal Considerations* **Yager K.G., Barrett C.J.**

09:00 0491 *Thermal Conductivity of Nanomaterials: Observations of Size Effects* **Jakubinek M., White M.A.**

09:20 0492 *CdSe-ZnS Quantum Dots Embedded in Cellulosics* **Abitbol T., Gray D.G.**

09:40 Coffee Break

10:00 0493 *Engineering the Surface Properties of Nanowires by Means of Surface Modifications* **Mclroy† D.N., Norton M.G.**

10:40 0494 *Chemical Functionalization and the Production of Stable Suspension of Multi-Wall Carbon Nanotubes* **Salam M.S.A., Burk R.C.**

11:00 0495 *Electrochemical Treatment on Multi-Wall Carbon Nanotubes and Resultant Functional Nanomaterials* **Zhou J., Sun X., Ding Z.F.**

11:20 0496 *Carbon Nanotube-Polymer Composites as Dielectric Layers in Maxwell Stress Actuators* **Underhill R.S., Cameron C.G.**

11:40 End of Session

**MT4 CC-CornwallisDraped**

**Inorganic Solid State Chemistry (Joint with IN) (joint with IN1)**

Organizer(s) - Mario Bieringer and Arthur Mar  
Chair(s) - Arthur Mar



08:00 Joint with the Inorganic  
Chemistry Division - See IN1

**REMINDER**

10:00 Pure or Applied Inorganic  
Chemistry Award Lecture presented by  
Heinz-Bernhard Kraatz in CC-Mariner 5

11:40 End of Session

**Organic Chemistry Division**

**OR4 CC-Mariner 5**

Macromolecular and  
Supramolecular Chemistry  
(Joint with IN and MS) (joint with  
IN3)

Organizer(s) - Bruce Grindley  
Chair(s) - Laurence Thompson

08:00 Joint with Inorganic Chemistry  
and Macromolecular Science and  
Engineering Divisions - See IN3

10:00 Pure or Applied Inorganic  
Chemistry Award Lecture presented by  
Heinz-Bernhard Kraatz

11:00 End of Session

**REMINDER**

11:00 Alfred Bader Award Lecture  
presented by Mark Lautens in CC-Port  
Royal C1

**OR8 CC-Mariner 4**

Organic Reaction Mechanisms

Organizer(s) - James Pincock and Frances  
Cozens  
Chair(s) - Frances Cozens

08:20 0497 *Hydroxide-Dependent  
Breakdown of Carbinolamides: A Non-Linear  
Hammett Correlation for N-  
(Hydroxymethyl)benzamide Derivatives*  
Nagorski R.W.

08:40 0498 *Ultrafast Study of Azide and  
Diazo Excited States and of the Nitrenes and  
Carbenes they Produce* Platz M., Gustafson  
T., Burdzinski G., Hadad C., Hackett J.,  
Wang J.

09:20 0499 *Photogeneration of Enol  
Radical Cations in Solution* Schepp N.P.,  
Rodriguez-Evora Y.

09:40 Coffee Break

10:00 0500 *Interaction of Semiconductor  
Quantum Dots with Organic Free Radicals*  
Scaiano J.C., Laferrière M., Maurel V.,  
Galian R.E., Billone P.

10:20 0501 *Crystal Engineering the  
Covalent Bond via Principles of Supramolecular  
Chemistry* MacGillivray L.R., Friscic T.,  
Papaefstathiou G.S., Chu Q., Georgiev I.G.,  
Hamilton T.D.

11:00 End of Session

**REMINDER**

11:00 Alfred Bader Award Lecture  
presented by Mark Lautens in CC-Port  
Royal C1

**OR9 CC-Highland 10**

Peptide Science (Joint with BM)  
(joint with BM9)

Organizer(s) - William Lubell  
Chair(s) - William Lubell

08:00 Joint with Biological and  
Medicinal Chemistry Division - See BM9

**REMINDER**

11:00 Alfred Bader Award Lecture  
presented by Mark Lautens in CC-Port  
Royal C1

**OR10 CC-Port Royal C1**

Recent Advances in Organic  
Synthesis

Organizer(s) - Jean Burnell and Ian Pottie  
Chair(s) - Ian Pottie

08:00 0502 *A Homo 3+2 Cycloaddition  
Approach towards Nakadomarin A* Young I.S.,  
Kerr M.A.

08:20 0503 *Progress towards a Total  
Synthesis of Palau'amine* Cernak T.A.,  
Gleason J.L.

08:40 0504 *2 $\pi$ , 4 $\pi$  and 6 $\pi$  Electrocyclic  
Processes for the Construction of Polycyclic  
Products* West F.G.

09:20 0505 *A New Original Process for  
the Synthesis of Protected Anilines via Curtius  
Rearrangement* Leogane O., Lebel H.

09:40 Coffee Break

10:00 0506 *Asymmetric Synthesis of All-  
Carbon Benzylic Quaternary Stereocenters via  
Cu-Catalyzed Conjugate Addition of Dialkylzinc  
Reagents to 5-(1-Arylalkylidene) Meldrum's  
Acids* Fillion E., Wilsily A.

10:20 0507 *Synthesis of the Left-Hand  
Cyclopropa[c]pyrrolo[3,2-e]indol-4-one (CPI)  
Subunit of CC-1065* Ganton M.D., Kerr M.A.

10:40 0508 *Developing New Methods to  
Access Helically Chiral Molecules via  
Transition Metal Catalysis* Collins S.K.,  
Vachon M.P., Grandbois A., Fournier P.-A.

Alfred Bader Award Lecture presented  
by Mark Lautens

Introduction of Mark Lautens by André  
Charette

11:00 0509 *Meddling with Metals: New  
Reactions and Applications* Lautens M.

11:40 End of Session

**Physical, Theoretical and  
Computational Division**

**PT2 CC-CornwallisSuite**

Atmospheric Chemistry: A  
Canadian Perspective (Joint  
with EN) (joint with EN2)

Organizer(s) - John Roscoe  
Chair(s) - James Donaldson, Richard  
Bowles, John Roscoe

09:00 Joint with the Environment  
Division - See EN2

11:20 End of Session

**PT5 CC-Highland 11**

Electrochemistry at the Edge  
(Joint with AN) (joint with AN5)

Organizer(s) - Sharon Roscoe and Vlad  
Zamlyny  
Chair(s) - Sharon Roscoe, Robert Hillman

08:40 Joint with Analytical Chemistry  
Division - See AN5

11:40 End of Session

**PT6 DH-Baronet 1,2,3**

Energy Storage and Conversion  
(Joint with MT) (joint with MT2)

Organizer(s) - Josef Zwanziger, Mary Anne  
White and Jeff Dahn  
Chair(s) - Josef Zwanziger

08:20 Joint with Materials Chemistry  
Division - See MT2

11:40 End of Session

**Monday PM**

**Analytical Chemistry Division**

**AN1 CC-Highland 6**

Analytical Chemistry in Biology  
and Medicine

Organizer(s) - Peter Wentzell and John  
Walter  
Chair(s) - Peter Wentzell

Maxxam Award Lecture presented by  
Michael Siu

Introduction of Michael Siu by Ulli Krull

13:00 0510 *Discovery, Identification and  
Validation of Endometrial Cancer Biomarkers*  
Siu K.W.M., DeSouza L.V., Guo J., Dube  
V., Ghanny S., Romaschin A.D., Grigull J.,  
Colgan T.J.

13:40 0511 *Biology for the Masses:  
Probing the Cytoskeleton with  
Hydrogen/Deuterium Exchange MS*  
Schriemer D.C.

14:00 0512 *Bioanalytical Methods in  
Glycomics* Perreault H., Lattova E., Chen  
V.C., Snovida S.

**14:20 0513** *Applications of NMR Spectroscopy and Advanced Mass Spectrometry in Environmental Metabolomics* **Viant† M.R.**

**15:00 Coffee Break**

**15:20 0514** *Tuning Biomedical NMR Spectroscopy for Natural Products Chemistry and Metabolome Analysis* **Pauli† G.F.**

**16:00 0515** *Quantitative NMR in Biological Applications: Advantages, Limitations and Suggestions* **Walter J.A., Burton I.W., Quilliam M.A.**

**16:20 0516** *The Determination and Quantification of Metabolites Present in Human Urine Samples Using <sup>13</sup>C{<sup>1</sup>H} NMR Spectroscopy* **Macinnis G.D., Weljie A.M., Vogel H.J.**

**16:40 0517** *Bacterial Glyco-Metabolomics: NMR and Mass Spectrometry Based Strategies for Characterizing Glycosylation Pathways in C. jejuni* **McNally D.J., Schoenhofen I., Aubry A., Brisson J.R., Hui J.P.M., Mui K.K., Soo E.C., Logan S.M.**

**17:00** End of Session

**AN2 CC-Highland 9**

**Analytical Separations**

Organizer(s) - Kevin Thurbide  
Chair(s) - Kevin Thurbide, Philip Britz-McKibbin

**REMINDER**

**13:00** Maxxam Award Lecture presented by Michael Siu in CC-Highland 6

**13:40 0518** *Rapid Assessment of Redox Status in Biofluids via On-line Sample Preconcentration with Chemical Derivatization Capillary Electrophoresis* **Ptolemy A.S., Al Hussein M., Britz-McKibbin† P.**

**14:00 0519** *Two-Dimensional Solution Electrophoresis as a First Step Alternative to Conventional Two-Dimensional Polyacrylamide Gel Electrophoresis for the Separation of Protein Samples* **Tran J.C., Doucette A.A.**

**14:20 0520** *Digital Microfluidics for Integrated Analysis of Proteins* **Wheeler† A.R., Moon H., Kim C.-J., Loo J.A., Garrell R.L.**

**14:40 0521** *A Hydrophilic Self-Assembled Surfactant/Polymer Coating for Highly Efficient Protein Separations in Capillary Electrophoresis* **MacDonald A.M., Lucy C.A.**

**15:00 Coffee Break**

**15:20 0522** *Fundamental Studies of cAMP-Dependent Protein Kinase Unfolding and Refolding Dynamics by Capillary Electrophoresis* **Gavina J.M.A., Britz-McKibbin P.**

**15:40 0523** *Micro-Separations of Enzyme Reporters to Monitor Cellular Signaling* **Audet† J., Brown R.B., Manceur A.P.**

**16:00 0524** *Development of Coupled Methods to Separate Chitosan Oligosaccharides Produced from both Chemical and Enzymatic Deacetylation Reactions* **Waldron† K.C., Bahtouki A., Boulay C., Tang M.-C., Debs O., Beaudoin M.-E., Pelletier J., Boucher I.**

**16:20 0525** *Characterization of an Amino-Cyclodextrin:Oligonucleotide Complex by Capillary Electrophoresis with Laser-Induced Fluorescence Detection* **Guthrie J.W., Ryu J.-H., Wiebe L.I., Le X.C.**

**16:40 0526** *Integration of Nanoelectrospray Ionization High-Field Asymmetric Waveform Ion mobility Spectrometry with Q-TOF Mass Spectrometry for Identification of Nitrosamines in Water* **Zhao Y.-Y., Liu X., Li J., Li\* X.-F.**

**17:00** End of Session

**AN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with EN) (joint with EN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Stan van den Berg, Jörg Feldmann

**13:00 0527** *In situ Dissociation Kinetics of Trace Metal Complexes in Freshwater* **Davison† W., Warnken K., Lehto N., Zhang H., Galceran J., Puy J.**

**13:40 0528** *The Effect of Soil Dynamics on Uptake of Metals by DGT and Plants* **Zhang† H., Lehto N., Bescoby M., Davison W., Tych W., Paul N.**

**14:20 0529** *Linking Land Use, Climate, and Trace Metal Levels in Waterways Using the Diffusive Gradient in Thin Film (DGT) Technique* **Brydon† J.L., Schreier H., Smith I.M.**

**14:40 0530** *Determination of Methylmercury Concentrations in Sediment Porewaters Using DGT Probes and Hg Speciation Analysis by Hg-Thiourea Complex Ion Chromatography with CVAFS Detection* **Vermillion B.R., Clarisse O., Shade C.W., Hintelmann H., Hudson R.J.M.**

**15:00 Coffee Break**

**15:20 0531** *Measurements of Uranium Concentrations in Fresh Waters Using Diffusive Gradients in Thin Films Technique* **Li† W., Zhao J., Li C., Kiser S., Cornett J.**

**16:00 0532** *Study of Uranium Speciation Using DGT Technique* **Zhao† J., Fafous I.I., Chakrabarti C.L., Li W.**

**16:20 0533** *A Study of the Lability of Metal-Humate Complexes Using Diffusive Gradients in Thin Films* **Gaobass† I., Murimboh J.D.**

**16:40** End of Session

**AN5 CC-Highland 11**

**Electrochemistry at the Edge (Joint with PT) (joint with PT5)**

Organizer(s) - Sharon Roscoe and Vlad Zamlynny  
Chair(s) - Jacek Lipkowski, David Shoesmith

**13:00 0534** *Spectroelectrochemical Investigation into the Kinetics of the Direct Electron Transfer to a Multi-Centered Membrane Protein in a Biomimetic Surface Architecture* **Naumann† R.L., Friedrich M.G., Knoll W.**

**13:40 0535** *Live Cells Studied by Scanning Electrochemical Microscopy* **Ding† Z.F., Zhao X.C., Zhu R.K., Diakowski P.M.**

**14:00 0536** *Electrochemical and PMIRRAS Studies of a Model Biomimetic System at a Au(111) Surface* **Brousseau† C.L., Lipkowski J., Roscoe S.G.**

**14:20 0537** *Application of Alternating Current Scanning Electrochemical Microscopy to Imaging of Live Cells* **Diakowski P.M., Ding Z.F.**

**14:40 0538** *In situ study of DNA Oxidative Damage by the Anti-Leukemia Drug Glivec* **Diculescu V.C., Oliveira-Brett A.M.**

**15:00 Coffee Break**

**15:20 0539** *Dynamic Electrochemical Impedance of Methanol and Formic Acid Oxidation* **Harrington† D.A., Seland F., Tunold R.**

**15:40 0540** *Structure and Proton Dynamics at Polymer/Water Interfaces inside Fuel Cell Membranes Studied by ab-initio Simulations* **Roudgar A., Narasimachary S.P., Eikerling† M.H.**

**16:00 0541** *Pt 3D Electrodes for Fuel Cells* **Dodel† J.P., Villers D., Sun S., Serventi A., Désilets S.**

**16:20 0542** *Proton-Exchange Ionic Liquid as Electrolyte for Pseudocapacitance in RuO<sub>2</sub>* **Roche† D., Pont A.-L., Sebilo S.**

**16:40 0543** *Electrochemical Behaviour of Micro- and Nano-Structured Nickel Materials* **Jerkiewicz G., Grden M., Alsabet M., Soury E.**

**17:00** End of Session

**Biological and Medicinal Chemistry Division**

**BM6 CC-Mariner 1**

**Modern Advances in Protein Engineering**

Organizer(s) - Drew Woolley  
Chair(s) - Drew Woolley

**13:00 0544** *Engineering Allosteric Protein Switches* **Ostermeier† M.**

**13:40 0545** *Directed Evolution of Improved Blue and Cyan Fluorescent Proteins with Tyrosine-Derived Chromophores* **Ai H.-W., Campbell† R.E.**

14:20 0546 *Teaching Proteins New Tricks: From SH2 Domains to Carbon-Phosphorus Lyase* **Zechel† D.L.**

15:00 Coffee Break

15:20 0547 *Sequence and Structure Based Rational Engineering of Proteins* **Steipe† B.**

16:00 0548 *Active-Site Engineering of Enzymes to Tailor Specificity* **Pelletier† J.N.**

16:40 0549 *Evolving the Specificity of Transglutaminase by a Semi-Rational Approach: A New Tool for Peptide Synthesis* **Chica R.A., Gillet S.M.F.G., Laroche J., Pelletier J.N., Keillor J.W.**

17:00 End of Session

**BM8 CC-Highland 8**

**NMR of Biological Molecules (Joint with OR and PT) (joint with PT9)**

Organizer(s) - David Jakeman  
Chair(s) - David Jakeman

13:00 0550 *Solution NMR Studies of the Structure and Dynamics of High Molecular Weight Proteins* **Kay† L.E.**

13:40 0551 *Isotopic Labeling of Ligands and Drugs for Resolving Membrane Receptor Dynamics and Structure at High Resolution Using Solid State NMR* **Watts† A.**

14:20 0552 *Solid-State <sup>35/37</sup>Cl NMR Spectroscopy of Hydrochloride Salts of Amino Acids Implicated in Chloride Ion Transport Channel Selectivity: New Opportunities at 900 MHz* **Bryce D.L., Sward G.D., Adiga S.**

15:00 Coffee Break

15:20 0553 *3D Magic-Angle Spinning Methods and Applications to Structure Determination of Microcrystalline, Fibrous and Membrane Proteins* **Rienstra† C.M., Franks W.T., Wylie B.W., Zhou D.H., Li Y., Frericks H.L., Kloepper K.D., Berthold D.A.**

16:00 0554 *Direct NMR Detection of the "Invisible" Alkali Metal Ions Bound to DNA G-Quadruplexes* **Wu† G., Ida R., Wong A.**

16:40 End of Session

**Chemical Education Division**

**CE5 CC-Mariner 3**

**Teaching Safety in the New Era of Responsible Care(TM)**

Organizer(s) - Margaret-Ann Armour  
Chair(s) - Margaret-Ann Armour

13:10 Introductory Remarks

13:20 0555 *How to Create a More Effective Lab Safety Program* **Kaufman† J.A.**

14:00 0556 *Using Action Research to Improve Science Safety in Alberta Schools* **Bauer† A.W.**

14:40 0557 *Undergraduate Laboratory Safety at Queen's University* **Mombourquette† M.J.**

15:00 Coffee Break

15:20 0558 *Creating a New Culture of Safety in a Primarily Undergraduate Research University* **Etkin† N.**

15:40 0559 *Engaging Students in Labs and Lab Safety with the Use of Interactive Multimedia* **Lock† P.E.**

16:00 0560 *Safety Awareness in Teaching and Research Laboratories: A Graduate Perspective* **Norman† D.W., Armour M.-A.**

16:20

17:00 End of Session

**Environment Division**

**EN2 CC-Cornwallis Suite**

**Atmospheric Chemistry: A Canadian Perspective (Joint with PT) (joint with PT2)**

Organizer(s) - John Roscoe  
Chair(s) - James Donaldson, Richard Bowles, Robert McLaren

13:20 0561 *Organic Aerosols: Cloud Condensation Nuclei and Heterogeneous Oxidation* **Abbatt† J.**

14:00 0562 *Hygroscopic Properties of Ambient Aerosol Particles* **Mozurkewich† M., Aklilu Y.-A.**

14:20 0563 *Laboratory and Modeling Studies of Heterogeneous Reactions of PAHs in Urban Environments* **Donaldson† D.J.**

14:40 0564 *Gaseous Bromine Production from the Heterogeneous Reaction of Hydroxyl Radicals with Aqueous Salt Solutions* **Frinak E.K., Abbatt J.P.D.**

15:00 Coffee Break

15:20 0565 *New Developments in Atmospheric Measurements by Remote Sensing* **Sloan† J.J.**

16:00 0566 *The Use of Carbon Isotope Ratio Measurements for Studies of the Chemistry and Sources of Atmospheric Volatile Organic Compounds* **Rudolph† J.**

16:20 0567 *Development of a VUV Photoionization - Ion Trap Approach to Real Time Aerosol Mass Spectrometry* **Campuzano-Jost P., Hanna S., Simpson E., Bertram A., Hepburn J., Blades† M.**

16:40 0568 *The Proinflammatory Potential of Ambient Particle Types* **Haddrell A.E., Gross S., Bertram A.K., van Eeden S.E., Agnes† G.R.**

17:00 End of Session

**EN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with AN) (joint with AN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Stan van den Berg, Jörg Feldmann

13:00 Joint with Analytical Chemistry Division - See AN3

16:40 End of Session

**Inorganic Chemistry Division**

**IN1 CC-Mariner 2**

**Inorganic Solid State Chemistry (Joint with MT) (joint with MT4)**

Organizer(s) - Mario Bieringer and Arthur Mar  
Chair(s) - Zuo-Guang Ye

**REMINDER**

13:00 Alcan Award Lecture presented by Neil Burford in CC-Port Royal C2

13:40 0569 *Crystal Structure, Vibrational Spectra and Thermal Decomposition of a New Tetramanganese(II) Dipyrophosphate Decahydrate, Mn<sub>4</sub>(P<sub>2</sub>O<sub>7</sub>)<sub>2</sub>·10H<sub>2</sub>O* **Assaaoudi H., Butler I.S., Kozinski J.A.**

14:00 0570 *Hydrothermal Synthesis of Oxides and Phosphates* **Whittingham† M.S.**

14:40 0571 *Gas Capture and Release by Conversion Between Open and Closed Pore Structures in a Crystalline Metal Organic Framework* **Shimizu G.K., Chandler B.D., Enright G.D., Cramb D.T.**

15:00 Coffee Break

15:20 0572 *Thermoelectric Properties of Transition Metal Tellurides* **Assoud A., Soheilnia N., Kleinke† H.**

16:00 0573 *Structures and Properties of Highly Anisotropic Ternary Uranium Transition-Metal Antimonides* **Tougait O., Noël H., Mar A.**

16:20 0574 *Chemistry of the Giant Magnetocaloric Effect Material Gd<sub>5</sub>Si<sub>2</sub>Ge<sub>2</sub> and Related Phases* **Mozharivskij† Y.**

17:00 End of Session

**IN5 CC-Port Royal C2**

**Recent Advances in Main Group Chemistry**

Organizer(s) - Glen Briand  
Chair(s) - Sean Barry

Alcan Award Lecture presented by Neil Burford

Introduction of Neil Burford by Tris Chivers

13:00 0575 *Homoatomic P-P Coordination Complexes: A New Direction in the Chemistry of Phosphorus* **Burford† N.**

**13:40 0576** *N-Silylphosphoranimine Cations Bearing P-P Coordination Bonds: Synthesis, Structure, and Reactivity* **Huynh K.**, Lough A.J., Manners I.

**14:00 0577** *New N-Heterocyclic Pnictogenium Cations Containing a Diamidonaphthalene Framework* **Spinney H.A.**, Richeson D.S.

**14:20 0578** *Ultra High Bandwidth Thiazyl Radical Conductors* **Leitch A.A.**, Oakley R.T., Reed R. W., Thompson L.K.

**14:40 0579** *Synthesis of Se-N Rings via 1,4-Di(tert-butyl)-2,3-diazabutadiene and the Development of Ferrocene Substituted Phosphonium Ionic Liquids* **Ragogna P.J.**, Dutton J.L., Breadner D.

### 15:00 Coffee Break

**15:20 0580** *New Developments in Low Oxidation State Main Group Chemistry* **Macdonald C.L.B.**, Ellis B.D., Norton E.L., Morasset E.V., Corrente A.M., Gueorguieva D.E.

**15:40 0581** *Sandwich Compounds with Bridging Heavier Group 13 Elements. Trisyl-Based Donor Ligands for Stabilizing Strained Organometallic Species* **Lund C.L.**, Schachner J.A., Quail J.W., Müller J.

**16:00 0582** *m-Terphenyl Carboxylates in Low Coordinate Main Group Complexes* **Dickie D.A.**, Clyburne J.A.C.

**16:20 0583** *Unusual Electrochemistry of [1.1]Ferrocenophanes Containing Heavier Group 13 Elements (M = Al, Ga, In)* **Schachner J.A.**, Orłowski G.A., Lund C.L., Quail J.W., Kraatz H.B., Müller J.

**16:40 0584** *Cyclic Dimethylsiloxanes as Pseudo Crown Ethers: Syntheses and Characterization of  $Li(Me_2SiO)_3[Al(OC(CF_3)_3)_4]$ ,  $Li(Me_2SiO)_6[Al(OC(CF_3)_3)_4]$  and  $Li(Me_2SiO)_6[Al(OC(CF_3)_2Ph)_4]$*  **Passmore J.**, Wang X., Decken A.

17:00 End of Session

### IN6 CC-CornwallisDraped

#### Semiconductor and Metal Nanoparticles: Synthesis, Properties and Applications (Joint with MT) (joint with MT8)

Organizer(s) - Matthew Moffitt and Michael Wolf  
Chair(s) - Michael Wolf

### REMINDER

**13:00 Alcan Award Lecture presented by Neil Burford in CC-Port Royal C2**

**13:40 0585** *Synthesis and Surface Functionalization of Metal-Oxide and Semiconductor Nanoparticles* **Veinot J.G.C.**

**14:20 0586** *Synthesis and Characterization of Colloidal  $CuInS_2$  Particles for Solar Cell Technology* **Courtel F.**, Imbeault R., Hammami A., Morin M., Paynter R.W., Marsan B.

**14:40 0587** *Functionalized Superparamagnetic Nanoparticles as Pathogen Capture Probes* **Keil A.J.**, Simard B., Stewart G., Peytavi R., Huletsky A., Boissinot M., Bergeron M.G.

### 15:00 Coffee Break

**15:20 0588** *Towards Device-Integrated Multi-Functional Magnetic Nanoparticles* **Cameron N.S.**, Ledroff B., Roberge H., Normandin F., Veres T.

**15:40 0589** *Watching Glass Grow with Nanoplasmonics* **Andrews M.P.**, Glasspoole B., Maron E.

**16:00 0590** *Thiolate-Capped PbS Nanocrystals in Water: Sensitivity to  $O_2$ , pH and Concentration, an Alternate Pathway for Crystal Growth and a Top-Down Synthesis* **Cornacchio A.L.P.**, Jones N.D.

**Keith Laidler Award Lecture presented by Gregory Scholes**

Introduction of Gregory Scholes by David Cramb

**16:20 0591** *Photophysics of Nanoscale Materials: The Question of Shape* **Scholes G.D.**

17:00 End of Session

### IN7 DH-Baronet 6

#### General

Organizer(s) - Neil Burford  
Chair(s) - Mark Stradiotto

### REMINDER

**13:00 Alcan Award Lecture presented by Neil Burford in CC-Port Royal C2**

**13:40 0592** *Synthesis, Thermolysis, and Film Deposition of Hafnium and Zirconium Precursors* **Wasslen Y.A.M.**, Kenney A.P., Wang Z., Barry S.T.

**14:00 0593** *Group 4 Amidate Complexes with M=E Multiple Bonds: Applications in Catalytic Olefin Hydroamination and Small Molecule Activation* **Thomson R.K.**, Schafer L.L.

**14:20 0594** *Rh(I) and Ir(I) Derivatives of a P(S),N-Substituted Indene Ligand: Synthetic and Structural Studies and the Application in Catalytic Alkene Hydrosilylation* **Wechsler D.**, Myers A., Stradiotto M.

**14:40 0595** *Synthesis and Characterization of Chiral N,N-Chelating Oxazolidine Ligands and their Platinum and Palladium Complexes* **Cardile S.A.**, Jennings M.C., Jones N.D.

### 15:00 Coffee Break

**15:20 0596** *Thiol Modified Mesoporous Silica as a Ligand for a Leach Free Palladium Catalyst for Suzuki-Miyaura and Sonogashira Coupling* **McEleney K.**, Finnermore D., Mutyala S., MacQuarrie S.L., Blanc A.C., Crudden C.M.

**15:40 0597** *Analogues of Titanocene Dichloride as Potential Anti-Tumour Agents* **Potter G.D.**, Baird M.C., Chan M., Cole S.P.C.

**16:00 0598** *Remarkably Stable Base-Free Thorium(IV) Dialkyl Complexes by Alkane Elimination: A Novel Route into Organoactinide Chemistry* **Cruz C.A.**, Emslie D.J.H.

**16:20 0599** *Diimine Ligands Continued: Synthesis and Characterization of  $\gamma$ -Diimine Ligands and their use in the Formation of Late Transition Metal Complexes* **Foley S.R.**, **Chitanda J.M.**, Quail J.W.

**16:40 0600** *Synthesis and Reactivities of some New Pincer Complexes of Nickel* **Castonguay A.**, Zargarian\* D., Beauchamp\* A.L.

17:00 End of Session

### INP CC-Port Royal D,E

#### Posters

Organizer(s) - Neil Burford  
Chair(s) - Neil Burford

From 17:00 until 19:00

See posters in other divisions with which there are joint symposia

0601 *The Ternary Zr-Pt-Sb System* **Tkachuk A.V.**, Mar A.

0602 *Study of Magnetism of Face-Centered Cubic Double Perovskite Compounds* **Aharen T.**, Greedan J.E.

0603 *Ternary Rare-Earth Manganese Bismuthides,  $RE_3MnBi_5$  (RE = La, Pr): Structure and Properties* **Zelinska O.Ya.**, Mar A.

0604 *NMR Studies of Solids under Pressure and Uniaxial Stress* **Werner-Zwanziger U.**, Shaw J., Zwanziger J.W.

0605 *New Phase Transitions in the  $LaTaO_3$  Structure* **Witzke A.**, Bieringer M.

0606 *Investigation of Novel Phases in the Indium Vanadium Oxide Phase Diagram* **Lundgren R.**, Bieringer M.

0607 *Thermal Properties of  $ZrW_2O_8$  and  $HfMo_2O_8$*  **Stancescu M.**, Kennedy C.A., White M.A.

0608 *Structure Property Correlations in the Stress-Optic Response of Glass* **Guignard M.**, Zwanziger J.W., Werner-Zwanziger U., Shaw J.L.

0609 *Synthesis, Characterization and Reactivity of Mesoporous Palladium/Yttria-Stabilized-Zirconia for Gas and Solution Phase Reactions* **Poulin C.**, Brown M., Duschek M., Wesslen Y., Grgicak C., Fagnou K., Giorgi J.

0610 *Characterization of Amorphous Phases Formed during  $AlPO_4-5$  Synthesis* **Longstaffe J.G.**, Huang Y.

0611 *Investigation of Rare-Earth Containing Oxychlorides* **Campbell J.K.**, Bieringer M.

0612 *Synthesis and Application of Late Transition Metal Complexes with Iminophosphinite Ligands* Beaton S., Yorke J., **Xia A.**

0613 *New Metallation Resistant Bulky  $\beta$ -Diketiminato Ligands and their Scandium Complexes* **Ross J.A.**, Piers W.E., Parvez M.

0614 *Ligand Design Towards Novel Early Transition Metal Olefin Polymerization Catalysts* **Yadav K.**, Stephan D.W.

0615 *Development of New Methods for the Preparation of Aminocalixarenes* **Hobbs M.G.**, Roesler R.

0616 *Chiral Oxazolinylamine-Based Ligands for Asymmetric Catalysis* **Caputo C.A.**, Carneiro F.D.S., Jennings M.C., Jones N.D.

0617 *Reactivity Study of Late Transition Metal Complexes with Novel 7-Azaindolyl Derivative Ligands* Zhao S.B., **Wang S.**

0618 *Metallic Proton Sponges: Electro Spray Active Bipyridyl Ligands* **Chisholm D.**, McIndoe J.S.

0619 *Proton Sponge Phosphines: Electro spray-Active Ligands* **McIndoe J. S.**, Farrer N.J.

0620 *Highly Active Mono( $\beta$ -Enaminoketonato) Vanadium(III) Polymerization Catalysts* **Tang L.**, Li Y.

0621 *Theoretical Charge Density Studies on Metal Silane Bonding* **Sirsch P.**, McGrady G.S.

0623 *Synthesis, Characterization and Bioactivity of S-n-Picolylidithiocarbamate Ligands and some of their Metal Complexes* Crouse K.A., **M. Tahir M.I.**, Khoo T.-J.

0624 *Size and Crystal Structure Control of Iron Oxide Nanoparticles* **Macdonald J.E.**, Boates K.M., Veinot J.G.C.

0625 *Biosensors Using Quantum Dot/Aptamer-Based Complexes* Revesz E., Lai E.P.C., **DeRosa M.**

0626 *Direct Nitric Oxide Detection: Utilizing ZnO Nanocrystals towards the Development of a Spatial-Temporal Sensor for Nitric Oxide* **Spina C.J.**, Bohle D.S.

0627 *Gold Nanoclusters Dispersed in a Nematic Liquid Crystal: Studying Optically Activity and Long-Range Ordering* **Qi H.**, Hegmann T.

0628 *Ligand-Exchange Reactions of 4-(N,N-Dimethylamino)pyridine on Gold Nanoparticles* **Rucareanu S.**, Gandubert V., Lennox R.B.

0629 *Oligo(ethylene glycol)-Stabilized Gold Nanoparticles for Nanofluid Applications* **Corbierre M.K.**, Nikanpour D.

0630 *Synthesis and Characterization of Surface Functionalized Europium Sulfide Nanocrystals* **Mirkovic T.**, Nair S., Hines M., Scholes G.

0631 *Switchable Self-Assembly of Magnetic Nano-Disks* **Cameron N.S.**, Geissler M., Roberge H., Veres T.

0632 *Amphiphilic Gold and Palladium Nanoparticles* **Bari A.**, Tadayyon S., Norton P.R., Eichhorn S.H.

0633 *Stable Ag-Doped Siloxanes for Photolithography of Metallo dielectric Structures* **Qiu L.**, Rewari A., Saravanamuttu K.

0634 *Tailoring the Emission Properties of Nanocrystalline Silicon* Hessel C., **Henderson E.J.**, Wenger D.M., Veinot J.G.C.

0635 *Synthesis and Characterization of Late Transition Metal Complexes Using a Phosphine-Thioxanthene-Borane Ligand* **Oakley S.R.**, Emslie D.J.H.

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### Macromolecular Science and Engineering Division

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#### MSP CC-Port Royal D,E

#### Posters

Organizer(s) - Tim Bender  
Chair(s) - Tim Bender, Jeffrey Cutler

From 17:00 until 19:00

17:00 See Materials Chemistry Division Poster List - MTP

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### Materials Chemistry Division

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#### MT2 DH-Baronet 1,2,3

#### Energy Storage and Conversion (Joint with PT) (joint with PT6)

Organizer(s) - Josef Zwanziger, Mary Anne White and Jeff Dahn  
Chair(s) - Peter Strasser

13:00 0636 *New Electrolytes for Li Ion Battery and Studies on SEI Chemistry* **Xu K.**, Zhang S., Allen J., Jow R.

13:40 0637 *Polymers of Intrinsic Microporosity as Foundations for Lithium Electrolytes* Liu J., Werner-Zwanziger U., **Zwanziger J.W.**

14:00 0638 *The Search for Redox Shuttles as a Method of Overcharge Protection in Li-Ion Batteries* **Moshurck L.M.**, Buhrmester C., Dahn J.R.

14:20 0639 *Photomechanical Effects in Thin Azobenzene Films Measured by Neutron Reflectometry* **Yager K.G.**, Tanchak O.M., Fritzsche H., Barrett C.J.

14:40 0640 *The Photomechanical Effect in Thin Films of Azo Polymers* **Tanchak O.M.**, Barrett C.J.

#### 15:00 Coffee Break

15:20 0641 *Materials Development for Direct Organic Fuel Cells* **Pickup P.G.**

16:00 0642 *Study of Fe-S and Co-S Model Thin Film Catalysts for Application in PEM Fuel Cells* **Susac D.**, Zhu L., Teo M., Sode A., Wong P.C., Wong K.C., Bizzotto D., Parsons R.R., Mitchell K.A.R., Campbell S.A.

16:20 0643 *Electrochemical Synthesis of Fuels from Captured CO<sub>2</sub> Using Renewable Energy* **Co A.**, Gupta N., Gattrell M.

16:40 0644 *Investigation of Formation of a PtZn Alloy and its Use as a Catalyst in Proton Exchange Membrane Fuel Cells (PEMFCs)* **Sode A.**, Li W., Yang Y., Gyenge E., Wong P.C., Mitchell K.A.R., Bizzotto D.

17:00 End of Session

#### MT4 CC-Mariner 2

#### Inorganic Solid State Chemistry (Joint with IN) (joint with IN1)

Organizer(s) - Mario Bieringer and Arthur Mar  
Chair(s) - Zuo-Guang Ye

13:00 Joint with the Inorganic Chemistry Division - See IN1

#### REMINDER

13:00 Alcan Award Lecture presented by Neil Burford in CC-Port Royal C2

17:00 End of Session

#### MT8 CC-Cornwallis Draped

#### Semiconductor and Metal Nanoparticles: Synthesis, Properties and Applications (Joint with IN) (joint with IN6)

Organizer(s) - Matthew Moffitt and Michael Wolf  
Chair(s) - Michael Wolf

#### REMINDER

13:00 Alcan Award Lecture presented by Neil Burford in CC-Port Royal C2

13:40 Joint with Inorganic Chemistry Division - See IN6

16:20 Keith Laidler Award Lecture presented by Gregory Scholes

17:00 End of Session

#### MTP CC-Port Royal D,E

#### Posters

Organizer(s) - Jeffrey Cutler  
Chair(s) - Jeffrey Cutler, Tim Bender

From 17:00 until 19:00

See posters in other divisions with which there are joint symposia

0645 *Dihydrophilic Block Copolymers Constructed on the (Dextran)-block-Poly(ethylene glycol) Motif* **Suarez Hernandez O.**, Winnik F.M.

0646 *Chirality Information Transfer in Poly(lactides): From Main-Chain Chirality to Lamella Curvature* **Maillard D.**, Prud'homme R.E.

0647 *Interactions of Pyrene-Functionalized Linear-Dendritic Polymer Hybrids with Single-Walled Carbon Nanotubes* **Bahun G.J.**, Adronov A.

0648 *Functionalization of Single-Walled Carbon Nanotubes with Well-Defined Polystyrene and Poly(ethylene glycol) by "Click" Coupling* **Lawson G.**, Li H., Adronov A.

0649 *Phase Behaviour of Poly(L-lactic acid) (PLLA) and its Blend with Poly(ethylene oxide) (PEO)* **Zhang X.C.**, Singfield K.L.

0650 *Birefringent Thin Films of Nanocrystalline Cellulose* **Cranston E.D.**, Gray D.G.

0651 *Synthesis and Properties of Radiation Modified Thermally Cured Castor Oil Based Polyurethanes* **Mortley A.**, Bonin V.T., Bui H.W.

0652 *Cracking in Poly(lactide) Spherulites* **Fraschini C.**, Prud'homme R.E.

0653 *Self Assembly, Luminescence, and Electron Transfer Reactions of Ruthenium Bipyridine-Containing Block Copolymers* **Metera K.L.**, Sleiman H.F.

0654 *NMR Studies of Lung Surfactant Protein B Peptides* **Sarker M.**, Keough K.M.W., Morrow M.R., Waring A.J., Booth V.

0655 *The Effect of Gold Nanoparticles on the Mesophase Behavior of Thermotropic Amphiphilic Liquid Crystals* **Wei P.**, Martinez-Miranda L.J., Hegmann T.

0656 *Lateral Substituted Bolaamphiphiles as Matrices for the Assembly of Gold Nanoparticles* **Qi H.**, Lepp A., Martinez-Miranda L.J., Hegmann T.

0657 *A Single Sided Sensor for MRI Profiling with Applications to Material Science and Chemical Engineering* **Marble A.E.**, Appathurai N., Mastikhin I.V., Balcom B.

0658 *Organization of Photoinitiators at the Air-Water Interface* **Schmidt R.**, Dyer D.J., DeWolf C.E.

0659 *1D and 2D NMR Investigations of the Interaction between Oppositely Charged Polymers and Surfactants* **McLachlan A.A.**, Marangoni D.G.

0660 *An NMR Investigation and Conductometric Investigation of Mixed Micelle Formation in Alcohol/Gemini Surfactant Mixed Micelles* **Landry J.M.**, Marangoni D.G.

0661 *Towards More Efficient Thermoelectric Materials* **Ritchie A.**, Sun R., Jakubinek M., White M.A.

0662 *Comparison of the Reaction of Li<sub>2</sub>Si or LiC<sub>6</sub> with 1M LiPF<sub>6</sub> EC:DEC Electrolyte at High Temperature* **Wang Y.**, Dahn J.R.

0663 *Preparation and Characterization of Mixed Titanium Oxide Sol-Gels* **Rowe A.**, Pickup P.G.

0664 *NMR Spectroscopic Characterization of Nafion® , Nafion® Composites, and Sulfonated Polyether Ether Ketones (S-PEEK)* **Ye G.**, Goward G.R.

0665 *Sol-Derived [Co,N,C,O] Catalysts for Oxygen Reduction in Proton Exchange Membrane Fuel Cells* **Sirk A.H.C.**, Birss V.I., Campbell S.A.

0666 *Singlet Fission for Dye Sensitized Solar Cells: Can a Suitable Sensitizer Be Found?* **Paci I.**, Ratner M.A., Nozik A.J., Michl J.

0667 *Layered Sol-Gel Materials: Giving Order to the Amorphous* **Woods M.E.**, Vreugdenhil A.J.

0668 *Bifunctional Dendritic Systems for Multipurpose Tasks* **Hourani R.**, Kakkur A.K.

0669 *Design Rules for Reversible Thermochromic Materials* **Tang H.**, MacLaren D.C., White M.A.

0670 *Membrane Gas Diffusion Measurements with MRI* **Zhang Z.**, Ouriadov A., Willson C., Balcom B.

0671 *Design and Synthesis of New Porous Molecular Networks* **Helzy F.**, Maris T., Wuest J.D.

0672 *Water Distribution in Weak Polyelectrolyte Multilayers* **Tanchak O.M.**, Yager K.G., Fritzsche H., Harroun T., Katsaras J., Barrett C.J.

0673 *Organically-Functionalized Mesoporous Silicate Films as Coatings for Universal Water Quality Sensors* **Cruden C.M.**, Look H.-P., Dickson S., Du J.

0674 *Solution Viscosity of Arborescent Polyelectrolytes* **Munam A.**, Gauthier M.

0675 *Patterning of Chemical Gradients with Sub-Micrometer Resolution Using Edge-Spreading Lithography* **Geissler M.**, Chalsani P., **Cameron N.S.**, Veres T.

0676 *Chemical and Electrochemical Effects on 316L Stainless Steel Tubing of the High Pressure Still Condenser* **Al-Darbi M.M.**, Alfantazi A.

0677 *Commissioning Report on the Soft X-ray Spectromicroscopy Beamline at CLS* **Kaznatcheev K.**, Hitchcock A.P., **Urquhart S.G.**, Karunakaran C., Lanke U.

0678 *A National Facility for Soft X-ray Science: The Spherical Grating Monochromator (SGM) Beamline at the Canadian Light Source* **Regier T.**, Paulsen J., Tan K.H., Coulthard I., Sham T.K., Blyth R.I.R.

OR2

CC-Mariner 5

Heterocycles and Heteroatom-Containing Rings

Organizer(s) - Alison Thompson  
Chair(s) - Richard Manderville

13:00 0679 *Inverse Electron Demand Diels-Alder (IEDDA) Reactions of Coumarin-Fused 2-Azadienes* **Kudale A.A.**, Bodwell\* G.J.

13:20 0680 *Studies in Catalytic Direct Arylation of Pyridine N-Oxides* **Campeau L.-C.**, Fagnou K.

13:40 0681 *Application of the Rhodium-Catalyzed Methylenation Reaction: Total Synthesis of Desoxygalactalactone* **Parmentier M.**, Lebel H.

14:00 0682 *Quest for Diatomic Selenium* **Rys A.Z.**, Schultz E.K.V., Harpp D.N.

14:20 0683 *Reduction of Substituted Phenanthrolines as a Route to Chiral Benzimidazolylidenes* **Metallinos C.**, Barrett F.B., Wang Y., Zaifman J.

14:40 0684 *Recent Advances in the Stereoselective Synthesis of Dipyrromethene Complexes* **Thompson A.**, Al-Sheikh-Ali A., Beshara C.S., Wood T.E.

15:00 Coffee Break

15:20 0685 *Biosynthesis of Pyrrolic Natural Products* **Leeper† F.J.**

16:00 0686 *The Total Synthesis of Phyllantidine* **Carson C.A.**, Kerr M.A.

16:20 0687 *Transmembrane Ion Transporters Based on Heterocycles* **Davis† J.T.**, Seganish J., Kaucher M.

17:00 End of Session

OR3

CC-Mariner 4

Innovative Chemistry in Novel Media

Organizer(s) - Robert Singer  
Chair(s) - Robert Singer

13:00 0688 *Switchable Solvents and Surfactants* **Jessop† P.G.**, Eckert C.A., Liotta C.L.

13:40 0689 *Applications of Phosphonium Salt Ionic Liquids in Organic Synthesis* **McNulty† J.**, Larichev V., Nair J.

14:00 0690 *Solid-State Synthesis of Imides via Mechanochemistry* **Cheney M.L.**, Zaworotko M.J.

14:20 0691 *In-Situ Preparation of Catalytic Palladium Nanoparticle/Silica Composites in Supercritical Carbon Dioxide* **Kerton F.M.**, Saffarzadeh-Matin S., Rayner C.M., Lynam J.M.

14:40 Coffee Break

Organic Chemistry Division

15:20 0692 *Quasi-Nature Organic Chemistry: Developing Metal-Mediated and Catalyzed Reactions in Air and Water* **Li† C.-J.**

16:00 0693 *Efficient Trost's  $\gamma$ -Addition Catalyzed By Reusable Polymer-Supported Triphenylphosphine in Aqueous Media* **Skouta R., Varma R.S., Li C.-J.**

16:20 0694 *Switch-Hitting Behaviour for Grignard Reagents in Molecular and Ionic Solvents* **Walsby C.J., Taylor S.A., Ramnial T., Clyburne J.A.C.**

16:40 End of Session

**OR6 CC-Highland 8**

**NMR of Biological Molecules (Joint with BM and PT)**

Organizer(s) - David Jakeman  
Chair(s) - David Jakeman

13:00 **Joint with Biological and Medicinal Chemistry and Physical Chemistry Divisions - See BM8**

16:40 End of Session

**OR10 CC-Port Royal C1**

**Recent Advances in Organic Synthesis**

Organizer(s) - Jean Burnell and Ian Pottie  
Chair(s) - Brian Keay

13:00 0695 *A Pauson-Khand Annulation, Ring-Expansion Approach to the [9.5.5] Carbocyclic Skeleton of Aquariolide A* **Thornton P.D., Burnell D.J.**

13:20 0696 *A Quadruple Diene-Transmissive Diels-Alder Cycloaddition Approach to Quassinoids* **Perreault S., Spino\* C.**

13:40 0697 *Cobalt-Mediated [5+2] Cycloaddition Reactions: A New Reactivity Pattern for Seven-Membered Ring Synthesis* **Stryker J.M., Witherell R., Yijoki K., Kirk A.D.**

14:00 0698 *Catalytic Electromediated Transformations of Cation and Anion Radicals* **Little† R.D., Park Y.S., Graham J.**

14:40 0699 *5,5-Dicyanocyclopentadiene as a Precursor to Synthons for Tandem Anionic Reaction Sequences to Polycyclic Natural Products: Discovery of a Very Facile Allenolate Cope Reaction* **Krismanich A., Dmitrienko G.I.**

15:00 **Coffee Break**

15:20 0700 *Regioselective Synthesis of Vinyl Sulfides Using Rhodium-Catalyzed Alkyne Hydrothiolation* **Love J.A.**

15:40 0701 *A Stereochemically Versatile Route to Hexapropionates* **Ward† D.E.**

16:20 0702 *The Pseudo-Nazarov Reaction: gem-Dihalocyclopropanes as Novel Substrates for the Nazarov Cyclization* **Grant T.N., West F.G.**

16:40 0703 *Catalytic Enantioselective Reduction of  $\beta,\beta$ -Disubstituted Nitroalkenes Using a Bisphosphine Monoxide* **Desrosiers J.-N., Charette A.B.**

17:00 End of Session

**ORP CC-Port Royal D,E**

**Posters**

Organizer(s) - Bruce Grindley  
Chair(s) - Bruce Grindley

From 17:00 until 19:00

0704 *Towards the Synthesis of Lysergic Acid via a Directed ortho Metalation (DoM) Strategy* **Zhao Y., Snieckus V., Larkin A.**

0705 *Progress Towards a Total Synthesis of Longithorone C* **Zakarian J., El-Azizi Y., Collins S.K.**

0706 *Tetraarylphosphonium Salt: Supported TEMPO Catalyst and (Diacetoxyiodo)benzene Reagent* **Roy M.-N., Charette A.B.**

0707 *Synthesis of Crown Ethers by Simultaneous Double Directed Benzylic Lithiation of a Biphenyl Substituted with Tertiary Amide Groups* **Reed J.N., Mora-Diez N., Key J., Mahboob A.**

0708 *Synthetic Efforts Towards the Synthesis of 3,3'-Disubstituted MeO-BIPHEP Derivatives Incorporating the "3,5-Dialkyl Meta Effect"* **Rankic D.A., Keay B.A.**

0709 *Towards the Total Syntheses of Majusculoic Acid and (-)-Perhydrohistrionicotoxin* **Philippe J., Charette A.B.**

0710 *Catalytic Enantioselective Aldol Reaction as a Tool for Natural Products Synthesis* **Niewczas I.S., Palyam N., Majewski M.**

0711 *The First Highly Efficient and "Multi-Component" Synthesis of  $\beta$ -Lactams from N-Substituted Hydroxylamine, Aldehydes, and Alkyne* **Zhao L., Li C.-J.**

0712 *Diels-Alder Reactions of Boron Containing Aromatic Compounds* **Wood T.K., Piers W.E.**

0713 *Design, Synthesis and Development of Prodigiosin Analogues for Breast Cancer Chemotherapy* **Regourd J., Thompson A.**

0714 *Syntheses of Sydnone Derivatives via NO Reactions* **Perepichka I., Bohle D.S., McQuade L.**

0715 *Synthesis of Propargyl Amines via Asymmetric Cross-Dehydrogenative Coupling (CDC) Reactions* **MacLeod P.D., Li Z., Li C.-J.**

0716 *Synthesis of 4-Amino-2,2'-bipyrrroles as Building Blocks to Prepare Analogs of Natural Products* **Jolicoeur B., Lubell W.D.**

0717 *A Novel Approach to Xanthenes Using an Inverse Electron Demand Diels-Alder (IEDDA) Driven Domino Reaction* **Dang A.T., Bodwell G.J.**

0718 *Attempts at Complexation Between Dipyrrinones and Boron Trifluoride in an Effort to Mimic BODIPY-Type Structures* **Chapman E., Thompson A.**

0719 *General Synthetic Route to Chiral Lactams: A New Approach* **Buranov A.U.**

0720 *Synthesis of N-Containing Heterocycles by Enantioselective Catalytic Addition of Diorganozinc Reagents on Imines* **Bonnaventure I., Charette A.B.**

0721 *Increased Dioxathiazinane Reactivity by Solvation Stabilization of a Twisted Boat Conformation* **Blankenship J.W., Galaud F., Lubell W.D.**

0722 *Dipyrrromethenes Containing a Stereocenter: Does Simple Diastereoselectivity Occur upon Complexation with a Metal (II) Ion?* **Beshara C.S., Thompson A.**

0723 *Prins Cyclization under Mild Conditions: Formation of Cyclic Ethers from Unsaturated  $\alpha$ -Haloether* **Arpin P., Spino C., Hill B.**

0724 *Highly Diastereoselective Templated Complexation of Dipyrrromethenes* **Al-Sheikh Ali A., Thompson A.**

0725 *Delineating Binding and Linker Residues in Extended CRIB Polypeptides for High-Affinity Interactions with Cdc42 by use of NMR Spectroscopy and Fluorescence Binding Studies* **Maye M., Su Z.D., Osborne M.J., Xu X., Xu P., Ni F.**

0726 *Isolation and Structural Characterization of Polysaccharides from the Green Microalgae *Chlorella Pyreïnoidosa*. Effect of Molecular Weight on Immunostimulatory Effects* **Reyes Suárez E., Kralovec J.A., Barrow C.A., Ewart H.S., Syvitski R., Lumsden M.D., Grossert J.S., Volmer D.A., Grindley T.B.**

0727 *Advances in the Synthesis and Applications of N-Alkyl Aziridines* **Yu L., Blyumin E., Yudin A.K.**

0728 *Progress Toward the Synthesis of Traversianal* **Song D., West F.G.**

0729 *New Tandem Ruthenium-Catalyzed Olefin Metathesis/Oxidation Reactions* **Scholte A.A., Snapper M.L.**

0730 *An Investigation on the Formation and Reactivity of Borodicyclohexyl Methyleneironate with Various Aldehydes* **Carneiro K.M.M., MacDonald F.K., Pottie I.R.**

0731 *Organocatalytic Asymmetric Michael Addition of Cyclic Ketones to Nitro-Olefins* **Pansare S.V., Pandya K.**

0732 *Stille Coupling of Stereochemically Defined  $\alpha$ -Alkoxybenzylstannanes* **Nguyen M.T., Chong J.M.**

0733 *The Application of Manganese (III) Acetate Oxidative Radical Cyclizations to the Synthesis of Indole and Pyrrole Containing Natural Products* **Magolan J., Kerr M.A.**

0734 *Palladium Catalysed Cross Coupling Reactions of Diazine N-Oxides* **Leclerc J.-P.**, Fagnou K.

0735 *A Diels-Alder Approach towards the Clausamines* **Lebold T.P.**, Kerr M.A.

0736 *Direct Arylation in the Synthesis of (R)-Nuciferine and its Analogues* **Lafrance M.**, Blaquiere N., Fagnou K.

0737 *An Iterative Approach to the Total Synthesis of Ionomycin* **Joly M.-A.**, Allan M., Gund V., Spino\* C.

0738 *Reversal of Product Absolute Configuration and Applications Using 3,3'-Disubstituted BINAP Ligands* **Hopkins J.M.**, Keay B.A.

0739 *The Use of Fluorous Chiral Supports in the Oxidative Coupling of  $\alpha$ -Amino Acids to Stereoselectively Generate Quaternary Carbon Centres* **Geary L.M.**, Hultin P.G.

0740 *Progress Towards the Total Synthesis of (-)-Aspidofractinine* **Gagnon D.**, Spino C.

0741 *Syntheses and Applications of Stannyl Butadienes* **Darwish A.**, Chong J.M.

0742 *Nitrile-Mediated Hydrogen-Deuterium Exchange and the Synthesis of Specifically Labelled  $\beta$ - and  $\gamma$ -Amino Acids* **Cook M.C.**, White R.L.

0743 *Stereoselective Approaches to Spiroketal Scaffolds and Norstatine-Type Peptide Isosteres* **Pansare S.V.**, **Adsool V.A.**, Dhudshia B.

0744 *The Comparison Between the Oxidation of Organic Compounds in Convenient and Microwave Conditions by Tetramethylammonium Fluorochromate (TMAFC)* **Mohammadi M.K.**, Jangjoo A.

0745 *Synthesis of 2-Amino-2-chromenes in Aqueous Media by Na/PN* **Mezdar A.**, El makssoudi A., Zahouily M., Rayadh A., Sebti S.

0746 *On Using Tree Analysis to Quantify the Material, Input Energy, and Raw Material Cost Throughput Efficiencies of Simple and Complex Synthesis Plans and Networks* **Andraos J.**

0747 *Diastereoselective Aryllithium Addition to an  $\alpha$ -Trifluoromethyl Imine. Practical Synthesis of a Potent Cathepsin K Inhibitor* **Roy A.**, Gosselin F., O'Shea P.D., Chen C.-Y.

### Physical, Theoretical and Computational Division

#### PT1 CC-Highland 10

#### Ab initio Methods: Orbital and Plane Wave Methods

Organizer(s) - Russell Boyd and Josef Zwanziger  
Chair(s) - Russell Boyd

13:00 0748 *Post-Hartree-Fock Density-Functional Correlation Models* **Becke† A.D.**, Johnson E.R.

13:40 0749 *Van der Waals Interactions from the Exchange Hole Dipole Moment* **Johnson E.R.**, Becke A.D.

14:00 0750 *Tetramers of Formic Acid* **Thakkar† A.J.**, Karpfen A.

14:20 0751 *Cooperativity and Proton Transfer in Hydrogen-Bonded Triads* **Mó† O.**, Yáñez M., del Bene J., Alkorta I., Elguero J.

14:40 0752 *Chemical Enhancement in Surface-Enhanced Raman Scattering* **Wong† M.W.**

#### 15:00 Coffee Break

15:20 0753 *Characterizing the Importance of DNA Nucleobase Interactions in DNA Repair* **Wetmore† S.D.**, Hunter K.C.

15:40 0754 *Radiation Induced DNA Damage: Recent Results from Computational Modelling* **Zhang R.B.**, **Eriksson† L.A.**

16:00 0755 *A Computational Investigation on the Catalytic Mechanism of the Hepatitis Delta Virus Ribozyme* **Gauld† J.W.**, Liu H., Robinet J., Ananvoranich S.

16:20 0756 *Theoretical Study of a Biochemical Reaction Pathway: Searching for an Optimum DFT Approach* **Wright† J.S.**, Chepelev L.

16:40 End of Session

#### PT2 CC-Cornwallis Suite

#### Atmospheric Chemistry: A Canadian Perspective (Joint with EN) (joint with EN2)

Organizer(s) - John Roscoe  
Chair(s) - James Donaldson, Richard Bowles, John Roscoe

13:20 Joint with the Environment Division - See EN2

17:00 End of Session

#### PT3 CC-Highland 7

#### Biophysical Chemistry

Organizer(s) - Gonzalo Cosa and Paul Wiseman  
Chair(s) - Gonzalo Cosa

13:20 0757 *Deconstructing the Cell-Biomaterial Interface: Lessons and Challenges in Vascular Tissue Engineering and Targeted Delivery* **Wong† J.Y.**

14:00 0758 *Fluorescent Labelling of Specific Proteins in Living Cells* **Keillor† J.W.**, Campos-Reales N.B., Guy J., Girouard S., Michnick S.W.

14:40 0759 *Quantifying Protein Expression Levels in an Unregulated System* **McMillen D.R.**, Mazumder M., Movva A., Lim L.H.

#### 15:00 Coffee Break

Chair(s) - Jeffrey Keillor

15:40 0760 *Biomolecular Recognition Dynamics* **O'Neill† M.A.**

16:20 0761 *Development of New Fluorescent Strategies to Study Supramolecular Interactions in Lipid Membranes* **Cosa G.**

16:40 0762 *Configurational Transitions Induced by Mechanical External Stretching of Polymer Chains* **Arteca G.A.**

17:00 End of Session

#### PT5 CC-Highland 11

#### Electrochemistry at the Edge (Joint with AN) (joint with AN5)

Organizer(s) - Sharon Roscoe and Vlad Zamlyny  
Chair(s) - Jacek Lipkowski, David Shoesmith

13:00 Joint with Analytical Chemistry Division - See AN5

17:00 End of Session

#### PT6 DH-Baronet 1,2,3

#### Energy Storage and Conversion (Joint with MT) (joint with MT2)

Organizer(s) - Josef Zwanziger, Mary Anne White and Jeff Dahn  
Chair(s) - Peter Strasser

13:00 Joint with Materials Chemistry Division - See MT2

17:00 End of Session

#### PT9 CC-Highland 8

#### NMR of Biological Molecules (Joint with BM and OR) (joint with BM8)

Organizer(s) - David Jakeman  
Chair(s) - David Jakeman

13:00 Joint with Biological and Medicinal Chemistry and Organic Chemistry Divisions - See BM8

16:40 End of Session

#### PTP CC-Port Royal D,E

#### Posters

Organizer(s) - Josef Zwanziger  
Chair(s) - Josef Zwanziger

From 17:00 until 19:00

See posters in other divisions with which there are joint symposia

0763 *Relativistic Calculations on AgH and AuH in Cylindrical Harmonic Confinement* **Lo J.**, Klobukowski M.

0764 *A Density Functional Theory Study of the Mechanisms of Pyrrole Formation in the Knorr and Paal-Knorr Pyrrole Syntheses* **Mothana B.**, Boyd R.J.



0765 *An Evaluation of Effective Core Potentials and Basis Sets for the Prediction of the Geometries of Alkyltin Halides* **Whittleton S.R.**, Boyd R.J., Grindley T.B.

0766 *Ab Initio Studies of Heavy Metal Oxides* **Albrecht L.**, Zwanziger J.W.

0767 *A Density Functional Study on the Complexes of Amino Acids with Silver and Gold Clusters* **Pakiari A.H.**, **Jamshidi Z.**

0768 *Development of STO-NG Basis Sets for Z>54* **Pye C.C.**, Mercer C.J.

0769 *Raman and ab initio Study of Beryllium Hydration in Aqueous Solution* **Pye C.C.**, Rudolph W.W.

0770 *Cadmium Hydration: Hexacoordinate, Heptacoordinate, or Both?* **Pye C.C.**, Rudolph W.W., Tomney M.R.

0771 *Raman and ab initio Study of Oxalate Hydration in Aqueous Solution* **Pye C.C.**, Rudolph W.W.

0772 *Raman and ab Initio Study of the Hydration of Carbonate and Hydrogen Carbonate in Aqueous Solution* **Pye C.C.**, Rudolph W.W., Little V.R., Tian Y., Fan C.

0773 *Solvated Electrons: An Atoms in Molecules Theory Investigation* **Taylor A.**, Matta C.F., Boyd R.J.

0774 *Modeling the Reduction of Hydrogen Peroxide by Glutathione Peroxidase Mimics* **Pearson J.K.**, Boyd R.J.

0775 *An Atomic Basis for the Barrier to Rotation Around the Carbon-Carbon Single Bond in 1-Fluoro-2-[(Z)-2-fluorovinyl]benzene* **Castillo N.**, Matta C.F., Grabowski S., Boyd R.J.

0776 *Excess Electron Binding by the Acetonitrile Dimer: A Theoretical Study* **Timerghazin Q.K.**, Peslherbe G.H.

0777 *Parameterization and Assessment of Pseudoatomic Orbitals for Tight-Binding Density Functional Theory Calculations* **Mosey N.J.**, Gerbasí D., **Woo T.K.**

0778 *Unimolecular Decomposition Pathways of Hydrohaloethers: A Density Functional Theory Study* **Martell J.M.**

0779 *Modelling the Reaction Mechanisms for Redox Regulation of Protein Tyrosine Phosphatase 1B (PTP1B) Activity* **Liu N.**, Boyd R.J.

0780 *Radiationless Decay of Higher Excited Electronic States of Metalloporphyrins: Violation of the Energy Gap Law* **Liu X.**, Velate S., Steer R.P.

0781 *A Comparative Study on the Binding of Divalent Metal Ions to Calcium-Free Peroxidase* **Nazari K.**, Kelay V., Mahmoudi A., Moosavi-Movahedi A.A.

0782 *Low-Temperature Rotating Sample Accessory for FT-Raman Spectroscopy* **Schmidt K.J.**, Michaelian K.H., Shaw J.M.

0783 *Kinetic Modeling and Morphological Characterization of an Aerosol from Ethane* **Aleman Milan G.**, Pacey P.D.

0784 *Fluorescence and Host Properties of Methoxy Nanoballs* **Boland P.G.**, Wagner B.D.

0785 *Computational Investigation of the Catalytic Mechanism of LpxC* **Robinet J.**, Gauld J.W.

0786 *Excess Molar Volumes and Spectroscopic Studies for the Binary Mixtures of Alkoxyethanols with Amides/Amines at 298.15K* **Bhardwaj R.K.**, Pal A.

0787 *Electrodilatometry and its Relation to other Nonlinear Techniques* **Rappon M.**

0788 *Inner Shell Excitation Spectroscopy of Small Alkynes* **Yang L.**, Neville J.J., Perumal A.M., Regier T., Coulthard I.

0789 *Core Excitation Spectroscopy and Photo-Fragmentation Dynamics of N-Heterocycles* **Odoh S.O.**, Neville J.J.

0790 *Oscillatory Behavior in the Resorcinol-Bromate Reaction* **Harati M.**, Wang J.

0791 *Ultrafast Dynamics of Zinc Tetraphenylporphyrin Investigated by Fluorescence Upconversion* **Velate S.**, Steer R.P.

0792 *Orientations of the Principal Axes of the Phenyl Radical's Spin Hamiltonian Tensors: Their Role in the Radical's Magnetic Inequivalency* **Mattar S.M.**

0793 *Effect of the g Tensor Anisotropy on the Electron Paramagnetic Resonance Intensities of Partially Oriented Bis(biuretato)cuprate(II) Dianions Adsorbed on Cellulose in a TE<sub>018</sub> Dielectric Resonator* **Mattar S.M.**

0794 *The Roles of Restricted Rotations, Geometry and the Solvent in Accurately Computing the 2,2-Diphenyl-1-picrylhydrazyl g Tensors* **Mattar S.M.**, Sanford J.

0795 *Dissociation Dynamics of Core Excited CO<sub>2</sub>* **Fan Y.**, Neville J.J.

0796 *One-Photon and Two-Photon Spectra of 1,2-Dibromoethylene* **Shi W.**, Dimov S., Hu X.K., Lipson R.H.

0797 *Cucurbit[7]uril Complexation Induced Fluorescence Switches of Aromatic Amines: Inhibition of the Excited-State Proton Transfer* **Macartney D.H.**, Wang R., Yuan L.

0798 *Diagnostics of the Decomposition of Silacyclobutane on a Hot Filament by in-situ Vacuum Ultraviolet Laser Single Photon Ionization* **Shi Y.J.**, Lo B., Li X., **Eustergerling B.D.**, Tong L.

0799 *Gas-Phase Chemistry in the Hot-Wire Decomposition of Silane and Ammonia* **Eustergerling B.D.**, Li X., Shi Y.J.

0800 *Excited-State Dynamics and Photoinduced Electron-Transfer Processes of Dendritic Ruthenium Complexes and Dendrimers with a tris-Methyl Viologen Core* **Myron B.D.**, Thompson D.W., El-Boubbou K., Ghaddar T.

0801 *Breaking Single-Crystal and Ultrananocrystalline Diamond* **Paci J.T.**, Belytschko T., Schatz G.C.

0802 *Standard Partial Molar Volumes of Aqueous Cyclic Amines at Temperatures up to 350 °C* **Bulemela E.**, Tremaine P.

0803 *Substituent Effects on Dynamics at Conical Intersections:  $\alpha,\beta$ -Enones* **Lee A.M.D.**, Ullrich S., Ho M.-L., Lee S.-J., Cheng B.-M., Shaffer J.P., Zgierski M.Z., Chen I.-C., Stolow A.

0804 *Intramolecular Excited State Dynamics in Bichromophoric Coumarin-Naphthol Molecular Assemblies* **Kendall J.**, Inder P., Edwards M., Giddings S., Myron B.D., Merschrod S. E.F., Bodwell G.J., **Thompson D.W.**

0805 *High Resolution Visible Laser Spectroscopy of Strontium Monomethoxide* **Adam A.G.**, Hopkins W.S., Linton C., Read A.G., Tokaryk D.W.

0806 *Investigating Hydrocarbon Reactivity with Oxidized Si (111)* **Mischki T.K.**, Donkers R.L., Eves B.J., Lopinski G.P., Wayner D.D.M.

0807 *High Resolution Laser Spectroscopy of Rhodium Monophosphide* **Adam A.G.**, Slaney M.E., Downie L.E., Li R., Balfour W.J.

0808 *The Interference of Anions with ESIPT in 2,5-Bis-(1H-benzimidazol-2-yl)-benzene-1,4-diol* **El-Dali A.A.**, Li H., Thompson D.W.

0809 *X-ray Photoelectron Spectroscopy of Modified Polymer Substrates* **Goel V.**, Oleschuk R.D., Horton J.H.

0810 *UV-A Photochemistry of the Pesticide Azinphos-Methyl* **Yeasmin L.**, Wagner B.D.

## Tuesday AM

### CIC Medal Lecture

#### CICML CC-Port Royal C1

### CIC Medal Lecture

Organizer(s) - Jan Kwak  
Chair(s) - Bernard West

### CIC Medal Lecture presented by Ronald Kluger

Introduction of Ronald Kluger by Peter Guthrie

**11:25** 0811 *Molecular Keystones: Lessons from Bioorganic Reaction Mechanisms* **Kluger† R.**

**12:20** End of Session

## Analytical Chemistry Division

**AN2 CC-Highland 6**

**Analytical Separations**

Organizer(s) - Kevin Thurbide  
Chair(s) - Kevin Thurbide, Charles Lucy

**08:00 0812** *Fishing for Ligands Using Affinity Chromatography and Negative Peak Chromatography: The Online Screening of Tobacco Smoke Condensates* **Wainer† I.W.**, Maciuk A., Moaddel R., Jozwiak K., Haginaka J.

**08:40 0813** *An Improved Design for Multidimensional Separation of Intact Proteins through Parallel Liquid Chromatography* **Wall M.**, Doucette A.A.

**09:00 0814** *Applications of High Resolution Separation Techniques for the Assessment of Biopharmaceuticals in a Regulatory Context* **Girard M.**, Lorbetskie B., Boucher S., Joly M.-A., Kane A., Garcia-Cañas V.

**09:20 Coffee Break**

**10:00 0815** *Solid Phase Microextraction (SPME): A Promising Method for Overcoming Matrix Effects in the Determination of Antibiotics in Wastewater* **Balakrishnan V.K.**, Toito J., Worfolk B., Thomas A., Crowe A.S.

**10:20 0816** *Molecularly Imprinted Polymer Encapsulated Carbon Nanotubes for Selective Micro Solid Phase Extraction in Biochemical Analysis* **Lai† E.P.C.**, Yu J.C.C., Hinda A., Wei H.Y., Salman M.

**10:40 0817** *Analysis of Polar Water-Borne Pollutants Using Micellar Electrokinetic Chromatography and other Capillary Electrophoresis Techniques* **Bottaro C.S.**, Drover V.J., Van Biesen G.

**11:00 0818** *Fluorescence Imaging of Sample Zone Narrowing and Dispersion in a Glass Microchip: The Effects of Organic Solvent (Acetonitrile)-Salt Mixtures and Surfactant Micelles* **Jia Z.J.**, Lee Y.K., Fang Q., **Huie† C.W.**

**11:20** End of Session

**REMINDER**

**11:25** CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

**AN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with EN) (joint with EN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - William Marshall, Murray McBride

**08:00 0819** *The Importance of Phytochelatins for the Uptake and Translocation of Arsenic in Plants by Using Simultaneous Dual Mass Spectrometry* **Feldmann† J.**, Raab A.

**08:40 0820** *Metal Binding to Natural Organic Matter Determined Using Spectral Resolution of Fluorescence Data and Implications for Toxicity Prediction* **Smith† D.S.**, Fischer K., Playle R.C.

**09:00 0821** *Sorption of Cadmium and Nickel by Modified Peat* **Srinivas P.B.T.**, **Gogan N.J.**, Martin A.M.

**09:20 0822** *Complexation of Ni, Cu, Zn, and Cd by DOC in Some Metal-Impacted Freshwater Lakes: A Comparison of Approaches Using Electrochemical Determination of Free-Metal Ion and Labile Complexes and a Speciation Model, WHAM V and VI* **Guthrie† J.W.**, Hassan N.M., Salam M.S.A., Fasfous I.I., Murimboh C.A., Murimboh J.D., Chakrabarti C.L., Grégoire D.C.

**09:40 Coffee Break**

**10:00 0823** *Multi-Dimensional Water Chemistry of a Drinking Water Lake* **Spiers† G.A.**, Lock A., Prevost F., Maki T., Roth T.

**10:40 0824** *Overview of Techniques Applied to Determine the "Native" Speciation of Selected Radionuclides in a Contaminated Area at Chalk River, Ontario* **Caron† F.**, Simister C., Laurin S.C., Jacques C., Mankarios G., Scott A.

**11:00 0825** *Ion-Exchange Technique for Determination of Nickel Free-Metal Ion Concentrations in Freshwaters* **Gopalapillai† Y.**, Chakraborty P., Al-Fasfous I.I., Chakrabarti C.L.

**11:20** End of Session

**REMINDER**

**11:25** CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

**AN5 CC-Highland 11**

**Electrochemistry at the Edge (Joint with PT) (joint with PT5)**

Organizer(s) - Sharon Roscoe and Vlad Zamlyny  
Chair(s) - Daniel Guay, Mario Morin

**08:20 0826** *Selective Electrodeposition of Metal Films and Wires on Tantalum Oxide* **Kruse P.**, El-Sayed H.

**08:40 0827** *Hot Ultramicroelectrodes: Voltammetric Studies* **Boika A.**, Baranski A.S.

**09:00 0828** *Mechanism and Kinetics of the Electrochemical Reduction of Hydrogen Peroxide on Chemically-Doped Uranium Dioxide* **Shoesmith† D.W.**, Goldik J.S., Noël J.J.

**09:40 Coffee Break**

**10:00 0829** *Mapping Metal/Solution Interfaces with Confocal Raman Microspectroscopy: From Localized Corrosion Processes to Mapping the SERS Signal from an Ag Electrode* **Odziemkowski† M.S.**

**10:20 0830** *Crevice Corrosion of Grade-12 Titanium* **Noël† J.J.**, He X., Shoesmith D.W.

**10:40 0831** *An Electrochemical Interface to Mass Spectrometry: An Analytical Tool for Electrocatalysis* **Brisard† G.M.**, Dube P., Jiang T.

**11:00 0832** *High Frequency Faradaic Rectification Voltammetry at Microelectrodes* **Baranski† A.S.**, Diakowski P.M.

**11:20** End of Session

**REMINDER**

**11:25** CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

**AN7 CC-Highland 10**

**New Applications in Microscopy and Microspectroscopy (Joint with PT) (joint with PT8)**

Organizer(s) - Mark McDermott, Antonella Badia and Tanya Dahms  
Chair(s) - Antonella Badia

**08:20 0833** *Electrochemical Patch Pipets and their Use to Study Quinone Related Oxidative Stress in Cells* **Mauzeroll† J.**

**08:40 0834** *New Image Correlation Spectroscopy Methods for Measuring Protein Transport and Interactions in Living Cells* **Wiseman† P.W.**, Kolin D.L., Hebert B.

**09:20 0835** *Blood Vessel Occlusion Using Two-Photon Excitation Photodynamic Therapy* **Samkoe K.S.**, Cramb D.T.

**09:40 Coffee Break**

**10:00 0836** *Total Internal Reflection Fluorescence Microscopy: Challenges and Prospects* **Yip† C.M.**

**10:20 0837** *Surface Plasmon Resonance Investigations of Biointerfaces and Biomaterials Using Planar Surfaces* **Ryan† T.E.**

**10:40 0838** *Surface Plasmon Resonance Imaging of Protein-Carbohydrate Interactions* **McDermott† M.T.**, Grant C., Kanda V., Bundle D.R., Kitov P.

**11:00 0839** *Measurements of Biomolecular Interactions by Diffraction-Based Sensing and Atomic Force Microscopy* **Goh† M.C.**

**11:20** End of Session

**REMINDER**

**11:25** CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

**Biological and Medicinal Chemistry Division**

**BM6 CC-Mariner 1**

### Modern Advances in Protein Engineering

Organizer(s) - Drew Woolley  
Chair(s) - Drew Woolley

08:20 0840 *Intein-Based Protein Engineering for Structural Biology* Iwai† H.

09:00 0841 *New Chemical Tools for Covalent Protein Modification* Francis† M.B.

09:40 Coffee Break

10:00 0842 *Engineering and Evolution of Enzymes for Glycoside Synthesis: Glycosynthases, Thioglycoligases and Glycosyl Transferases* Wither† S.G., Warren R.A.J., Aharoni A., Kim Y.-W., Muelleger J., Vaughan M.

10:40 0843 *Development of Fluorescent Sensors for the Glycosaminoglycans* Nitz† M., Saucedo J.

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### BM8 CC-Highland 8

#### NMR of Biological Molecules (Joint with OR and PT) (joint with PT9)

Organizer(s) - David Jakeman  
Chair(s) - David Jakeman

08:20 0844 *STD-NMR/Molecular Modeling Protocol for Probing the Conformations of Ligands Bound to Enzymes* Pinto B.M.

09:00 0845 *Structural Characterization of Post-Translationally Modified Fusion Associated Small Transmembrane Proteins by NMR* Syvitski R., Duncan R., Jakeman D.L.

09:20 0846 *How do Dividing Bacteria Find the Middle? Insights from Solution NMR Studies of the Bacterial Cell Division Protein MinE* Goto N.K., Ducat T., Ramos D.

09:40 Coffee Break

10:00 0847 *Mechanism of Protein Ubiquitination by Human Ubc13-UEV Protein Complexes* Spyropoulos L., Lewis M.J., Hau D.D.

10:20 0848 *Structural and Dynamical Basis for the cyclic AMP Signal Transduction in PKA by NMR* Das R., Abu-Abed M., Esposito V., Taylor S.S., Melacini G.

10:40 0849 *NMR Methods for Studies of Large Proteins and their Application to Problems of Protein Biosynthesis* Wagner† G., Frueh D., Sun Z.-Y.J., Arthanari H., Moerke N., Reibarkh M., Oberer M., Marintchev A.

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### Chemical Education Division

### CE4 CC-Mariner 3

#### Teaching Environmental and Green Chemistry (Joint with EN) (joint with EN6)

Organizer(s) - Colin Baird  
Chair(s) - Colin Baird

08:20 0850 *"Greening-Up" Organic Reactivity in the Undergraduate Laboratory: Aqueous Horner-Wadsworth-Emmons, Suzuki and Heck Reactions* Dicks A.P.

08:40 0851 *Solid-State Reactions in Undergraduate Organic Chemistry: Applying the Principles of Green Chemistry* Abhyankar S.

09:00 0852 *Greening the Chemistry Lecture Curriculum* Cann† M.C.

09:40 Coffee Break

10:00 0853 *On the Use of Green Metrics in the Undergraduate Organic Chemistry Practicum to Assess Material Efficiencies of Organic Reactions* Andraos J., Sayed M.

10:20 0854 *Sustainability: Its Place in an Academic Curriculum* vanLoon† G.W.

11:00 0855 *Teaching Environmental Chemistry. Are Case Studies the Way to Go?* Baird C.

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### CE7 CC-CornwallisDraped

#### Women in Chemistry

Organizer(s) - Geoff Rayner-Canham  
Chair(s) - Doreen Churchill

08:00 0856 *Problems Women in Chemistry Face around the World* Nalley† E.A.

08:40 0857 *Women in Science and Engineering: Challenges and Opportunities* Moloney† C.R.

09:20 0858 *Margaret Benston (1937-1991): A Tribute* Gay† H., Balka† E.

09:40 Coffee Break

10:00 0859 *Pioneering British Women Chemists: Why So Many?* Rayner-Canham† M.F., Rayner-Canham† G.W.

10:20 0860 *Marguerite Perey - Marie Curie's Mentee* Hayes† J.M., Perez† P.L.

10:40 0861 *The History of African American Women Chemists Project* Brown† J.E.

11:00 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### Environment Division

### EN2 CC-CornwallisSuite

#### Atmospheric Chemistry: A Canadian Perspective (Joint with PT) (joint with PT2)

Organizer(s) - John Roscoe  
Chair(s) - John Roscoe

09:00 0862 *Air Quality Field Studies in Canada: Recent Findings and Future Challenges* Brook† J.R.

09:40 Coffee Break

10:00 0863 *The Saturna Island Study: Spectroscopic Analysis of Polluted Marine Air Masses* McLaren† R., Halla J., Majonis D., McCourt J.

10:20 0864 *Computational Evidence of the Origin of the Non-Arrhenius Temperature Dependence of some Atmospheric Reactions* Chan W.-T., Goddard J.D.

10:40 0865 *An ab initio Study of Electron Attachment to HOCl and ClONO<sub>2</sub>* Li X., Sanche L., Rauk A., Armstrong D.A.

11:00 0866 *Dissolved Organic Carbon in Surface Ocean Waters: Exploring Relationships to Volatile Organic Compounds in the Marine Troposphere* Hudson E.D., Ariya P.A.

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### EN3 DH-Baronet 4,5

#### Biogeochemistry of Trace Metals in the Environment (Joint with AN) (joint with AN3)

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - William Marshall, Murray McBride

08:00 Joint with Analytical Chemistry Division - See AN3

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

**EN6 CC-Mariner 3**

**Teaching Environmental and Green Chemistry (Joint with CE) (joint with CE4)**

Organizer(s) - Colin Baird  
Chair(s) - Colin Baird

**08:20** Joint with the Chemical Education Division - See CE 4

**11:20** End of Session

**REMINDER**

**11:25** CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

**Inorganic Chemistry Division**

**IN1 CC-Mariner 2**

**Inorganic Solid State Chemistry (Joint with MT) (joint with MT4)**

Organizer(s) - Mario Bieringer and Arthur Mar  
Chair(s) - Mario Bieringer

**08:00** 0867 *NMR Study of Silicon Oxyfluoride Glasses* **Karpukhina N.G.**, Zwanziger J.W., Werner-Zwanziger U., Kiprianov A.A.

**08:20** 0868 *Probing the Self-Assembly Process of Microporous Materials by Solid-State NMR Spectroscopy* Chen B., Yan Z., Kirby C.W., **Huang† Y.**

**09:00** 0869  *$\beta$  Detected NMR: A New Probe of the Electronic and Magnetic Properties of Thin Solid Films* **MacFarlane† W.A.**, Chow K.H., Song Q., Dong W., Hossain M.D., Keeler T., Kiefl R.F., Kreitzman S.R., Levy C.D.P., Morris G.D., Parolin T.J., Chu R., Saadaoui H.X., Salman Z., Valiani J.

**09:40** Coffee Break

**10:00** 0870 *Novel Intercalation Compounds of Molybdenum Diselenide* **Bissessur R.**, Xu H.

**10:20** 0871 *Acidic Properties and Catalytic Activities of Mesoporous Niobium Oxides by the Benzoylation of Anisole and Toluene with Benzyl Alcohol* **Rao Y.**, Antonelli D.M.

**10:40** 0872 *Solution Phase Synthesis of Nanoparticles of Complex Metal Oxides* **Gates B.D.**, Wood B.D., Shafiee N.M.

**11:00** 0873 *Synthesis and Characterization of ME and MME [M = Zn, Cd, Hg; E = S, Se, Te] Nanomaterials in MCM-41 and SBA-15 Using Silylated-Chalcogen Reagents* **Turner E.A.**, Huang Y., Corrigan J.F.

**11:20** End of Session

**REMINDER**

**11:25** CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

**IN2 CC-Port Royal C2**

**Ligand Design in Transition Metal Chemistry**

Organizer(s) - Mark Stradiotto  
Chair(s) - Samuel Johnson

**08:00** 0874 *New Pyrrole-Based Ligands for Ethylene Trimerization* **Gambarotta† S.**

**08:20** 0875 *The Discovery and Development of New Stereospecific Polypropylene Polymerization Catalysts Using High-Throughput Techniques* Diamond G.M., LaPointe A.M., Leclerc M.K., Longmire J.M., Murphy V., **Shoemaker J.A.W.**, Turner H.

**08:40** 0876 *New Generation  $\beta$ -Diketiminato Ligands for Group 3 Organometallic Compounds with a Reduced Proclivity to Metallate* **Piers† W.E.**, Ross J.A., Knight L.K., Kenward A.L., Parvez M., McDonald R.

**09:00** 0877 *Complexes of Amine-Bis(phenolate)-Donor Ligands: From Structural Diversity to Reactivity* **Kozak C.M.**, Roychowdhury R., Kerfou F.M.

**09:20** 0878 *New Hemi-Labile Ligands in Early and Late Transition Metal Chemistry* **Stephan† D.W.**, Ghesner I., Das A., Geier S., Dureen M., Yadav K.

**09:40** Coffee Break

**10:20** 0879 *Gold and Silver Complexes as Homogeneous Catalysts for Transformations Involving E-H Bonds* **Wile B.M.**, Stradiotto M.

**10:40** 0880 *Ruthenium Trihydrides with N-Heterocyclic Carbene Ligands: Effects on Quantum Mechanical Exchange Coupling* Jones A.L., **McGrady† G.S.**, Sirsch P., Steed J.W.

**11:00** 0881 *Design and Synthesis of a Carbene Ligand and Applications in Transition Metal Chemistry* **Richeson† D.S.**, Bazinet P., Ong T.-G., Lavoie N., O'Brien J.S., Yap G.P.A., Perron E.

**11:20** End of Session

**REMINDER**

**11:25** CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

**IN3 CC-Mariner 5**

**Macromolecular and Supramolecular Chemistry (Joint with MS and OR) (joint with OR4)**

Organizer(s) - Bruce Grindley  
Chair(s) - Steve Loeb

**08:40** 0882 *Interactions of Well-Defined, Pyrene-Functionalized Block Copolymers with Single-Walled Carbon Nanotubes* Bahun G.J., **Aronov A.**

**09:00** 0883 *Synthesis and Characterization of Periodic Mesoporous Organosilicas with Substituted Biphenyls* **MacQuarrie S.L.**, Crudden C.M., Montoya-Pelaez P.J., Blanc A.C., Uh Y.S., Lata C.

**09:20** 0884 *Design and Synthesis of Photoactive Supramolecular Complexes Based on Coordination-Driven Self-Assembly* **Georgiev I.G.**, MacGillivray L.R.

**09:40** Coffee Break

**10:00** 0885 *Metal-Organic Nanostructures as Building Blocks and Functional Materials* **McManus G.J.**, Zaworotko M.J.

**10:20** 0886 *The Effect of Alkoxy and Aryloxy Pendant Groups on the Superstructural Diversity Found in Metal-Organic Frameworks* **Perry IV J.J.**, Zaworotko M.J.

**10:40** 0887 *Design of Single-Crystal-to-Single-Crystal Reactivity of Multicomponent Supramolecular Assemblies via Crystal Size Control* **Bucar D.-K.**, MacGillivray L.R.

**11:00** 0888 *Conversion of Helical Mononuclear Complexes to Tetranuclear Metallomacrocycles* **Hanan G.S.**, Medlycott E.A.

**11:20** End of Session

**REMINDER**

**11:25** CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

**IN7 CC-Highland 7**

**General**

Organizer(s) - Neil Burford  
Chair(s) - Glen Briand

**08:00** 0889 *New Synthetically Useful Indium(I) Reagents: Syntheses and Reactivities* **Andrews C.G.**, Cooper B.F.T., Corrente A.M., Macdonald C.L.B.

**08:20** 0890 *Silver-Cyclic Dimethylsiloxane Complexes:  $Ag^+$  Cation Catalyzed Ring Transformation* **Wang X.**, Decken A., LeBlanc F., Passmore\* J.

**08:40** 0891 *Living Anionic Polymerization of P=C Bonds* **Noonan K.J.T.**, Gates D.P.

**09:00** 0892 *Synthesis, Thermolysis and Deposition of Volatile Group 13 Precursors* **Kenney A.P.**, Wang Z.H., Brazeau A.L., Barry\* S.T.

**09:20** 0893 *New Developments in Fundamental Phosphorus Chemistry: Linear catena-Polyphosphorus Cations* **Dyker C.A.**, Buford N., Decken A., Lumsden M.

**09:40** Coffee Break

**10:00** 0894 *Transition Metal Complexes of Cyclopentadienylidene Ylides* **Brownie J.H.**, Baird M.C.

10:20 0895 *En route to the Construction of Non-Disjoint Thiazyl Based Biradicals Originating from Quinones* Mailman A., Passmore J.

10:40 0896 *Identification and Isolation of Intermediates in the Lewis Acid Induced Ring Expansion of Cyclopropylazanes to the Corresponding Cyclopropylidazanes* Burford N., Landry J.C.

11:00 0897 *An Anionic Six-Membered N-Heterocyclic Carbene with an Inorganic Backbone* Krahulic K.E., Forster T.D.K., Roesler R., Parvez M., McDonald R.

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C2

### Macromolecular Science and Engineering Division

#### MS2 CC-Mariner 5

### Macromolecular and Supramolecular Chemistry (Joint with IN and OR)

Organizer(s) - Bruce Grindley  
Chair(s) - Steve Loeb

08:20 Joint with Inorganic Chemistry and Organic Chemistry Divisions - See IN3

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### Materials Chemistry Division

#### MT2 DH-Baronet 1,2,3

### Energy Storage and Conversion (Joint with PT) (joint with PT6)

Organizer(s) - Josef Zwanziger, Mary Anne White and Jeff Dahn  
Chair(s) - Brad Easton

08:20 0898 *Applications of <sup>1</sup>H NMR Microscopy to Investigate Operating Proton-Exchange Membrane Fuel Cells* Feindel K.W., Bergens S.H., Starke D., Wasylishen R.E.

09:00 0899 *Contrasting the Mechanism of Proton Conduction in Benzimidazole and Imidazole Based Materials* Traer J.W., Goward G.R.

09:20 0900 *Fundamental Materials Aspects of Fuel Cells and Solid State Lithium Batteries* Thangadurai V.

09:40 Coffee Break

10:00 0901 *Unraveling Structure and Dynamics in Proton-Conducting Materials* Ye G., Traer J.W., Goward G.R.

10:40 0902 *The Development of Proton Conducting Silica Sol-Gels for Fuel Cells* Aylward W.M., Pickup P.G.

11:00 0903 *Molecular Dynamics Simulations of Hydrogen Storage in Clathrate Hydrates* Alavi S., Ripmeester J.A., Klug D.D.

11:20 Coffee Break

### REMINDER

11:45 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

#### MT4 CC-Mariner 2

### Inorganic Solid State Chemistry (Joint with IN) (joint with IN1)

Organizer(s) - Mario Bieringer and Arthur Mar  
Chair(s) - Mario Bieringer

08:00 Joint with the Inorganic Chemistry Division - See IN1

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### Organic Chemistry Division

#### OR4 CC-Mariner 5

### Macromolecular and Supramolecular Chemistry (Joint with IN and MS) (joint with IN3)

Organizer(s) - Bruce Grindley  
Chair(s) - Steve Loeb

08:20 Joint with Inorganic Chemistry and Macromolecular Science and Engineering Divisions - See IN3

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

#### OR6 CC-Highland 8

### NMR of Biological Molecules (Joint with BM and PT)

Organizer(s) - David Jakeman  
Chair(s) - David Jakeman

08:20 Joint with Biological and Medicinal Chemistry and Physical Chemistry Divisions - See BM8

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

#### OR8 CC-Mariner 4

### Organic Reaction Mechanisms

Organizer(s) - James Pincock and Frances Cozens  
Chair(s) - Matt Lukeman

08:40 0904 *The p-Hydroxyphenacyl Chromophore: An Efficient, Highly Versatile Platform for Photoremoveable Protecting Groups* Givens R., Stensrud K., Cope E., Senadheera S., Perera C., Yousef A., Ma C., Yang S.

09:20 0905 *Intramolecular Charge-Transfer Excited States in the Photochemistry of Methoxy-Substituted Stilbene Derivatives* Roberts J.C., DeCosta D.P., Pincock A.L., Pincock J.A.

09:40 Coffee Break

10:00 0906 *Mechanistic Aspects of the Formation of Iminoxyl Radicals and Nitriles in the Photosensitized Reactions of Aldoximes* Hsu S., Hunter J.W., Marquez B.V., Rangel N.A., Sanguantrakun N., de Lijser H.J.P.

10:20 0907 *Nanosecond Time-Resolved IR Studies of Carbonyl Nitrenes* Toscano J.P.

11:00 0908 *Influence of Alkali Metal Cation on the Distance of Electron Migration in Zeolite Y* Cozens F.L., Keirstead A.E.

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

#### OR10 CC-Port Royal C1

### Recent Advances in Organic Synthesis

Organizer(s) - Jean Burnell and Ian Pottie  
Chair(s) - David MaGee

08:00 0909 *Asymmetric Allylboration of Cyclic Imines Using 3,3'-Disubstitutedbinaphthol-Modified Boronates and an Enantioselective Synthesis of (-)-Corynantheidol* Wu T.R., Chong J.M.

08:20 0910 *Stereoselective Construction of Quaternary Centers Employing a Radical-Based Reaction from Acyclic Precursors* Cardinal-David B., Duplessis M., Guindon Y.

08:40 0911 *Natural Product Synthesis* Clive D.L.J.

09:20 0912 *In-Situ Generated Iodonium Ylides: Carbene Transfer, the Formation of Cyclic Ylides, and Their Subsequent Rearrangements* **Murphy G.K.**, West F.G.

09:40 Coffee Break

10:00 0913 *Catalytic Enantioselective and Catalyst-Controlled Diastereofacial-Selective Additions of Allyl- and Crotylboronates to Aldehydes Promoted by Chiral Brønsted Acid* **Rauniyar V.**, Hall D.G.

10:20 0914 *Synthesis of Biologically Active Natural Products* **Snider† B.B.**

11:00 0915 *New Direct Arylation Reactions for the Synthesis of Biaryl Molecules* **Fagnou K.**

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### Physical, Theoretical and Computational Division

### PT1 CC-Highland 9

**Ab initio Methods: Orbital and Plane Wave Methods**

Organizer(s) - Russell Boyd and Josef Zwanziger  
Chair(s) - Ajit Thakkar

08:20 0916 *Addition by Subtraction in Coupled-Cluster Theory: The nCC Hierarchy* **Bartlett† R.J.**, Musial M.

09:00 0917 *The Curvature and Extent of the Conical Intersection Seam: Implications for Photochemistry* **Robb† M.A.**

09:40 Coffee Break

10:00 0918 *On the Existence and Lifetimes of Complexes between Neutral Systems and Dications* **Yáñez† M.**, Palacios A., Corral I., Martín F., Mó O., Maksic Z.B.

10:20 0919 *Theoretical Studies of the Conformations and <sup>19</sup>F NMR Spectra for Perfluoro-Octanesulfonates (PFOS) and Perfluoro-Octanesulfonamides (PFOSamides).* Liu P., **Goddard† J.D.**

10:40 0920 *Effects of Confinement on Molecular Structure, Spectra, and Reactivity* **Klobukowski† M.**, Lo J.M.H., Kadosh J.S.

11:00 0921 *Calculation of MCD Spectra of Low-Symmetry Species with TDDFT* **Seth M.**, Ziegler T.

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### PT2 CC-CornwallisSuite

**Atmospheric Chemistry: A Canadian Perspective (Joint with EN) (joint with EN2)**

Organizer(s) - John Roscoe  
Chair(s) - Jochen Rudolph

09:00 Joint with the Environment Division - See EN2

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### PT5 CC-Highland 11

**Electrochemistry at the Edge (Joint with AN) (joint with AN5)**

Organizer(s) - Sharon Roscoe and Vlad Zamlenny  
Chair(s) - Daniel Guay, Mario Morin

08:20 Joint with Analytical Chemistry Division - See AN5

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### PT6 DH-Baronet 1,2,3

**Energy Storage and Conversion (Joint with MT) (joint with MT2)**

Organizer(s) - Josef Zwanziger, Mary Anne White and Jeff Dahn  
Chair(s) - Brad Easton

08:20 Joint with Materials Chemistry Division - See MT2

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### PT8 CC-Highland 10

**New Applications in Microscopy and Microspectroscopy (Joint with AN) (joint with AN7)**

Organizer(s) - Mark McDermott, Antonella Badia and Tanya Dahms  
Chair(s) - Antonella Badia

08:20 Joint with Analytical Chemistry Division - See AN7

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### PT9 CC-Highland 8

**NMR of Biological Molecules (Joint with BM and OR) (joint with BM8)**

Organizer(s) - David Jakeman  
Chair(s) - David Jakeman

08:20 Joint with Biological and Medicinal Chemistry and Organic Chemistry Divisions - See BM8

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by Ronald Kluger in CC-Port Royal C1

### PT12 DH-Baronet 6

**General**

Organizer(s) - Josef Zwanziger  
Chair(s) - Josef Zwanziger

08:00 0922 *Nonlinear Dynamics in the Electrochemical Oxidation of 1,4-Hydroquinone* **Harati M.**, Wang J.

08:20 0923 *Computational Study of the Deamination Reaction of Cytosine with H<sub>2</sub>O and OH<sup>-</sup>* **Almatarneh M.**, Flinn C., Poirier R.A.

08:40 0924 *The Mechanical Properties of Single-Crystal and Ultrananocrystalline Diamond: A Theoretical Study* **Paci J.T.**, Belytschko T., Schatz G.C.

09:00 0925 *The Influence of SO<sub>4</sub><sup>2-</sup> and S<sub>2</sub>O<sub>3</sub><sup>2-</sup> on the Optical Luminescence of Tb<sup>3+</sup> in Aqueous Solution* **Jurgensen A.**, Heigl F., Sham T.K.

09:20 0926 *Spectroscopic Ellipsometry Applied to Electrogenerated Cobalt Oxide Films* **Gallant D.**, Pézolet M., Simard S.

09:40 Coffee Break

10:00 0927 *Nuclear Magnetic Resonance Spectroscopy of Solid Paramagnetic Metal Acetylacetonates* **Sidhu P.S.**, Aguiar P.M., Kroecker S.

10:20 0928 *Experimental and ab initio Dipole Moment Derivatives of Benzene in the Liquid and Gas Phases* **Keefe C.D.**

10:40 0929 *Novel Interface of Laser and Muon Spin Spectroscopy: Applications in Studies of Radiation Chemistry, Free Radical Reaction Dynamics and Green Chemistry* **Ghandi K.**

11:00 0930 *Molecular Dynamic Studies of Heterogeneous Crystal Growth of *s*l Methane-Hydrate* **Vatamanu J.**, Kusalik P.G.

11:20 End of Session

### REMINDER

11:25 CIC Medal Lecture presented by  
Ronald Kluger in CC-Port Royal C1

Tuesday PM

Analytical Chemistry Division

AN2 CC-Highland 6

Analytical Separations

Organizer(s) - Kevin Thurbide  
Chair(s) - Kevin Thurbide, Charles Lucy

13:40 0931 *HPLC Using Columns Packed with <2 μm Particle Size and/or Monoliths for Faster Analysis* **Colonn† L.A.**, Zhang X., Li L., Brice R.W., Anspach J.A.

14:20 0932 *Evaluation of the Utility of Using a Mathematical Model for the Characterization of HPLC Stationary Phases for the Development of Orthogonal Separations* **Tolli N.P.**, Skibic M., Well K.A., Snyder L.R., Dolan J.W., Biswas K.

14:40 0933 *Recent Developments in Fast Ion Chromatography* **Lucy C.A.**, Pelletier S.

15:00 Coffee Break

15:20 0934 *Investigation of Isomer Specific Capillary Columns for Fast Analysis of PAH and PCDD Using GC and GC/MS* **Britten A.**, Naikwadi K.

15:40 0935 *Analysis of Alkyl PAHs Present in Heavy Gas Oil Fractions Using Reverse Phase HPLC Coupled to Fluorescence and Diode Array Detectors* **Saravanabhavan G.**, **Brown R.S.**

Analytical Chemistry Division Graduate Student Award in Honour of Douglas E. Ryan

Introduction of Richard Paproski by Nick Tolli

16:00 0936 *Supercritical Fluid Chromatography and High Temperature Liquid Chromatography for Separating Diesel Fuels and Gas Oils According to Hydrocarbon Group-Type* **Paproski R.E.**, Cooley J., Lucy C.A.

16:20 0937 *Universal Acoustic Flame Detection for Microcolumn LC and SFC* **Thurbide K.B.**, Xia D.

16:40 End of Session

AN3 DH-Baronet 4,5

Biogeochemistry of Trace Metals in the Environment (Joint with EN) (joint with EN3)

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Chris Le, Julia Lu

13:40 0938 *Cd and Zn Dissolution during Oxidation of Zn-Cd Sulfide Solid Solutions* **McBride† M.B.**, Barrett K.A.

14:20 0939 *Surface Complexation Modeling of Heavy Metal Adsorption by Clay Minerals* **Gu X.**, **Evans† L.J.**

15:00 Coffee Break

15:20 0940 *The Seleno-bis(S-glutathionyl) Arsenium Ion is Assembled in Erythrocyte Lysate* **Manley S.A.**, **George G.N.**, **Pickering I.J.**, **Glass R.S.**, **Prenner E.J.**, **Yamdagni R.**, **Qiao W.**, **Gailer† J.**

15:40 0941 *Environment Canada's Risk Assessment Priorities for Metal-Containing Substances* **Couillard† Y.**, **Eggleton M.**, **Gauthier J.**, **Goulet R.**, **Costa P.**, **Doyle P.**

16:00 0942 *Comparison of Copper Complexation in Effluents, Natural Waters and Mixtures Using Differential Pulse Anodic Stripping Voltammetry (DPASV) and Windermere Humic Aqueous Model (WHAM) VI Prediction* **Wang R.**, **Fasfous I.I.**, **Chakrabarti C.L.**

16:20 End of Session

AN5 CC-Highland 11

Electrochemistry at the Edge (Joint with PT) (joint with PT5)

Organizer(s) - Sharon Roscoe and Vlad Zamlynnny  
Chair(s) - Mark Workentin, Benoît Marsan

13:40 0943 *Ab initio Investigation of the Oxygen Reduction Reaction (ORR) on Platinum and Palladium-Alloy Catalysts* **Savadogo† O.**, **Fouda-Onama F.**

14:00 0944 *Synthesis and Electrochemical Study of Pt and Pt-Ru Nanomaterials* **Koczur K.**, **Yi Q.**, **Peng X.**, **Chen A.**

14:20 0945 *Electrochemical Synthesis of Diamond-Like Carbon Films* **Sirk A.H.C.**, **Sadoway D.R.**

14:40 0946 *Detection of Electrochemical Reactions in Microscale on Ti Alloys Surface by Scanning Electrochemical Microscopy (SECM)* **Zhu R.**, **Nowierski C.**, **Ding Z.F.**, **Noël J.J.**, **Shoosmith D.W.**

15:00 Coffee Break

15:20 0947 *Phase-Selective Electrochemical Deposition of Calcium Phosphate Thin Films* **Huelin S.D.**, **Merschrod S. E.F.**, **Poduska K.M.**

15:40 0948 *Templated Electrochemical Deposition of Zirconia Thin Films on Micro-Patterned Substrate Surfaces* **Soolaman D.M.**, **Yu H.Z.**

16:00 0949 *Electrochemical Study of the Reaction Kinetics of Iodine with Silver* **Stewart S.D.**, **Zhang X.**, **Shoosmith D.W.**, **Wren J.C.**

16:20 0950 *Competitive Equilibria in the Cryptate Series of Ag<sup>+</sup>, Pb<sup>2+</sup>, Cd<sup>2+</sup>, Cu<sup>2+</sup> Cations with Hezaoxa-Diazabicyclohexacosan (2.2.2). Analytical Applications by Competitive Potentiometry* **Luca C.**, **Badescu V.R.**

16:40 End of Session

AN7 CC-Highland 10

New Applications in Microscopy and Microspectroscopy (Joint with PT) (joint with PT8)

Organizer(s) - Mark McDermott, Antonella Badia and Tanya Dahms  
Chair(s) - Mark McDermott

REMINDER

13:40 **Clara Benson Award Lecture presented by Françoise Winnik in DH-Baronet 1,2,3**

14:20 0951 *Protein-Lipid Interactions between Colicin E1 Toxin and E. coli Total Lipid Monolayer and Bilayer Surfaces* **Dahms† T.E.S.**, **Tian C.**, **Tetreault E.**, **Huang C.K.**

14:40 0952 *Surfactant Assembly onto Electrochemically Switchable Monolayers* **Badia† A.**, **Norman L.**

15:00 Coffee Break

15:20 0953 *Using Arrays of Sub-Wavelength Holes in Metal Films as Substrates for Enhanced Microspectroscopy* **Brolo A.G.**

15:40 0954 *Fabrication of Stable Bimetallic Nanostructures on Nafion Membranes. SERS Characterization and Applications* **Aroca R.F.**, **Alvarez-Puebla R.**, **Nazri G.A.**

16:00 0955 *Recent Results from Fluorescence Correlation Spectroscopy of Quantum Dots: Dynamics in the Millisecond Time Domain* **Heuff R.H.**, **Swift J.L.**, **Shamrakov L.G.**, **Cramb† D.T.**

16:20 0956 *A Single-Shot Measurement of the Capillary Pressure in Porous Media Using a Single-Speed Centrifuge and Magnetic Resonance Imaging* **Chen Q.**, **Balcom B.**, **Green D.**

16:40 End of Session

Biological and Medicinal Chemistry Division

BM1 CC-Highland 8

Advances in Nucleic Acid Chemistry

Organizer(s) - Dipankar Sen and Yingfu Li  
Chair(s) - Yingfu Li

13:40 0957 *Understanding RNA Folding Mechanisms Using the Candida Group I Ribozyme as a Model* **Zhang† Y.**, **Xiao M.**, **Zhang L.**, **Jiang Y.-F.**, **Li Z.**

14:00 0958 *RNA Conformational Dynamics in Riboswitch Function* **O'Neill† M.A.**

14:20 0959 *A Man-Made Riboswitch Improving Nucleic Acid Enzymes for Functional Genomics* **Perreault† J.P.**, **Brière F.P.**, **Lévesques D.**, **Landry P.**

**14:40 0960** *A General RNA-Capping Ribozyme Retains Stereochemistry during Cap Formation* Zaher H.S., Watkins R.A., **Unrau† P.J.**

**15:00 Coffee Break**

Chair(s) - Dipankar Sen

**15:20 0961** *The Flexizyme System and its Applications to Ribosomal Synthesis of Nonnatural Biopolymers* **Suga† H.**

**16:00 0962** *RNA-Cleaving Deoxyribozymes with Fluorescence-Signaling Capabilities* Li Y., Chioman W., Shen Y., Kandadai S.A., Brennan J.D.

**16:20 0963** *Is there a Quantitative and Qualitative Advantage of Using Modified dNTPs for in vitro Selection?* **Perrin† D.M.**, Ting R., Thomas J.M., Lam C.H., May J.P., Hollenstein M.

**16:40** End of Session

**BM2 CC-Port Royal C1**

**Carbohydrates and Drug Discovery (Joint with OR) (joint with OR1)**

Organizer(s) - Dennis Whitfield  
Chair(s) - France-Isabelle Auzanneau

**13:40 0964** *Characterization of the CS-35 Antibody with Oligosaccharide Fragments of Mycobacterial Liparabinomannan* **Lowary T.L.**, Kim H.S., Shoemaker G., Klassen J.S., Rademacher C., Peters T., Zheng R.B.

**14:00 0965** *Expression, Purification and Characterization of a Mycobacterial Galactofuranosyltransferase* **Lowary T.L.**, Rose N.L., Completo G.C., Palcic M.M.

**14:20 0966** *Studies towards more Potent C-Linked Antifreeze Glycoprotein Analogues* **von Moos E.**, Trant J., Ben R.N.

**14:40 0967** *Synthesis and Properties of Model Glycopeptides Containing Glycosylated Hydroxyproline* **Schweizer F.**

**15:00 Coffee Break**

**15:20 0968** *A New Strategy for Solid-Phase Synthesis of Carbohydrates* **Guo† Z.**

**16:00 0969** *The Synthesis of Sulfated Carbohydrates Using 2,2,2-Trichloroethoxysulfonyl Imidazolium Salts* **Ingram L.J.**, Taylor S.D.

**16:20 0970** *Synthesis of Sialic Acid Derivatives Modified at the 4-Position* **Hemeon I.**, Bennet A.J.

**16:40** End of Session

**BM4 CC-Highland 7**

**Enzyme Inhibitors and Drug Design**

Organizer(s) - Zheng Huang and David Percival  
Chair(s) - David Percival

**13:40 Introductory Remarks**

**14:00 0971** *Nucleic Acid Metabolism in Staphylococcus aureus: From Target Identification to Isolation and Characterization of Enzyme Inhibitors* **McKay† G.A.**

**14:40 0972** *Strategies for Discovery of Broad Spectrum Inhibitors for Class B (metallo) and Class D (serine)  $\beta$ -Lactamases* **Johnson J.**, Evanoff D.P., Heynen M., Goodfellow V., Ramadhar T., Viswanatha T., Taylor N.J., Dmitrienko G.I.

**15:00 Coffee Break**

Chair(s) - Scott Taylor

**15:20 0973** *Metal-Based Inhibitors of the Cathepsin Cysteine Proteases* **Fricker† S.P.**, Mosi R., Baird I.R., Zhu Y., Cameron B.R., Skerlj R.T.

**16:00 0974** *Use of Enzyme Probes to Define Cellular Selectivity: Application to the Design of Selective Inhibitors of Cathepsin K* **Black† W.C.**, Bayly C.I., Cromlish W., Desmarais S., Falgoutyret J.P., Gauthier J.Y., Lamontagne S., Li C.S., Mellon C., McGrath M., Leger S., Percival M.D.

**16:40** End of Session

**BM7 CC-Mariner 4**

**Natural Products (Joint with OR) (joint with OR5)**

Organizer(s) - Paul Harrison  
Chair(s) - Paul Harrison

**ISOLATION AND BIOSYNTHESIS**

**13:40 0975** *Biosynthesis of Lovastatin, a Fungal Polyketide and Cholesterol-Lowering Agent* **Vederas† J.C.**

**14:20 0976** *Isolation and Characterization of Novel Jadomycin B Analogues* **Borissow C.N.**, Syvitski R.T., Graham C.L., Jakeman D.L.

**14:40 0977** *Lotifolian: A New Glutathione S-Transferase Inhibiting Triterpenoid from Nauclea latifolia* **Udenigwe C.C.**, Ata A., Eze M.O., Uzoegwu P.N.

**15:00 Coffee Break**

**15:20 0978** *Development of Biosynthetic Production Methods of Bioactive Marine Terpenes* **Kerr† R.G.**

**16:00 0979** *Stereochemical Control in Antibiotic Polyketide Biosynthetic Enzymes* **Leadlay† P.F.**

**16:40** End of Session

**BMP CC-Port Royal D,E**

**Posters**

Organizer(s) - Stephen Bearne  
Chair(s) - Stephen Bearne

From **16:40** until **18:40**

**See posters in other divisions with which there are joint symposia**

**0980** *Effects of Myristoylation on the Structure and Stability of the  $\beta$ -Trefoil Protein Hisactophilin* **Meissner J.**, Gaspar J.A., Smith M., Meiering E.M.

**0981** *Investigations of Purine-Based Nucleoside Bioprobes* **McLaughlin C.K.**, Manderville R.A.

**0982** *Electronic Properties of Covalently Adducted Purine Nucleosides* **Sun K.M.**, McLaughlin C.K., Manderville R.A.

**0983** *Synthesis of Bicyclic Cytosine Analogues* **Wojciechowski F.**, Wallman A.P., Hudson R.H.E.

**0984** *5-Modified Pyrimidines in PNA* **Wojciechowski F.**, Hudson R.H.E.

**0985** *A Convenient Method for the Preparation of Tetra(dipeptide) Derivatives of Cyclen* **Wojciechowski F.**, Hudson R.H.E.

**0986** *Fluorinated Olefinic Peptide Nucleic Acids* **Hollenstein M.**, Leumann C.J.

**0987** *Synthesis and Conformational Analysis of 2'-Fluoro-5-methyl-4'-thioarabinouridine (4'S-FMAU) and Biological Properties of the Corresponding Oligonucleotides* **Watts J.K.**, Sadalapure K., Choubdar N., Pinto\* B.M., Damha\* M.J.

**0988** *Synthesis and Characterization of 3'-Thio-2',3'-Dideoxyribonucleotides* **Isaac S.R.**, Damha\* M.J.

**0989** *Synthesis of Fluorescent 5-Alkynyl-2'-deoxyuridines and 2'-Deoxyuridyloxytides* **Ghorbani Choghmarani A.**, Hudson R.H.E.

**0990** *Bleomycin: A Potent Small Molecule that Affects Hepatitis C Virus Replication* **Rakic B.**, Brulotte M., Pezacki J.P.

**0991** *Covalent Schiff Base Catalysis by a DNAzyme AP-Lyase* **May J.P.**, Perrin D.M.

**0992** *Self Assembly of Adenine and Cyanuric Acid Oligonucleotides into Complex Architectures* **Palmer A.L.**, Sleiman H.F.

**0993** *DNA Base Functionalization: Synthesis, Self-Assembly and Luminescence of Guanosine Derivatives* **Martic S.**, Liu X.Y., Wang S.

**0994** *Luminescent Pt(II) Probes of Aptamer Structure* **Hodgson D.J.**, Dawson B., Fox-Lee R., **DeRosa M.C.**

**0995** *An ab initio Study of 5-(1-Triazenyloxy)imidazole, a Simple Structural Analogue of the Antineoplastic Agent Dacarbazine* **Pye C.C.**, **Doucet K.G.**, Vaughan K., Glistler J.F.

**0996** *Synthesis of Allosteric Peptide Mimic Antagonists of the Prostaglandin F<sub>2</sub> $\alpha$  Receptor* **Bourguet C.B.**, Thouin E., Polyak F., Lubell W.D.

**0997** *Identification of Two Potent Intermediate Analogue Inhibitors of Mandelate Racemase* **Bourque J.R.**, Bearne S.L.



0998 *Discovery of the First Inhibitors of the Cooperative Binding of Human Papillomavirus Type 11 E1 and E2 Proteins* **Thavonekham B.**, Yoakim C., White P., Ogilvie W.W., Goudreau N., McGibbon G.A., O'Meara J.A., Naud J., Doyon L., Cordingley M.G., Archambault J.

0999 *Synthesis and in-vitro Cytostatic Activity of Cyclic Curcumin Analogues* **Nichols C.**, Harris R., Youssef D., Jha\* A., De Clercq E.

1000 *un-24 Incompatibility in *Saccharomyces cerevisiae*: A Novel Chemotherapeutic Peptide?* **Smith R.P.**, Arzhanghi Z., Wellman K., Smith M.L.

1001 *Design, Synthesis and in-vitro Anti-Cancer Properties of Amino Acid Conjugates of 3,5-Bisarylmethylene-4-piperidone Maleamic Acids* **Youssef D.**, Nichols C., Jha\* A., De Clercq E.

1002 *Design and Synthesis of Water-Soluble Analogues of Antineoplastic 3,5-Diarylidene-4-piperidone Derivatives* **Paul N.K.**, Jha\* A.

1003 *Novel Aminobenzothiazole Nitric Oxide Synthase Inhibitors. Applications in the Treatment of Central Nervous System Disorders* **Patman J.**, Garcin-Hosfield E., Renton P., Bhardwaj N., Ramnauth J., Maddaford S., Rakhit S., Andrews J.S.

1004 *Novel Neuronal Nitric Oxide Synthase (nNOS) Inhibitors in Models of Chronic Pain* **Patman J.**, Renton P., Rakhit S., Ramnauth J., Tappia P.S., Aroutiounova N., Vanderah T., Guo W., Porreca F., Maddaford S., Andrews J.S.

1005 *Effect of Huperzine A on Multiple Enzymatic Activities of Butyrylcholinesterase: Implications on the Treatment of Dementias* **Darvesh S.**, Walsh R., Martin E.

1006 *The Mechanism of Brønsted Acid Enhanced Decarboxylation of Thiamin-Derived Intermediates* **Ikeda G.**, Kluger R.

1007 *Probing Reaction Specificity in Pyridoxal Phosphate Enzymes* **Farsi A.**, Aitken S.M.

1008 *Asymmetric Mutagenesis of R67 Dihydrofolate Reductase to Explore the Molecular Basis of Antibiotic Resistance* **Morley K.L.**, Schmitzer A.R., Volpato J., Pelletier J.N.

1009 *Probing the Homocysteine-Binding Site of Cystathionine  $\beta$ -Synthase* **Lodha P.**, Aitken S.M.

1010 *QM Modeling of the Mechanism of Deamination by Adenosine Deaminase* **Moussatova A.**, Ziegler T.

1011 *Cyclization Mechanism of Stilbene Synthase* **Jiang C.**, Suh D.-Y.

1012 *An Insight Into  $\beta\beta$ -Enolase Deficiency: Functional Importance of Amino Acid 376* **Zhao S.P.**, Kornblatt M.J.

1013 *Yeast Model of Human  $\beta\beta$ -Enolase Deficiency Disease: Characterization of G157D Yeast Enolase* **Choy B.S.F.**, Kornblatt M.J.

1014 *Two Novel Single Enzyme Molecule Assays For *E. Coli*  $\beta$ -Galactosidase* **Craig D.B.**, Gavina J.M.A., Nichols E.R.

1015 *GTP-Dependent Activation and Inhibition of *E. coli* CTP Synthase* **Lunn F.A.**, Beame S.L.

1016 *Explorations of Metal Ion Binding in the Clinically Important Metallo Beta Lactamase IMP-1* **Siemann S.**, Gardonio D., Heynen M., Viswanatha T., Dmitrienko G.I.

1017 *Design of Photo-Switchable SH3 Domain Proteins* **Zhang F.**, Lee E., Zarrine-Afsar A., Davidson A.R., Woolley A.

1018 *Designer Reagents: Rational Design of Better Cyclopentanone Monooxygenase (CPMO)* **Clouthier C.M.**, Kayser M.M., Reetz M.T.

1019 *Replacement of the Natural Cofactors by Selected Hydrogen Peroxide Donors for CYP3A4 and CYP2D6 Catalysis in Aqueous and Organic Solvents* **Zhao J.**, Chefson A., Auclair K.

1020 *siRNA Suppressor Proteins as Chemical Biology Tools* **Pezacki J.P.**, Sagan S.M., Koukiekolo R., Goto N.K.

1021 *A Blue-Green Absorbing Cross-Linker for Rapid Photo-Switching of Peptide Helix Content* **Chi L.**, Sadovski O., Woolley A.

1022 *Synthesis and Biological Activity of 17 $\beta$ -Estradiol-PEG-Pt(II) Hybrid Compounds Designed for the Treatment of Estrogen Dependent "Female" Cancers* **Provencher-Mandeville J.**, Bélanger G., Parent S., Asselin E., Bérubé G.

1023 *Chemotherapy Without Toxic Side Effects!* **Descôteaux C.**, Bélanger G., Van Themsche C., Parent S., Asselin E., Bérubé G.

1024 *Synthesis with Improved Yield and Study on Analgesic Effect of 2-Methoxyphenacyclidine* **Ahmadi A.**, Kassiri M., Fathollahi Y.

1025 *Substituted Terpyridyl Palladium(II) Complexes as Possible Chemotherapeutic Agents: Substitution Kinetics and in vitro Cell Line Screening* **Corcoran A.M.**, Haines R.I.

1026 *Preliminary Crystallographic Studies of the *Drosophila* Toll Receptor Activator Spätzle* **Yang J.**, Su Y., Ip T.

1027 *Preliminary SAR Study on Antineoplastic Chalcones* **Dumas L.**, Billot X., Bailly S., Gagnon G., St-Denis B., Naranjo S., Steenaert N.A.E., Beauparlant P., Attardo G.

1028 *Simple 4'-Hydroxy-1,1'-biphenyl Derivatives with Potent in vitro Anticancer Activity* **Branchaud S.**, Bélec L., Dumas L., Fortin S., Lavallée J.-F., Rioux E., Bailly S., Chang H., Gagnon G., Jang A., Naranjo S., Roulston A., Serfass L., St.-Denis N.S.B., Attardo G.

1029 *Preliminary Study on the Insulinomimetic Activity of Kaempferitrin Isolated from a Taiwan Endemic Plant *Cinnamomum osmophloeum** **Chen K.**, Lee M.J., Rao Y.K., Tzeng Y.M.

## Chemical Education Division

### CE6 CC-Mariner 3

#### The Future of Physical Chemistry Education (Joint with MT and PT) (joint with PT11)

Organizer(s) - Cynthia Goh  
Chair(s) - Cynthia Goh

13:40 1030 *The Teaching of Physical Chemistry: A Report from the 2006 Walter Harris Teaching Workshop* **Loppnow† G.R.**

14:20 1031 *Teaching Physical Chemistry as an Experimental Science* **Kruse† P.**

### 15:00 Coffee Break

15:20 1032 *Chiral Crystallization of Ethylenediamine Sulphate* **Koby L.**, Ningappa J., Dakessian M., Tao Y., Surprenant J., Cheung M., Xu W., **Cuccia L.A.**

15:40 1033 *Integration of Synchrotron Experiments into the Physical Chemistry Curriculum* **Urquhart† S.G.**, Walker T.

16:00 1034 *Building a Solar Cell Using Nanoparticles and Berries: A First Year Undergrad Physical Chemistry Lab* **Dhirani A.-A.**, Bailey M., Park J.B.

16:20 1035 *Showing "Leaping Electrons" in the Undergraduate Physical Chemistry Laboratory. The Nitrogen-Laser Phosphorescence Decay Experiment* **Tanchak O.M.**, Yager K.G., Galley W. C., Wilczek-Vera G.

16:40 End of Session

### CEP CC-Port Royal D,E

#### Posters

Organizer(s) - Katherine Darvesh  
Chair(s) - Pippa Lock

From 16:40 until 18:40

1036 *Investigating Light-Matter Interactions Using Economical Laboratory Built Spectrometers* **Kwan E.**, Ohorodnyk H., Miller I., **Escorcia A.**, Dhirani A.-A.

16:40 End of Session

## Environment Division

### EN3 DH-Baronet 4,5

#### Biogeochemistry of Trace Metals in the Environment (Joint with AN) (joint with AN3)

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Chris Le, Julia Lu

13:40 Joint with Analytical Chemistry Division - See AN3

16:20 End of Session

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**Inorganic Chemistry Division**

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**IN2 CC-Port Royal C2**

**Ligand Design in Transition Metal Chemistry**

Organizer(s) - Mark Stradiotto  
Chair(s) - Laura Turculet

13:40 1037 *Can Salim Functionalised Carbene Ligands Facilitate Communication Between Metal Centres?* **Kühl O.**, Aeduengo III A.J., Kim H.-Y.

14:00 1038 *Rhodium(III) Peroxo Complexes with Carbene and Phosphine Ligands* **James B.R.**, Yu X.-Y., Patrick B.O.

14:20 1039 *Reactions of Transition Metal Bisdithiolenes with Alkenes* **Fekl U.**, Harrison D., Nguyen N., Kogut E.

14:40 1040 *Polynuclear and Heteronuclear Complexes Supported by a Tripodal-Amido Ligand with a Non-Chelating Phosphine Donor* **Johnson S.A.**, Keen A.L., Raturi R., Han H., Hatnean J., Doster M.

15:00 Coffee Break

15:20 1041 *Amidate Complexes of Early Transition Metals for Catalytic C-N Bond Formation* **Schafer L.L.**

15:40 1042 *The Design and Synthesis of New Helical Metal Complexes for Asymmetric Catalysis* **Levy C.J.**, Wiznycia A.V.

16:00 1043 *Transition Metal-Catalyzed Activation of Nitrogen Derivatives* **Lebel H.**

16:20 1044 *Modular Syntheses of Chiral Nitrogen Donor Ligands* **Jones N.D.**, Caputo C.A., Cardile S.A., Carneiro F.D.S., Dodd D.W., Jennings M.C.

16:40 End of Session

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**IN6 CC-Mariner 2**

**Semiconductor and Metal Nanoparticles: Synthesis, Properties and Applications (Joint with MT) (joint with MT8)**

Organizer(s) - Matthew Moffitt and Michael Wolf  
Chair(s) - Matthew Moffitt

13:40 1045 *Making and Derivatizing Gold Nanoparticles* **Kassam A.**, Corbierre M., Rucareanu S., Gandubert V., Beerens J., Beauvais J., Lennox R.B.

14:20 1046 *Probing Gold Nanoparticle Chirality in Nematic Liquid Crystal Phases* **Qi H.**, Hegmann T.

14:40 1047 *Metal Nanoparticles Assembled in 1- and 2-Dimensions in a Controlled Fashion* **Corbierre M.K.**, Beerens J., Beauvais J., Lennox R.B.

15:00 Coffee Break

15:20 1048 *Systematically Controlling the Structure of Metal Nanoparticles* **Zhang P.**

15:40 1049 *Electrochemical Properties of Ferrocenylalkane Dithiol-Gold Nanoparticle Films Prepared by Layer-by-Layer Self-Assembly* **Escorcía A.**, Dhirani A.-A.

16:00 1050 *Electronic and Optical Properties of Electrodeposited Oligothiophene-Linked Gold Nanoparticle Films* **Sih B.C.**, Wolf M.O.

16:20 1051 *Chemistry and Electrochemistry of 1-2 nm Au Nanoparticles* **Murray R. W.**

17:00 End of Session

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**Macromolecular Science and Engineering Division**

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**MS5 CC-Mariner 1**

**Organic Materials for Optical, Electronic or Photonic Applications (Joint with MT and OR) (joint with OR7)**

Organizer(s) - Wayne Wang and Tim Bender  
Chair(s) - Harald Stöver

**The Macromolecular Science and Engineering Award Lecture presented by Wayne Wang**

Introduction of Wayne Wang by Harald Stöver

13:40 1052 *Organic Infrared Materials and Potential Applications* **Wang Z.Y.**, Gao J.P., Xun S., LeClair G., Xiong Y., Wu X., Ma D., Tang H., Nguyen H., Li X., Wang S., Hasanain F., Wan X., Qiang G., Zhang J.

14:20 1053 *Enforcing Face-to-Face Stacking of Aromatics in Semiconductor Materials through Hydrogen Bonding* **Sokolov A.N.**, MacGillivray L.R.

14:40 1054 *Multifunctional Magnetic Materials Based on Conjugated pi-Systems for Investigation of Conducting, Magnetic and Optical Functionality* **Frank N.L.**, Samanta S., Yan B., Dooley B., Zsombor M., Beitel E.

15:00 Coffee Break

Chair(s) - Neil Branda

15:20 1055 *Metal-Containing Conjugated Materials* **Moorlag C.**, **Wolf M.O.**, Stott T.

16:00 1056 *Guided Wave Optical Self-Inscription in Linear Polymer and Organosilicon Network Glasses* **Andrews M.P.**, Belanger N., Manseau M.-P., van Veggel F.C.J.M.

16:20 1057 *New Materials for Photonic Band Gap Materials* **Lu C.**, Dias E., Baines K.M., Lipson R.H.

16:40 End of Session

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**MS6 DH-Baronet 1,2,3**

**Surfactants, Micelles and Colloids (Joint with PT and MT) (joint with PT10)**

Organizer(s) - Gerrard Marangoni  
Chair(s) - Rom Palepu

**Clara Benson Award Lecture presented by Françoise Winnik**

Introduction of Françoise Winnik by Géraldine Bazuin

13:40 1058 *The Poly(N-isopropylacrylamide) Saga: A Canadian Perspective* **Winnik F.M.**

14:20 1059 *Luminescent Nanoparticles for Dispersion in Organic Media* **Ritcey A.M.**, Tibirna C., Lemyre J.-L.

14:40 1060 *Normal and Anomalous Diffusion in Highly Confined Hard Sphere Colloid Mixtures* **Bowles R.K.**, MacWilliam N., Mon K.K., Percus J.K.

15:00 Coffee Break

15:20 1061 *Hydrophobically Modified Polyvinylamine* **Pelton R.**, Wang Y., Chen X.

16:00 1062 *Polar Organic Solutes under Hydrothermal Conditions: Functional Group Effects in High-Temperature Water* **Bulemela E.**, **Tremaine P.R.**

16:40 End of Session

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**Materials Chemistry Division**

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**MT7 CC-Mariner 1**

**Organic Materials for Optical, Electronic or Photonic Applications (Joint with MS and OR)**

Organizer(s) - Wayne Wang and Tim Bender  
Chair(s) - Harald Stöver, Neil Branda

**13:40 Joint with Macromolecular Science and Engineering and Organic Chemistry Divisions - See MS5**

**13:40 The Macromolecular Science and Engineering Award Lecture presented by Wayne Wang**

16:40 End of Session

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**MT8 CC-Mariner 2**

**Semiconductor and Metal Nanoparticles: Synthesis, Properties and Applications (Joint with IN) (joint with IN6)**

Organizer(s) - Matthew Moffitt and Michael Wolf  
Chair(s) - Matthew Moffitt

13:40 Joint with Inorganic Chemistry Division - See IN6

17:00 End of Session

**MT9 DH-Baronet 1,2,3**

**Surfactants, Micelles and Colloids (Joint with PT and MS)**

Organizer(s) - Gerrard Marangoni  
Chair(s) - Rom Palepu

13:40 Joint with Macromolecular Science and Engineering and Physical Chemistry Divisions - See MS6

13:40 Clara Benson Award Lecture presented by Françoise Winnik

16:40 End of Session

**MT10 CC-Mariner 3**

**The Future of Physical Chemistry Education (Joint with CE and PT)**

Organizer(s) - Cynthia Goh  
Chair(s) - Cynthia Goh

13:40 Joint with the Chemical Education and Physical Chemistry Divisions - See CE6

16:40 End of Session

**Organic Chemistry Division**

**OR1 CC-Port Royal C1**

**Carbohydrates and Drug Discovery (Joint with BM) (joint with BM2)**

Organizer(s) - Bruce Grindley  
Chair(s) - France-Isabelle Auzanneau

13:40 Joint with Biological and Medicinal Chemistry Division - See BM2

16:40 End of Session

**OR2 CC-Mariner 5**

**Heterocycles and Heteroatom-Containing Rings**

Organizer(s) - Alison Thompson  
Chair(s) - Alison Thompson

13:40 1063 *Oligopyrrole Anion Receptors: Simple Models for Prodigiosins?* Sessler† J.L., Gale P.A., Naumovski L., Moyer B.A., Marquez M., Bucher C., Cho W.-S., Cho D.-G., Deqiang A., Gross D.E., Eller L.R., Wang Z., Magda D.M.

14:20 1064 *Application of <sup>15</sup>N NMR Spectroscopy to Studies of Dipyromethene Metal Complexes* Wood T.E., Thompson A., Berno B.

14:40 1065 *Aminoprodigosin Synthesis* Jolicoeur B., Lubell W.D.

15:00 Coffee Break

15:20 1066 *Oxidation of Prodigiosins and Potential Relevance to Cytotoxicity* Manderville† R.A.

16:00 1067 *Amidopyrroles: From Anion Receptors to Membrane Transport Agents* Gale† P.A.

16:40 End of Session

**OR5 CC-Mariner 4**

**Natural Products (Joint with BM) (joint with BM7)**

Organizer(s) - Paul Harrison  
Chair(s) - Paul Harrison

**ISOLATION AND BIOSYNTHESIS**

13:40 Joint with Biological and Medicinal Chemistry Division - See BM7

16:40 End of Session

**OR7 CC-Mariner 1**

**Organic Materials for Optical, Electronic or Photonic Applications (Joint with MS and MT) (joint with MS5)**

Organizer(s) - Wayne Wang and Tim Bender  
Chair(s) - Harald Stöver, Neil Branda

13:40 Joint with Macromolecular Science and Engineering and Materials Chemistry Divisions - See MS5

13:40 The Macromolecular Science and Engineering Award Lecture presented by Wayne Wang

16:40 End of Session

**OR8 DH-Baronet 6**

**Organic Reaction Mechanisms**

Organizer(s) - James Pincock and Frances Cozens  
Chair(s) - James Pincock

13:40 1068 *Comparison of N-Sulfinylamine and Isocyanate Hydrolysis: A Computational Study* Ivanova E.V., Muchall H.M.

14:00 1069 *Solvent Effects on Aliphatic Nucleophilic Substitution: A Computational Study of Isotope Effects in Solvolysis* Larsson P.-E., Williams I.H.

14:20 1070 *Mechanistic Study of a Novel Ring Contraction of Lactams* Drouin A., Spino C., Lessard J.

14:40 1071 *The Direct Detection and Kinetic Studies of Dimethylgermylene and its Dimer Tetramethyldigermene by Laser Flash Photolysis in Solution* Lollmahomed F.B., Harrington C.R., Leigh W.J.

15:00 Coffee Break

15:20 1072 *The Reactivity of Diarylmethyl Carbocations in Non-Protic Zeolites* Hallett-Tapley G.L., McWhinney R.D., Cozens F.L.

15:40 1073 *Intramolecular Photoredox Chemistry of Substituted Benzophenones: The Effect of Phenyl Substituents* Mitchell D., Basaric N., Wan P.

16:00 1074 *Temperature and Solvent Effects, Rate Constants and Activation Parameters for the Processes of the Excited States of Substituted Benzenes* Gonzalez C.M., Pincock J.A.

16:20 1075 *Towards the Mechanism of Action and the Development of Fluorescent Sensors for Reactive Oxygen Species* Heyne B., Scaiano J.C.

16:40 End of Session

**ORP CC-Port Royal D,E**

**Posters**

Organizer(s) - Bruce Grindley  
Chair(s) - Bruce Grindley

From 16:40 until 18:40

1076 *Synthesis and Conformational Analysis of Fused Sugar-Proline Hybrids* Owens N., Schweizer F.

1077 *Investigation into the Importance of Sidechain Length and Functionality in C-Linked Antifreeze Glycoproteins* Tam R.Y., Ben R.N.

1078 *Synthesis and SAR of Potent Aggrecanase-1 Inhibitors: The Sulfonamide Series* How D., Sabatini J., Hopper D., Vera M., Laakso L., Xiang J., Hu F., Cunningham K., Moysak L., Skotnicki J., Tam S., Morris E., Mansour T., Georgiadis K., Sum P.E.

1079 *Preparation and Evaluation of a C-Linked AFGP Analogue Containing a geminal-Difluoromethylene Group* Chaytor J.L., Ben R.N.

1080 *2,3-Difluoro Sialic Acid Derivatives as Potential Inhibitors of Trypanosoma cruzi Trans-Sialidase and Influenza Virus Sialidase* Buchini S., Watts A.G., Withers S.G.

1081 *Synthesis and Characterization of Fullerene-Endcapped Cruciform Conjugated Oligomers* Zhou N., Zhao Y.

1082 *Syntheses, <sup>1</sup>H NMR and Photochromic Properties of Modified Dimethyldihydropyrenes* Zhang R., Berg D.J., Mitchell R.H.

1083 *A Facile "One-Pot" Click Method to Assemble Dendritic Molecules to C60 Fullerene* Mahmud I., Zhao Y.

1084 *Application of Polyurethane in Producing Some Microencapsulated Solid and Liquid Pesticides* Kassiri M., Ahmadi A.

1085 *Towards a New LC Material by a Combined Metalation-Cross Coupling Route* Gan W., Snieckus V., Lemieux R.P.

- 1086 *Structure and Activity of Polar Metabolites Produced in Leaves of Brassica Species* **Zheng Q.-A.**, Gadagi R., Pedras M.S.C.
- 1087 *Differential Production of Phytoalexins in Leaves of Brassicas in Response to the Biotrophic Fungus *Albugo candida* and Copper Chloride* Pedras M.S.C., **Zheng Q.-A.**, Gadagi R., Adio A.M., Rimmer S.R.
- 1088 *Analysis of Indole Phytoalexins from Crucifers by HPLC-DAD-ESI-MS/MS* **Pedras M.S.C.**, Adio A.M., Suchy M., Zheng Q.-A., Okinyo D.P.O., Sarwar M.G., Jha M.
- 1089 *Preparation of Postulated Intermediates of the Biosynthetic Transformation of Vitamin B<sub>6</sub> into the Pyrimidine Unit of Vitamin B<sub>1</sub>* **Goncharenko M.**, Spenser I.D.
- 1090 *Progress Toward the Total Synthesis of the Bisbenzyltetrahydroisoquinoline Alkaloid (-) Cyleanine* **Dakhil O.O.**, Georgiou P.E.
- 1091 *The Biological Activity of Pramamicin, and Structure-Activity Relationships* **Harrison P.H.M.**, Simayi T., Ferras J.
- 1092 *A Simple Biomimetic Synthetic Approach to the D Ring of the Kinamycin Antibiotics: Insights into the Conformation of Kinamycin F* **Chen N.**, Carriere M.B., Laufer R.S., Taylor N.J., Dmitrienko G.I.
- 1093 *Natural Products of Commercial Interest from Rubber-Bearing Plants of Central Asia* **Buranov A.U.**
- 1094 *Phytochemical Studies on *Pagianta dichotoma** **Zhang Y.**, Kalhari K.S., Ata A.
- 1095 *Alternative Commercial Sources of Natural Rubber* **Scholte A.A.**, Bushman B.S., Vederas J.C.
- 1096 *Glucosinolate Profile of Spectacle Pod (*Dithyrea wislizenii*) Fruits* **Montaut S.**, Li R., Iori R., Barillari J., Rollin P.
- 1097 *Cloning of a Moss Chalcone Synthase and Evolution of the Chalcone Synthase Superfamily* **Jiang C.**, Schommer C.K., Suh D.-Y.
- 1098 *New Bioactive Chemical Constituents of *Coprinus micaceus** **Haq S.**, Ata A.
- 1099 *Bioactive Natural Products from *Barleria priontis** **Kalhari K.S.**, Ata A., Samamrasakara R.
- 1100 *Chemical and Biochemical Behaviour of the Kinamycin Antibiotics: In Search of a Mode-of-Action* **Abbott G.L.**, Goodfellow V., Heynen M., Adedayo O., Taylor N.J., Dmitrienko G.I.
- 1101 *Photoswitchable Electrical Conductivity Based on the Dimethyldihydropyrene Photoswitch* **Robinson S.G.**, Mitchell R.H.
- 1102 *The Synthesis and Electronics of Two Classes of Annelated Delocalized Stable Organic Radicals with Complementary Redox Processes: Benzonitronyl Nitroxides and Bis-Thiadiazinyl Radicals* **Dooley B.M.**, Frank N.L.
- 1103 *Synthesis of Oligomer-exTTF Bridged Bisfullerene Polyads* **Chen G.**, Zhao Y.
- 1104 *Narrow-Rim Functionalized Calix[4]arenes Produced via Sonogashira Coupling: Their Potential NLO Properties and Photochemical Reactions* **Al-Saraiher H.**, Georgiou P.E.
- 1105 *Synthesis of New 2,7-Carbazolenevinylene-Based Copolymers and Characterization of their Photovoltaic Properties* **Michaud A.**, Leclerc N., Leclerc M.
- 1106 *Synthesis and Characterization of High Purity Polymers for Organic Light Emitting Diode (OLED) Applications* **McFarlane S.**, Veinot J.G.C.
- 1107 *Interactions of Self-Trapped Beams of Incoherent White Light* **Kasala K.**, Sakalauskas M., Saravanamuttu K.
- 1108 *Estimation of Volume Fraction and Geometric Tortuosity in a Porous Polymer by Advanced Quantitative Image Analysis Using Matlab* **Kamaludeen M.**, Matchett A., Doan H.
- 1109 *Surface Coating with Mesomorphic Polyionic Discotic Liquid Crystals Based on Tetraazaporphyrins and Phthalocyanines* **Eichhorn S.H.**, Dufour S.
- 1110 *Studies on the Supramolecular Complexation of [60]Fullerene with Calixnaphthalenes and some other Macrocyclic Hosts* **Tran A.H.**, Georgiou P.E., Thompson D.W.
- 1111 *Design, Synthesis and Liquid Crystal Studies of [2]Rotaxanes* **Suhan N.**, Loeb S.J.
- 1112 *Cyclodextrin-Based Polymeric Sensor for Nitro-Aromatics* **Evans C.H.**, Zohrehvand S., Katic S.
- 1113 *Selective Modifications of Chitosan: Solubility Enhancement and Regioselective Protections* **Gagnon J.**
- 1114 *Acid-Base Driven Molecular Shuttles from Rotaxanes and Catenanes* **Loeb S.J.**, Tiburcio J., **Vella S.J.**
- 1115 *Copolymerization Studies of Polar Monomers with Propylene: Monomer Synthesis and Polymerization Studies* **Stojcevic G.**, Baird M.C.
- 1116 *Anhydride Functionalized Polydivinylbenzene Structured Microspheres* **Srivastava M.**, Stover H.D.H.
- 1117 *Factors Responsible for Accessibility of the Cavity in Amphiphilic Calix[4]arenes* **Pojarova M.**, Ananchenko G.S., Udachin K.A., Ripmeester J.A., Perret F., Coleman A.W.
- 1118 *Molecule-Responsive Block Copolymer Self-Assembly* **Ishihara Y.**, Bazzi H.S., Toader V., Sleiman H.F.
- 1119 *Molecular Tectons with Pyrogallol "Sticky Sites"* **Hamilton T.D.**, Wuest J.D.
- 1120 *Physical Characterization of Blends of Poly(D-lactide) and LHRH (a Leuprolide Decapeptide Analog)* **Fraschini C.**, Jalabert M., Prud'homme R.E.
- 1121 *Use of Metal Coordination to Direct Supramolecular Assembly* **Duong A.**, Wuest J.D.
- 1122 *Guest Removal and Insertion in a Tripodal Host-Guest Framework* **Burchell T.J.**, Sidhu P.S., Enright G.D., Ripmeester J.A.
- 1123 *Chitosan Asymmetric Chelating Polyligands Synthesis: Regioselective O-6 Silylation on N-Phthaloyl Chitosan and on a New Organosoluble Chitosan Salt* **Binette A.**, Gagnon J.
- 1124 *The Synthesis of Novel Glycoluril-Based Dimer Macrocycles Bridged by Diamines as Molecular Hosts* **Wyman I.W.**, Macartney D.H.
- 1125 *Macrocyclic Derivatives of Glucosamine and Chitosan* **Miller K.J.**, Haines R.I.
- 1126 *New Rotaxane Linkers for Metal Organic Rotaxane Frameworks (MORFs)* **Mercer D.J.**, Loeb S.J.
- 1127 *Selective Sorption of Lewis Bases by a Weakly Bonded Coordination Solid* **May L.J.**, Shimizu G.K., Hamaed H., Schurko R.W.
- 1128 *The Design of a Proton Conducting Metal-Organic Material* **Hurd J.A.**, Sander M.J., Shimizu G.K.
- 1129 *Crystal Engineering of Porous Hydrogen Bonded Networks* **Dalrymple S.A.**, Shimizu G.K.
- 1130 *Supramolecular Assemblies of Telluradiazoles* **Cozzolino A.F.**, Vargas-Baca I.
- 1131 *Second-Sphere Coordination as a Template in the Self-Assembly of [2]Catenanes* **Blight B.A.**, Wisner J.A.
- 1132 *A Study of the Zirconium-Polymeryl Species Formed during Propylene Polymerization by Metallocene and Nonmetallocene Catalysts* **Vatamanu M.**, Baird M.C.
- 1133 *Annelated Radicals for Magneto-Conducting Materials: The Synthesis and Properties of Azo-Substituted Benzotriazinyl Radicals* **Zsombor M.S.**, Frank N.L.
- 1134 *Development of  $\pi$ -Donor/Acceptor Oligomers as Tuneable HOMO/LUMO Gap Materials* **Wisner J.A.**, **Yost C.M.**
- 1135 *Lowering the Bandgap of Polydiimines* **Mason R.J.**, **MacLean B.J.**

1136  *$\alpha$ -Only Substituted Push-Pull Oligothiophenes Containing a Halogen and a Nitro Group - Synthesis and Spectroscopic Characterisation* Sears W.A., Johnson M.J., Winter A.J., MacKinnon C.D., Sears W.M.

1137 *New Organic Redox Couples Based on Phosphorus Ylides Suitable for Electrochemical Photovoltaic Cells and Dye-Sensitized Solar Cells* Hébert M., Hammami A., Marsan B.

1138 *Towards A New Liquid Crystal Material by a Combined Metalation-Cross Coupling Route* Gan W., Snieckus V., Lemieux R.P.

1139 *Diphenyl Borane-8-hydroxyquinolate-Capped Linear and Starburst Complexes* Cui Y., Wang S.

1140 *Synthesis and Characterization of a New Class of Axial Chiral Dopants with a Chloro Substituted 2,2'-Spirobiindan-1,1'-dione Core* Cui Q., Lemieux R.P.

1141 *Novel Redox Couples for Electrochemical Solar Cell Application* Correia Ledo D., Hammami A., Marsan B.

1142 *New Indolocarbazole Derivatives for Application in Micro-Electronics* Boudreault P.-L.

1143 *Using Deuterium NMR Spectroscopy to Probe Chiral Perturbations in Ferroelectric Liquid Crystals* Huntley C.M., Finden J.G., Yuh E., Lemieux R.P.

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**Physical, Theoretical and Computational Division**

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**PT1 CC-Highland 9**

**Ab initio Methods: Orbital and Plane Wave Methods**

Organizer(s) - Russell Boyd and Josef Zwanziger  
Chair(s) - Jim Wright

13:40 1144 *Using Plane Waves and Gaussians in Molecular Quantum Chemistry* Pulay† P.

14:20 1145 *In silico Search for New Polymeric Nitrogen Materials with Plane Wave and Localized Basis Set Computations: From ab initio Molecular Dynamics to Genetic Algorithms* Woo† T.K.

14:40 1146 *The Photoelastic Effect in Simple Oxides* Zwanziger J.W., Albrecht L.

**15:00 Coffee Break**

15:20 1147 *Quantum Capping Potentials: A Tool for Efficiently Modeling Large Systems Using Small Clusters* DiLabio G.A.

15:40 1148 *A Critical Assessment of the Importance of the  $k$ -Space Cutoff and the Fictitious Mass in Plane-Wave based Car-Parrinello Calculations of Time-Correlation Functions* Iftimie R.

16:00 1149 *Comprehensive Study of Molecular Numerical Integration* El Sherbiny A., Poirier R.A.

16:20 1150 *Quantum Confinement Effects on Rydberg Molecules* Lo J., Klobukowski M.

16:40 End of Session

**PT3 CC-Cornwallis Suite**

**Biophysical Chemistry**

Organizer(s) - Gonzalo Cosa and Paul Wiseman  
Chair(s) - Hung-Wen Li

13:40 1151 *Adhesion of Hyaluronan Functionalized AFM Tips at Calcium Oxalate Crystal Surfaces* Grandbois† M.

14:20 1152 *Protein Mechanics and Engineering at the Single Molecule Level* Li† H.

**15:00 Coffee Break**

Chair(s) - Linda Johnston

15:20 1153 *Single-Molecule Study of E. coli Homologous Recombinational Repair Enzymes* Li† H.-W.

16:00 1154 *Single-Molecule and Ensemble Characterization of Calcium-Ion Sensor Dyes* Paige† M.F., Bagh S.

16:40 End of Session

**PT5 CC-Highland 11**

**Electrochemistry at the Edge (Joint with AN) (joint with AN5)**

Organizer(s) - Sharon Roscoe and Vlad Zamlynyy  
Chair(s) - Mark Workentin, Benoît Marsan

13:40 Joint with Analytical Chemistry Division - See AN5

16:40 End of Session

**PT8 CC-Highland 10**

**New Applications in Microscopy and Microspectroscopy (Joint with AN) (joint with AN7)**

Organizer(s) - Mark McDermott, Antonella Badia and Tanya Dahms  
Chair(s) - Mark McDermott

**REMINDER**

13:40 Clara Benson Award Lecture presented by Françoise Winnik in DH-Baronet 1,2,3

14:20 Joint with Analytical Chemistry Division - See AN7

16:40 End of Session

**PT10 DH-Baronet 1,2,3**

**Surfactants, Micelles and Colloids (Joint with MT and MS) (joint with MS6)**

Organizer(s) - Gerrard Marangoni  
Chair(s) - Rom Palepu

13:40 Joint with Macromolecular Science and Engineering and Materials Chemistry Divisions - See MS6

13:40 Clara Benson Award Lecture presented by Françoise Winnik

16:40 End of Session

**PT11 CC-Mariner 3**

**The Future of Physical Chemistry Education (Joint with CE and MT) (joint with CE6)**

Organizer(s) - Cynthia Goh  
Chair(s) - Cynthia Goh

13:40 Joint with the Chemical Education and Materials Chemistry Divisions - See CE6

16:40 End of Session

**PTP CC-Port Royal D,E**

**Posters**

Organizer(s) - Josef Zwanziger  
Chair(s) - Josef Zwanziger

From 16:40 until 18:40

See posters in other divisions with which there are joint symposia

1155 *A Kinetic Study on Denaturation of Jack-Bean Urease by Sodium *n*-Dodecyl Sulphate* Nazari K., Mahmoudi A., Sadeghian L., Moosavi-Movahedi A.A.

1156 *DNA Stability in the Presence of Dimethyltin Dichloride* Nazari K., Moosavi-Movahedi A.A.

1157 *Computational Study of Pattern Recognition and Pattern Formation by Block Copolymers* Sabaye Moghaddam M., Chan H.S.

1158 *A Computational Investigation of the Interactions Between Amino Acids and the Natural Nucleobase Uracil* Hunter K.C., Millen A.L., Wetmore S.D.

1159 *Calculated Cu(II)/Cu(I) Reduction Potentials of a Copper Bound His-His Dipeptide* Rickard G.A., Raffa D.F., Rauk A.

1160 *Molecular Dynamics Simulations Employing an Ensemble of Peptides* Kaur K., Wong E.T., Bhattacharjee S.

1161 *Molecular Dynamics Simulations of Interaction between Carnobacteriocin B2, a Type IIa Bacteriocin and its Immunity Protein* Kaur K., Soliman W.

1162 *Direct Evidence of the Cooperative and Competitive Role of SSB in the Formation of RecA/ssDNA Complex* Li L.B.S., Goh M.C.

1163 *Two-Photon Excitation Fluorescent Photobleaching Kinetics of Optically Trapped Liposomal Verteporfin: Oxygen Content and Liposome Size Dependencies* Kelly N.M., Cramb D.T., Samkoe K., Fecica M., Campbell C.

1164 *A Theoretical Study on the Mechanism of an Aminoacyl-tRNA Synthetase* Liu H., Gauld J.W.

1165 *Bioactive Surfaces: Controlling Structure in Bio-Inorganic Composite Films* Merschrod S. E.F., Su N., Sun M., George E.M.

1166 *Hydrolysis and Thiolysis Reactions of S-Nitrosothiols: A Computational Study* Timerghazin Q.K., Peslherbe G.H., English A.M.

1167 *Simulations of Model Transmembrane Peptides: Characterizing Hydrophobic Length* Zlomislis M.R., Tieleman D.P.

1168 *Examining the C-H Stretching Vibrations in Phospholipids: A DFT Investigation* Welshman T.L., Gough K.M.

1169 *The Study of Tryptophan Cage Protein Folding Using Molecular Dynamics Simulation* Jailli S.

1170 *Excited-State Structural Dynamics of Pyrimidine Nucleobases* Loppnow G.R.

1171 *Time-Resolved Thermodynamic Profiles for CO Photolysis from the Mixed Valence Form of Bovine Heart Cytochrome c Oxidase* Larsen R.W.

1172 *Computational Modeling and Molecular Dynamics Simulations of a Fragment of the Prion Protein N-Terminal Domain Containing Cu<sup>2+</sup>-bound via the Peptide Backbone: Can Backbone Binding Induce Localized  $\beta$ -Sheet Formation?* Pushie M.J., Vogel H.J.

### Undergraduate Student Poster Competition

#### UPC1 CC-Port Royal D,E

#### Analytical Chemistry

Organizer(s) - Patricia Laws  
Chair(s) - Patricia Laws

From 16:40 until 18:40

1173 *Development of a Procedure for Making Large Single Crystal Electrodes for Spectroelectrochemical Experiments* Birnie-Lefcovitch S., Zamylny V.

1174 *Metal Bioavailability and Metal Concentrations in Compost from Biosolids* Boudreau J., Surette C., Filion M., Allain C.

1175 *A Comprehensive Computational Approach to Predict the Full Vibrational Spectrum of an Adsorbed Molecule at a Particular Orientation* Brolo A., Cooper M.

1176 *Characterization of Disinfection By-Products Resulting from the Chlorination of Natural Organic Matter* Dawe M.R., Mugo S.M., Bottaro C.S.

1177 *The Development of a Nanovolume Cytochrome P450 Inhibition Assay Using a Sol-Gel-Derived Microarray* Green J.R.A., Brennan J.D.

1178 *Differentiation Between the Isomeric Structures of C<sub>2</sub>H<sub>3</sub>N<sup>+</sup> by Complexation with CO: Applications to Atmospheric Chemistry* Mayer P.M.M., Hall S.A.

1179 *Optimization of Electrochemical IRRAS Techniques Using Fresnel Equations* Jackson S.M.R., Zamylny V.

1180 *Synthesis of Polythionates and Analysis of Thiosalts by Capillary Electrophoresis Using a Specialized Zero Flow Capillary* Kirby A.E., Bottaro C.S.

1181 *Marine Snail, Ilyanassa obsoleta, Behavioural Response to Contaminants* Marklevitz S., Hellou J.

1182 *Development and Application of Spectroscopic Techniques for the Characterization of Barrier Films* Read S.T., Zamylny V.

1183 *An FTIR Study of Adsorption onto Kaolin* Ronaldson M., Smith-Palmer T., Pink J., Sandt C., Pink D.

1184 *A Photoaffinity Labeling Study of Nitrobenzylthioinosine to Various Amino Acids* Simms G.A., Doucette A.A.

1185 *Developing Solid Phase Microextraction (SPME) Techniques for the Analysis of Tetracyclines in Wastewater* Worfolk B., Toito J., Balakrishnan V.K.

#### UPC2 CC-Port Royal D,E

#### Biological/Medicinal

Organizer(s) - Patricia Laws  
Chair(s) - Patricia Laws

From 16:40 until 18:40

1186 *Tagging Proteins for Proteomics Analysis: Vitamin- and Micellar-Catalyzed Bioconjugation Reactions in Water* Lorello G. R., Rakic B., Pezacki J. P.

1187 *Partitioning of Red Radish Peroxidase in an Aqueous Biphasic System as a Starting Point in Purification* MacInnis M.C., D'Cunha G.B.

1188 *Efficient Synthesis of Biologically Active Benzof[*c*]phenanthridines* Maheux C.R., Nyangulu J.M.

1189 *The Incorporation and Release of Bone Morphogenetic Protein from Hydroxyapatite Coatings on Titanium* Mendez A.I., Blatt S., Roscoe S.G.

1190 *pH-Dependent Conformation of Acyl Carrier Protein: Difference Between Solution and Gas Phases* Murphy P.W., Rowland E.E., Byers D.M.

#### UPC3 CC-Port Royal D,E

#### Inorganic Chemistry

Organizer(s) - Patricia Laws  
Chair(s) - Patricia Laws

From 16:40 until 18:40

1191 *Synthesis and Characterization of Ru(II) Complexes with Multichiral Sites* Conrad E.D., Aquino M.A.S., Cameron T.S., Robertson K.N.

1192 *Reactivity Consequences of Steric Reduction in CpCr( $\beta$ -diketiminato) Chemistry* Conway J.L., Smith K.M.

1193 *Tunable Electronic Behavior of Pd, Ru and Alloy Nanoparticles* Cook S.C., Zhang J.R., Zhang P.

1194 *Facile Oxidation of Gold Monolayer-Protected Clusters in Ambient Conditions* Dasog M.G., Scott R.W.J.

1195 *Chiral Gold Nanoparticles and Core-Shell Metallo-dielectric Architectures for Self-Assembled Nanocomposites* Hanthorn J.J., Kitaev V.

1196 *Investigation into the Properties of the 4-(2'-Cyanofuryl-5')-1,2,3,5-dithiadiazolyl Radical as a Spin Bearing Ligand for Coordination to Paramagnetic Metal Centers* Hesp K.D., Preuss K.E.

1197 *The Synthesis of Ammonium Thiolates and their Lead(II) Complexes* Hughes N.E., Briand G.G.

1198 *Novel Boron Containing 1,3,4-Thiadiazoles* Kyle C.B., Vogels C.M., Wheaton S.L., Decken A., Baerlocher F.J., Westcott S.A.

1199 *Synthesis and Characterization of Heteroleptic Bicyclic Indium(III) Tris-thiolate Complexes* MacDonald D.B.S., Briand G.G., Shatte G.

1200 *Reactivity Investigations of a New Class of Cp\**Ru* Complexes with Silanes* MacLean D.F., Rankin M.A., Stradiotto M.

1201 *New Phosphonium Cations Synthesized via Formal Insertions of Phosphonium Ions* Mallov I., Dyker C.A., Burford N.

1202 *Redox versus Metathesis Routes to the Preparation of Bicyclic Indium(III) Aminothiolates* Martin C.D., Briand G.G., Schatte G.

1203 *Steric Effects on Intermolecular Bonding in Dimethylthallium(III) Alkoxides* Briand G.G., McKelvey J.I., Decken A.

1204 *Ag and Alloy Nanoparticles with Tailored Structure by Control of Particle Size, Surface Chemistry and Metal Composition: Synthesis and XAFS Studies* Padmos J.D., Zhang P.

1205 *Shape Selective Transformation of Gold Nanoparticle Morphology and the Synthesis of Au/TiO<sub>2</sub> Nanocomposite Materials* Banks J.T., Richard L.A.

1206 *Conversion of Phosphonium Borates to Phosphine Boranes: A Kinetic Study* San Juan R.R., Stephan D. W., Welch G.C.

1207 *Synthetic Routes to Aryl Substituted  $\beta$ -Diketiminato Cr(II) and Cr(III) Complexes* Smith J.J., Smith K.M.

1208 *Schiff Base Palladium Complexes as Catalysts for Green Cross-Coupling Reactions* **Tardiff B.J.**, Smith J.C., Decken A., Duffy S.J., Westcott S.A.

**UPC4 CC-Port Royal D,E**

**Organic Chemistry**

Organizer(s) - Patricia Laws  
Chair(s) - Patricia Laws

From 16:40 until 18:40

1209 *Synthesis of Homallylic Alcohols Using Ionic Liquids as Solvent and Catalyst* **Abraham T.**, Dean D., Singer R.D.

1210 *The Spectroscopy, Reactivity, and Kinetics of a Stabilized Silene in Polar Solvents* **Billone P.S.**, Leigh W.J.

1211 *1,4,8,11-Tetra-[2-aryl-1-diazenyl]-1,4,8,11-tetraazacyclotetradecanes: Synthesis and Characterization of the First tetrakis-Triazenes to be Reported* **Clarke J.D.**, Vaughan K.

1212 *1-[4-(Carboxy)benzyl]pyridinium Hexafluorophosphate and 1-[4-(Carboxy)benzyl]-3-methylimidazolium Hexafluorophosphate as Task Specific Ionic Liquids* **Farrell J.**, Holland A., Singer R.D.

1213 *Novel  $\beta$ -Lactam Ugi Products Containing Boronic Acids* **Gullon T.J.**, Hanson M.A., Wheaton S.L., Decken A., Baerlocher F.J., Westcott S.A.

1214 *Synthesis of a Polyester Dendrimer* **Huestis M.**, Grindley T.B.

1215 *Synthesis of Three New Series of 1,4-bis-(2-Aryl-1-diazenyl)-piperazines* **Little V.R.**, Hunter N., Vaughan K.

1216 *Novel Ugi Products Containing Boronic Acids* **Manning M.J.**, Turner C.S., Wheaton S.L., Decken A., Baerlocher F.J., Westcott S.A.

1217 *Synthesis of Two New Series of 1-Aryl-4-(2-aryl-1-diazenyl)-piperazines* **Schurman K.L.**, Vaughan K.

1218 *Reactivity and Diastereoselectivity of Metathesis Reactions on Substituted Alkenes* **Speed A.W.H.**

1219 *Nicholas Reactions in the Synthesis of Benzo[b]oxepinones: A Model Study for the Synthesis of Velloziolide* **Tjeng A.A.**, Green J.R.

1220 *An Investigation of a Tandem Dealkoxycarbonylation-Intramolecular Reaction* **Verdu M.J.**, Cook M.C., White R.L.

1221 *Progress Towards Reactivity and Solubility of  $D$ -Glucose (Carbohydrates) In Phosphonium Ionic Liquids* **Wang L.L.**, McNulty J.

1222 *Enantioselective Hydroamination of Alkenes Catalyzed by Amidate Complexes of Group 4 Metals* **Yeung C.**, Wood M., Schafer L.

1223 *Novel Biginelli Products Containing Boronic Acids* **Zamora M.T.**, Blacquiére J.M., Vogels C.M., Decken A., Sicora O., Cuperlovic-Culf M., Ouellette R.J., Westcott S.A.

**UPC5 CC-Port Royal D,E**

**Physical Chemistry**

Organizer(s) - Patricia Laws  
Chair(s) - Patricia Laws

From 18:40 until 20:40

1224 *Spontaneous Pattern Formation of Spatially and Temporally Incoherent White Light in a Photochemical Medium* **Burgess I.B.**, Shimmell W.E., Saravanamuttu K.

1225 *The Effects of an Inert Gas on the Pyrolysis of Acetylene* **Duval A.**

1226 *The Temperature Dependence of Infrared Optical Properties of Liquid Benzene* **Keefe C.D.**, Gillis E.A.L.

1227 *Theoretical Studies of Novel Free Radicals from Reactions of H Isotopes with Molecules Containing C=P and P=O in Comparison to Molecules Containing C=C and C=O* **Lauzon J.M.**, Muir C.E., Ghandi K.

1228 *The Effect of Organic Solvents on the Structure of Thermolysin as Studied by FT-IR Spectroscopy* **MacDonald J.L.**, Keefe C.D.

1229 *The Mechanism of DNA Glycosidic Bond Cleavage* **Millen A.L.**, Hunter K.C., Wetmore S.D.

1230 *Formation and Reactivity of Radical Cations of Aromatic Amino Acids* **Mineau P.C.**, Sutherland K., Orlova G.

1231 *Spectroscopic Investigations of Micelles, Reverse Micelles and Microemulsion Systems* **Moore S.A.**, Palepu R.

1232 *The Kinetics of Detoxification of Ecotoxic Substances in Micellar Media* **Moore S.E.**, Palepu R.

1233 *Astrochemistry on Earth: Finding Analytical Rate Expressions for Reactions Occurring under Cryogenic Conditions* **Poirier M.G.**

1234 *Theoretical Study of Radical-Cationic Aliphatic Amino Acids and their Cu(II) Complexes* **Sutherland K.**, Mineau P.C., Orlova G.

1235 *Kinetic Study of the Formation of Carbon Nanotubes from the Pyrolysis of Acetylene* **Trottier A.M.**, Pacey P.D.

1236 *A Thermodynamic Investigation of the Reaction of Bromine Atoms with Ethers* **Wheeler M.J.**, Roscoe J.M.

**Wednesday AM**

**Analytical Chemistry Division**

**AN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with EN) (joint with EN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Marc Lamoureux, Nouri Hassan

08:00 1237 *Chromium and Arsenic on the Hands of Children after Playing in Playgrounds* **Hamula C.**, Wang Z., Zhang H., Li X.-F., Gabos S., **Leff X.C.**

08:40 1238 *Capillary Electrophoresis Analysis of Metal-Binding Proteins Labeled with Fluorescent Quantum Dots* **Lai E.P.C.**, Pereira M.

09:20 1239 *Extraction Chromatography for the Separation of Actinides in Environmental Samples at Ultra-Traces Levels* **Larivière D.**, Packer A.P., Epov V.N., Li C., Evans R.D., Cornett J.

**09:40 Coffee Break**

10:00 1240 *Analytical Challenges in Investigating the Mechanisms of the Hydride Generation Using Advanced Mass Spectrometric Approaches* **Meija J.**, Mester Z., D'Ulivo A.

10:40 1241 *Mercury in the Environment in China* **Lu J.**

11:00 1242 *Speciation of Arsenic Using Chelation Solvent Extraction-High Performance Liquid Chromatography* **Cathum S.J.**, Zou L., Punt M., Brown C.E., Sidhar S.

11:20 1243 *Free-Metal Ion Concentrations of Cu, Zn, Cd and Pb in Freshwaters: Does their Quantitative Determination in Model Solutions of a Well-Characterized Fulvic Acid by Ion-Exchange Technique Provide Valid Results?* **Yapici T.**, Fafsoos I.I., Chakrabarti C.L.

11:40 End of Session

**AN4 CC-Highland 6**

**Chemical Sensors**

Organizer(s) - Stephen Brown  
Chair(s) - Stephen Brown

08:40 1244 *Waveguide Cavities for Absorption and Refractive Index Measurements* **Loock H.-P.**, Barnes J., Zhang J., Trefiak N.

09:20 1245 *Theoretical Considerations in the use of Long-Period Gratings as Chemical Sensors* **Hochreiner H.**, Cada M., Wentzell P.D.

**09:40 Coffee Break**

10:00 1246 *Towards a Synthetic Electrochemical Cognitive System* **Thompson M.**, Sadeghi S.

10:40 1247 *Derivatization of Acrylate Patterned Poly(dimethylsiloxane) with Isopropyl Amine* **McLachlan J.M.**, Patrino N., Francis J., Norton P.R., Petersen N.O.

**11:00 1248** *Towards a Silicon Based Label Free Electrical Biosensor* **Mischki T.K.**, Koukiekolo R., Lopinski G.P., Pezacki J.P., Wayner D.D.M.

**11:20 1249** *Fiber-Optic Sensor for Contaminants in Ground Water* **Zhang J.**, Brown R.S., Looock H.-P., Crudden C.M.

**11:40** End of Session

**AN7 CC-CornwallisSuite**

**New Applications in Microscopy and Microspectroscopy (Joint with PT) (joint with PT8)**

Organizer(s) - Mark McDermott, Antonella Badia and Tanya Dahms  
Chair(s) - Tanya Dahms

**08:00 1250** *Raman Chemical Imaging - Improving Speed and Spatial Resolution* Whitley A., **Lee† E.**

**08:20 1251** *FTIR and Raman Detection of Focally Elevated Levels of Creatine in APP Transgenic Mice and in Alzheimer Diseased Brain Tissue* **Gough K.M.**, Rak M., Gallant M., Szeghalmi A., Del Bigio M.R., Westaway D., Julian R.

**08:40 1252** *Raman Microspectroscopy: An Ideal Technique to Study the Conformation and Orientation of Silk Proteins* **Pézolet† M.**, Lefèvre T., Rousseau M.-E., Paquin M.-C., Rioux-Dubé J.-F.

**09:20 1253** *Quantitative Mapping of the Orientation of  $\beta$ -sheets in Silk Fibers by Scanning Transmission X-ray Microscopy* **Rousseau M.-E.**, Hernández-Cruz D., West M.M., Pézolet M., Hitchcock A.P.

**09:40** Coffee Break

**10:00 1254** *Mapping of Biological Structures with Inverted AFM* Wu S.Y., **Green† J.-B.**

**10:20 1255** *Microcantilever Sensors* Seivewright B., Monga T., Tabard-Cossa V., Bourque H., Grutter P., **Lennox† R.B.**

**10:40 1256** *A Simple Method of Chemical Patterning Cantilevers to Improve the Flexibility of Inverted AFM* **Chisholm R.A.**, Qiu W., Green\* J.B.D.

**11:00 1257** *Incipient Stages of Collagen Mineralization Monitored by Atomic Force Microscopy* **Stetco A.**, Sun M., Merschrod S. E.F.

**11:20** End of Session

**AN11 CC-CornwallisDraped**

**General**

Organizer(s) - Peter Wentzell  
Chair(s) - Robert Guy

**09:00 1258** *Porous Polymer Membrane Assisted Electro spray* **Su L.**, Bedair M., Yan X.H., Koerner T., Liu G.J., Oleschuk R.

**09:20 1259** *MALDI Spectra of Acetylsalicylic Acid* **Lacey D.**, Hu X.K., Lipson R.H.

**09:40** Coffee Break

**10:00 1260** *Plastic High Throughput Screening Devices* **Diaz-Quijada G.A.**, Peytavi R., Nantel A., Roy E., Bergeron M.G., Dumoulin M.M., Veres T.

**10:20 1261** *Saturation and Spectral Shifting of CdSe/ZnS Nano-Particles Using Two-Photon Excitation Fluorescence Correlation Spectroscopy* **Heuff R.**, Cramb D.T., Swift J.

**10:40 1262** *Adsorption of Pentachlorophenol (PCP) from Aqueous Solution by Multiwalled Carbon Nanotubes (MWCNTs)* **Salam M.S.A.**, Burk R.C.

**11:00 1263** *Determining the Stoichiometric Ratio of Reaction Between a Gas and an Impregnant on Activated Carbon* **Fortier H.**, Zelenietz C., Westreich P., Dahn J.R.

**11:20 1264** *Speciation Modeling of Copper in Thiomolybdate Contaminated Bovine Rumen* **Essilfie - Dughan J.**, Reid R.S.

**11:40** End of Session

**Biological and Medicinal Chemistry Division**

**BM1 CC-Highland 8**

**Advances in Nucleic Acid Chemistry**

Organizer(s) - Dipankar Sen and Yingfu Li  
Chair(s) - Peter Unrau

**08:00 1265** *DNA: Not Merely the Secret of Life* **Seeman† N.C.**

**08:40 1266** *Nanopatterning Materials Using DNA* **Sleiman† H.F.**, Aldaye F.

**09:00 1267** *DNA Polymerization on Gold Nanoparticles via Rolling Circle Amplification: Towards Novel Scaffolds for Three-Dimensional Periodical Nanoassembly* **Zhao W.**, Gao Y., Kandadai S.A., Brook M.A., Li Y.

**09:20 1268** *Applications of M-DNA in Nanoelectronics* **Lee† J.S.**, Dinsmore M.J., Wettig S.D.

**09:40** Coffee Break

Chair(s) - David Perrin

**10:00 1269** *Site-Specific Incorporation of Reporter Groups for Spectroscopic Studies of Nucleic Acids* **Sigurdsson† S.Th.**

**10:40 1270** *Charge Conduction through Helices as a Structure-Probing Method for DNA and RNA* **Sen D.**, Leung E.K., Bergeron L.J.

**11:00 1271** *Structural Basis for Branch Nucleotide Recognition in the Mammalian Spliceosome* **MacMillan† A.M.**

**11:20 1272** *RNA Recognition by the Vts1p SAM Domain* **Johnson† P.E.**

**11:40** End of Session

**BM4 CC-Highland 7**

**Enzyme Inhibitors and Drug Design**

Organizer(s) - Zheng Huang and David Percival  
Chair(s) - Zheng Huang

**08:00 1273** *Applications of Glycosidase Inhibitors from Proteomics to Genetic Diseases* **Withers† S.G.**, Hekmat O., Rempel B., Reid S., Numao S., Zhang R., Tarling C., Tropak M., Mahuran D., MacDonald J.

**08:40 1274** *Synthesis of Inhibitors against Aminoglycoside 6'-N-Acetyltransferases (AAC(6')s), an Important Family of Enzymes Causing Antibiotic Resistance* **Gao F.**, Auclair K.

**09:00 1275** *Back to my Roots: Drug Candidates Based on an Herbal Remedy for the Treatment of Type 2 Diabetes.* **Pinto† B.M.**

**09:40** Coffee Break

Chair(s) - Simon Fricker

**10:00 1276** *Quinone-Methide Generating Suicide Inhibitors and Reversible Boronic Acid Inhibitors of Steroid Sulfatase* **Taylor† S.D.**

**10:40 1277** *Acyclic Triaryl (Z)-Olefins: Dual Inhibitors of Cyclooxygenases and Lipoxygenases* **Knaus E.**, Moreau A., Praveen Rao P.N.

**11:00 1278** *Discovery and Characterization of Novel Indole-Based Non-Nucleoside Allosteric Inhibitors of HCV NS5B Polymerase* **Gillard J.**

**11:20 1279** *Specifically Targeting the RNase H Activity of HIV-1 RT with Short RNA Hairpins* **Wahba A.S.**, Marchand B., Götte M., Damha M.J.

**11:40** End of Session

**Chemical Education Division**

**CE3 CC-Mariner 3**

**General**

Organizer(s) - Pippa Lock  
Chair(s) - Pippa Lock

**08:40 1280** *An Organic Perspective on Teaching Carbohydrate Metabolism* **Johnson A.E.**

**CIC Chemical Education Award Lecture presented by Gordon Bates**

Introduction of Gordon Bates by Margaret-Ann Armour

**09:00 1281** *Don't Be Afraid to Say "Yes" - You Can Make a Difference* **Bates† G.S.**

**09:40** Student Awards Reception and Student Chapters Presidents Meeting

Chair(s) - Anne Johnson



11:00 1282 *Experiments with Concept Questions and a Low-Tech Classroom Response System* **Austen M.A.**

11:20 1283 *First Year - Then and Now - 40 Years On* **Peach M.E.**

11:40 End of Session

### Environment Division

#### EN3 DH-Baronet 4,5

**Biogeochemistry of Trace Metals in the Environment (Joint with AN) (joint with AN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Marc Lamoureux, Nouri Hassan

08:00 Joint with Analytical Chemistry Division - See AN3

11:40 End of Session

### Inorganic Chemistry Division

#### IN2 CC-Port Royal C2

**Ligand Design in Transition Metal Chemistry**

Organizer(s) - Mark Stradiotto  
Chair(s) - Laurel Schafer

08:00 1284 *Ni(II) and Ni(III) Complexes of Pincer-Type POC<sub>sp3</sub>OP and POC<sub>sp2</sub>OP Ligands* **Zargarian D.**, Pandarus V.

08:20 1285 *New Ligand Designs for the Activation of Molecular Nitrogen by Early Transition Metal Complexes* **Fryzuk M.D.**, MacLachlan E.A., Morello L., Mackay B.A., Spencer L.P.

08:40 1286 *A Phosphine/Thioether/Borane Ligand for the Preparation of Borane-Appended Late Transition Metal Complexes* **Emslie D.J.H.**, Huk N.L., Oakley S.R., Parker K.D.J., Blackwell J.M.

09:00 1287 *The Chemistry of Ruthenium, Osmium, and Rhenium Complexes with New Pincer Ligands* **Gusev D.**, Major Q.

09:20 1288 *Reactivity and Catalysis Based on Adaptable Pincer-Ligand Systems* **Milstein D.**

09:40 Coffee Break

10:00 1289 *Ligand Strengths and Vulnerabilities: Some Case Studies* **Caulton K.G.**

10:20 1290 *New Bond Activations at Transition Metal Centers. Fundamental Studies and Applications to Catalysis* **Tilley T.D.**, Hayes P.G., Karshtedt D., Escalada J.

10:40 1291 *7-Azaindolyl Derivative Ligands in Organoplatinum(II) Complexes: Toward Stereo and Regio-Selective C-H Bond Activation* **Wang S.**, Zhao S.B.

11:00 1292 *Silane/Imido Coupling Route to Compounds with Nonclassical Si-H Interactions* **Nikonov G.**

11:20 1293 *Design and Study of New Coordination Complexes for the Selective Oxidation of Hydrocarbons based on the CH Activation Reaction* **Periana R.A.**

11:40 End of Session

#### IN3 CC-Mariner 5

**Macromolecular and Supramolecular Chemistry (Joint with MS and OR) (joint with OR4)**

Organizer(s) - Bruce Grindley  
Chair(s) - Bruce Grindley

08:00 1294 *Multivalent Glycodendrimers toward the Inhibition of Bacterial Adhesion to Host Tissues* **Roy R.**, Mohamed T., Shiao T.C., Lagnoux D., Deguise I., Benhamioud K.

08:40 1295 *Recognition in Aqueous Solution: Receptors, Enzyme Pockets, and Solvation* **Hof F.**

09:00 1296 *Molecular Origami: Towards Urea-Linked Heterocyclic Macrocycles and Foldamers* **Xing L.**, Tang N., Navasero N., Mousseau J., Hoang J., Madwar C., Ziener U., Sutherland T.C., **Cuccia L.A.**

09:20 1297 *Liquid Crystalline Behaviour of Hydrogen-Bonded Complexes of Poly(pyridylpyridinium dodecyl methacrylate) Bromide and Functionalized Molecules* **Sallenave X.**, Bazuin C.G.

09:40 Coffee Break

10:00 1298 *Solid Phase Synthesis of Ion Channels* **Luong H.**, Fyles T.M.

10:20 1299 *Dendrons/Dendrimers as Reactive Quantized Building Blocks for Nanoscale Organic Syntheses* **Huang B.**, Pulgam V.R., Swanson D.R., **Tomalia D.A.**

11:00 End of Session

#### REMINDER

11:00 Merck Frosst Centre for Therapeutic Research Award Lecture presented by Robert Batey in CC-Port Royal C1

#### IN6 CC-Mariner 2

**Semiconductor and Metal Nanoparticles: Synthesis, Properties and Applications (Joint with MT) (joint with MT8)**

Organizer(s) - Matthew Moffitt and Michael Wolf  
Chair(s) - Gregory Scholes

08:40 1300 *Exploiting Energy Transfer in Hybrid Nanoparticle Systems* **Feldmann J.**

09:20 1301 *A Sequential Self-Assembly Route to Three-Dimensional Block Copolymer-Semiconducting Nanoparticle Photonic Arrays with Structural Hierarchy* **Moffitt M.G.**, Yusuf H., Kim W.-G.

09:40 Coffee Break

10:00 1302 *Electronic Effects and Applications of Molecular Spring Assemblies of Nanoparticles and Nanowires* **Kotov N.A.**, Lee J., Govorov A.O.

10:40 1303 *Surface Chemistry Tailoring of Group IV Semiconductor Nanoparticles Prepared via Metal Hydride Reduction of MX<sub>4</sub> (M = Si, Ge; X = Cl, Br, I)* **Fok E.**, Veinot J.G.C.

11:00 1304 *Pyrolysis of Highly Metallized Polymers: Ceramic Thin Films Containing Magnetic CoFe Alloy Nanoparticles from a Polyferrocenylsilane with Pendant Cobalt Clusters* **Liu K.**, Manners I.

11:20 1305 *Nanoparticles with a Magnetic Core and an Organic-Inorganic Shell* **Bronstein L.M.**, Huang X., Retrum J.R., Stein B.D., Dragnea B.

11:40 End of Session

#### IN7 DH-Baronet 6

**General**

Organizer(s) - Neil Burford  
Chair(s) - Pierre Kennepohl

08:00 1306 *Preparation and Properties of Open Framework Solids from Metal Organophosphonate and Organosulfonate Building Blocks* **Shimizu G.K.**, Mahmoudkhani A.H., Taylor J.

08:20 1307 *Magnetic and Optical Birefringence Properties of Cyanourate-Based Coordination Polymers* **Leznoff D.B.**

08:40 1308 *Solution and Solid-State Structures of Mixed nBuLi/NCN "Pincer" Li Aggregates: Unusual Binding Modes in Organolithium Chemistry* **Chase P.A.**, Lutz M., Spek A.L., van Klink G.P.M., van Koten G.

09:00 1309 *Experimental and Theoretical Studies of Thiazyl Radical Dimers. Relationship of a Magnitude of Singlet-Triplet Gap and a Degree of Diradical Character* **Decken A.**, Kowalczyk R.M., McInnes E.J. L., Passmore J., **Shuvaev K.V.**, Thompson L.T.

09:20 1310 *Reactivity Studies of Thermally Stable, Terminal and Doubly Bridging Electrophilic Aminophosphidene (PNR<sub>2</sub>) Complexes* **Graham T.W.**, Udachin K.A., Carty A.J.

09:40 Coffee Break

10:00 1311 *The Coordination Chemistry of 2-(2'-Anilinylnyl)-4,4-dimethyl-2-oxazoline* **Gossage R.A.**

10:20 1312 *Catalytically Relevant Ion-Molecule Chemistry* **McIndoe J.S.**, Henderson M., Kwok S.

10:40 1313 *Toward Understanding the Chemistry of Biologically Relevant Bismuth-Thiolate Complexes* Burford N., Phillips H.A.

11:00 1314 *The Structure of Lead Glutathione Complexes in Aqueous Solution* Mah V. W., Jalilievand F.

11:20 1315 *Microwave-Assisted Synthesis of Re and <sup>99m</sup>Tc-Metalloporphyrin Complexes: A New Strategy for the Preparation of Serotonin-Targeted Molecular Imaging Agents* Louie A.S., Green A., Causey P., Armstrong A., Valliant J.F.

11:40 End of Session

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**Macromolecular Science and Engineering Division**

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**MS2 CC-Mariner 5**

**Macromolecular and Supramolecular Chemistry (Joint with IN and OR)**

Organizer(s) - Bruce Grindley  
Chair(s) - Bruce Grindley

08:00 Joint with Inorganic Chemistry and Organic Chemistry Divisions - See IN3

11:00 End of Session

**REMINDER**

11:00 Merck Frosst Centre for Therapeutic Research Award Lecture presented by Robert Batey in CC-Port Royal C1

**MS5 CC-Mariner 1**

**Organic Materials for Optical, Electronic or Photonic Applications (Joint with MT and OR) (joint with OR7)**

Organizer(s) - Wayne Wang and Tim Bender  
Chair(s) - Wayne Wang

08:00 1316 *Fluorescent CdTe-PS Composites and Ordered Polymeric Structure in Nano/Micrometer Scale* Yang† B.

08:40 1317 *Optical Properties of Porous Self-Assembled Helical Nanorod Arrays of Alq<sub>3</sub>* Hrudehy P.C.P., Szeto B., Fleischauer M.D., Brett M.J.

09:00 1318 *Supramolecular Functionalization of Single-Walled Carbon Nanotubes with Conjugated Porphyrin Arrays* Cheng F., Adronov A.

09:20 1319 *Incorporation of Photochromic Dithienylethene Dopants into Ferroelectric Smectic C Liquid Crystals* Roberts J.C., Zhang P., Buncel E., Lemieux R.P.

09:40 Coffee Break

Chair(s) - William Skene

10:00 1320 *Glassy Discotic Liquid Crystals as Organic Semiconductors* Eichhorn† S.H., Bari A., Mahoney S., Fox N., Norton P.R., Tadayon S.

10:40 1321 *Synthesis and Properties of new pi-Conjugated Oligomeric, Donor-Acceptor and Photoluminescent Siloles* Pagenkopf B.L.

11:00 1322 *Ferroelectric Liquid Crystals Induced by Dopants with Chiral 2,2'-Spirobiindan-1,1'-dione Cores: Controlling Conformational Equilibrium and Polar Order* Yuh E., Cui Q., Lemieux† R.P.

11:40 End of Session

**MS6 DH-Baronet 1,2,3**

**Surfactants, Micelles and Colloids (Joint with PT and MT) (joint with PT10)**

Organizer(s) - Gerrard Marangoni  
Chair(s) - Peter Tremaine

08:20 1323 *Characterization of Gemini Cationic Vector-Based Gene Delivery Systems* Wang C., Wettig S.D., Li X., Foldvari M., Verrall† R.E.

09:00 1324 *Spheres, Cylinders, Films, and Swiss Cheese: Molecular Dynamics Simulations of Oil Films in Water* Bhattacharjee S., Segin T.M., Masliyah J.H.

09:20 1325 *Structuring Noble Metal Nanoparticles in Multilayered Silicone Surfactants* Gonzaga F., Brook M.A.

09:40 Coffee Break

10:00 1326 *Diffusion of Charged Colloidal Particles in Supporting Electrolyte Solutions* Leaist† D.G.

10:40 1327 *A Proxy for Real-Time Monitoring of the Reaction of Ozone with Unsaturated Organic Monolayers* González E., Schmidt R., DeWolf C.E.

11:00 1328 *Influence of Headgroup Structure on the Monolayer Behavior of Polyphenolic Lipids* Zhao Y., Schmidt R., DeWolf C.E., Muchall H.M.

11:20 1329 *Study of Electrochemically Biased Surface of Polycrystalline Pure Ti by Second Harmonic Generation* Wang F., Sun Y., Zhu R., Ding Z.F.

11:40 End of Session

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**Materials Chemistry Division**

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**MT7 CC-Mariner 1**

**Organic Materials for Optical, Electronic or Photonic Applications (Joint with MS and OR)**

Organizer(s) - Wayne Wang and Tim Bender  
Chair(s) - Wayne Wang, William Skene

08:00 Joint with Macromolecular Science and Engineering and Organic Chemistry Divisions - See MS5

11:40 End of Session

**MT8 CC-Mariner 2**

**Semiconductor and Metal Nanoparticles: Synthesis, Properties and Applications (Joint with IN) (joint with IN6)**

Organizer(s) - Matthew Moffitt and Michael Wolf  
Chair(s) - Gregory Scholes

08:40 Joint with Inorganic Chemistry Division - See IN6

11:40 End of Session

**MT9 DH-Baronet 1,2,3**

**Surfactants, Micelles and Colloids (Joint with PT and MS)**

Organizer(s) - Gerrard Marangoni  
Chair(s) - Peter Tremaine

08:20 Joint with Macromolecular Science and Engineering and Physical Chemistry Divisions - See MS6

11:40 End of Session

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**Organic Chemistry Division**

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**OR4 CC-Mariner 5**

**Macromolecular and Supramolecular Chemistry (Joint with IN and MS) (joint with IN3)**

Organizer(s) - Bruce Grindley  
Chair(s) - Bruce Grindley

08:00 Joint with Inorganic Chemistry and Macromolecular Science and Engineering Divisions - See IN3

11:00 End of Session

**REMINDER**

11:00 Merck Frosst Centre for Therapeutic Research Award Lecture presented by Robert Batey in CC-Port Royal C1

**OR7 CC-Mariner 1**

**Organic Materials for Optical, Electronic or Photonic Applications (Joint with MS and MT) (joint with MS5)**

Organizer(s) - Wayne Wang and Tim Bender  
Chair(s) - Wayne Wang, William Skene

08:00 Joint with Macromolecular Science and Engineering and Materials Chemistry Divisions - See MS5

11:40 End of Session

**OR8 CC-Mariner 4**

**Organic Reaction Mechanisms**

Organizer(s) - James Pincock and Frances Cozens  
Chair(s) - Norman Schepp

08:40 1330 *Mechanistic and Synthetic SET-Photochemistry* **Mariano† P.S.**

09:20 1331 *Photochromic Liposomes: Photoregulation of Membrane Permeability with Dithienylethenes* **Bai Y., Murphy R.S.**

**09:40 Coffee Break**

10:00 1332 *Design of Photoreleasable Protecting Groups which are Activated by Electron Transfer Reactions* **Falvey† D.E.**

10:40 End of Session

**REMINDER**

11:00 **Merck Frosst Centre for Therapeutic Research Award Lecture** presented by Robert Batey in CC-Port Royal C1

**OR10 CC-Port Royal C1**

**Recent Advances in Organic Synthesis**

Organizer(s) - Jean Burnell and Ian Pottie  
Chair(s) - Graham Bodwell

08:00 1333 *Synthesis of Single Isomer Tetrasubstituted Olefins* **Lemay A.B., Ogilvie W.W.**

08:20 1334 *Multicatalytic Processes: One-Pot Methylenation-Hydroboration-Cross-Coupling Reactions* **Ladjel C., Lebel H.**

08:40 1335 *Synthesis of Polypropionate Motifs Using Free-Radical Intermediates* **Guindon† Y.**

09:20 1336 *Cross-Coupling Reactions Using Acyclic Diamino Carbene (ADC) Ligands* **Thadani A.N., Dhudshia B.**

**09:40 Coffee Break**

10:00 1337 *Recent Advances in the Total Synthesis of Alkaloid Natural Products* **Martin† S.F.**

10:40 1338 *New Reactivity via Strained E-Cycloalkenes and E-Cycloalkenones* **Beauchemin A.M.**

Merck Frosst Centre for Therapeutic Research Award Lecture presented by Robert Batey

Introduction of Robert Batey by Andrei Yudin

11:00 1339 *Late-Transition Metal Catalyzed C-X Bond Formation: Synthetic Explorations and Applications* **Batey† R.A.**

11:40 End of Session

**OR11 CC-Highland 10**

**General**

Organizer(s) - Bruce Grindley  
Chair(s) - David MaGee

08:00 1340 *Preparation of Deuterated Oligo(ethylene glycol)-Linked Glycerols for Investigations of Cellular Membranes* **Schwan A.L., Faragher R.J.**

08:20 1341 *Highly Stereoselective Oxidative Esterification of Aldehydes with  $\beta$ -Dicarbonyl Compounds* **Yoo W., Li C.-J.**

08:40 1342 *Chiral Bisphosphine Monoxide as a New Class of Ligands in Catalytic Enantioselective Addition of Diorganozincs to  $\beta$ -Nitroalkenes* **Charette A.B., Côté A., Lindsay V.N.G.**

09:00 1343 *Synthesis of Aryl and Alkenylsulfones from Organoboronic Acids and Sulfonic Acid Salts Induced by a Catalytic Amount of Copper* **Huang F., Batey R.A.**

09:20 1344 *Conversion of Unsymmetrical Di- and Trisulfides to Tetra- and Hexasulfides* **Rys A.Z., Abu-Yousef I.A., Harpp D.N.**

**09:40 Coffee Break**

10:00 1345 *Accessing Functionalized Cyclophanes via En-yne Metathesis* **El-Azizi Y., Collins S.K.**

10:20 1346 *Using (TD) DFT to Calculate Ionization Potentials and Absorption Spectra of Cyclophanes as Model Systems for Base Pairs* **Kamya P.R.N., Muchall H.M.**

10:40 1347 *Reverse-Docking: A Computational Approach to the Study of Asymmetric Organocatalysts* **Deslongchamps G., Harriman D.J., Lambropoulos A., Landau J., Alemayehu M.**

11:00 End of Session

**REMINDER**

11:00 **Merck Frosst Centre for Therapeutic Research Award Lecture** presented by Robert Batey in CC-Port Royal C1

**Physical, Theoretical and Computational Division**

**PT1 CC-Highland 9**

**Ab initio Methods: Orbital and Plane Wave Methods**

Organizer(s) - Russell Boyd and Josef Zwanziger  
Chair(s) - Josef Zwanziger

08:20 1348 *The Lowest-Energy Structures of Radical-Cationic Amino Acids and Polypeptides* **Orlova G., Mineau P.C., Sutherland K.**

08:40 1349 *Twisted Amides: Characterization of their Electronic Structure and Analysis of their Activated Hydrolysis* **Lopez X., Mujika J.I., Eriksson L.A., Matxain J.M.**

09:00 1350 *An Atomic Basis for Vibrationless Bond Dissociation Enthalpies in Hydrocarbons* **Matta C.F., Castillo N., Boyd R.J.**

09:20 1351 *Atom Types in Proteins* **Bohórquez H.J., Suárez C.F.**

**09:40 Coffee Break**

10:00 1352 *Three-Electron Bonding Between Sulfur and Nitrogen: Theory and Experiment* **Rauk† A., Brunelle P.**

10:40 1353 *Mixing of Electronic States in Molybdenum Complexes Involved in Nitrogen Activation* **Yates† B.**

11:00 1354 *Sandwich-Like Complexes Based on the "All-Metal"  $Al_4^{2-}$  Aromatic Ring* **Ugalde† J.M.**

11:20 1355 *Theoretical Studies of Actinide Inclusion Complexes with Different Macrocycles* **Shamov G.A., Schreckenbach† G.**

11:40 End of Session

**PT3 CC-Highland 11**

**Biophysical Chemistry**

Organizer(s) - Gonzalo Cosa and Paul Wiseman  
Chair(s) - Paul Wiseman

08:00 1356 *Measurement of Fast Dynamics in the Cell Interior* **Gratton† E.**

08:40 1357 *Understanding Interactions of Volatile Anesthetics with Model Membranes* **Swift J.L., Carnini A., Burger M., Harrison J., Shamrakov L.G., Leonenko Z., Cramb† D.T., Nguyen T.**

09:20 1358 *A Guide to Accurate Colocalization Measurements* **Comeau J.W.D., Costantino S., Wiseman P.W.**

**09:40 Coffee Break**

Chair(s) - David Cramb

10:00 1359 *Interaction of the Pro-Apoptotic Protein Bax with Lipid Membranes* **Satsoura D., Campbell C., Leber B., Andrews D., Fradin† C.**

10:40 1360 *Reduced Binding Affinity for Fluorescently Labeled Biomolecules Examined Using Two-Photon Excitation Fluorescence Cross-Correlation Spectroscopy* **Swift J.L., Cramb D.T.**

11:00 1361 *S-Nitrosation of Biologically Important Thiols and Dithiols* **Chretien M.N., Roy J.-F., English A.M.**

11:20 1362 *Molecular Dynamics of the Alzheimer's Beta-Amyloid Peptide in Solution* **Llano J., Bachar M., Roy S., Brunelle P., Rauk A.**

11:40 End of Session

**PT8 CC-CornwallisSuite**

**New Applications in Microscopy and Microspectroscopy (Joint with AN) (joint with AN7)**

Organizer(s) - Mark McDermott, Antonella Badia and Tanya Dahms  
Chair(s) - Tanya Dahms

**08:00** Joint with Analytical Chemistry Division - See AN7

**11:20** End of Session

**PT10 DH-Baronet 1,2,3**

**Surfactants, Micelles and Colloids (Joint with MT and MS) (joint with MS6)**

Organizer(s) - Gerrard Marangoni  
Chair(s) - Peter Tremaine

**08:20** Joint with Macromolecular Science and Engineering and Materials Chemistry Divisions - See MS6

**11:40** End of Session

**Wednesday PM**

**Analytical Chemistry Division**

**AN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with EN) (joint with EN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Shamil Cathum, Jeff Guthrie

**13:00** 1363 *Environmental Applications of Synchrotron XAFS: Can We Speciate Quantitatively Trace Metals in Environmental, Solid Samples?* Lamoureux† M.

**13:40** 1364 *Use of Micro-Orifice Uniform Deposit Impactor (MOUDI), Microwave Digestion, and ICP-MS Instrumentation to Characterize Metal Distribution in Size-Fractionated Urban Air Particle Samples* Hassan† N., Rasmussen P.E., Dabek-Zlotorzynska E., Vincent R., Guénette J., Liao X., MacIntyre D.J.

**14:00** 1365 *Depletive Scanned Stripping Chronopotentiometry of Metal Complexes in Model Solutions of Complexants - Homogeneous Ligands and a Well-Characterized Fulvic Acid* Yang† M., Fasfous I.I., Chakrabarti C.L.

**14:20** 1366 *Characterization of the Potash Bromide Removal Process Using Bromine X-ray Absorption Spectroscopic Analysis* Pushparajah T., Kotzer T.G., Cutler J.N., Gilbert S.

**14:40** 1367 *Spectroscopic Analysis of the Nucleation of Biominerals* Melançon S., Fryer B.J., Weisener C., Gagnon J.E.

**15:00** Coffee Break

**15:20** 1368 *Remediation of Soil Contaminated with PCBs and Heavy Metals* Ehsan S., Marshall† W.D.

**16:00** 1369 *Structural Characterization of Humic Materials* Beach† D.G., Griffiths B., Stewart J.M., Oliver M., Duffy S.J.

**16:20** 1370 *Coordination of Boric Acid with Soil Minerals and Soil Organic Matter in Aqueous Solution and Solid State: An ATR-FTIR and XANES Study* Xu D., Peak D.

**16:40** 1371 *Global Estimate of Carbon-14 Production from Nuclear Reactors: A Canadian Perspective* Caron F., Yim M.-S.

**17:00** End of Session

**AN4 CC-Highland 6**

**Chemical Sensors**

Organizer(s) - Stephen Brown  
Chair(s) - Hans-Peter Look

**13:00** 1372 *Optical Transduction of DNA Hybridization by Conjugated Polymers* Leclerc† M.

**13:40** 1373 *Electrochemical Detection of Dopamine in the Presence of Excess Ascorbic Acid Using Defective Acidic SAMs* Shepherd J.L., Rucareanu S., Lee L.Y.S., Lennox R.B.

**14:00** 1374 *Water-Soluble Glycodendrimer-Coated Gold Nanoparticles as Sensors for Lectins and Fimbriated Bacteria* Bogdan N., Bozoukova M., Roy R., Morin M.

**14:20** 1375 *Combining Chemical Sensing and Molecular Logic for Medical Diagnostics: A 'Lab-on-a-Molecule' Prototype* Magri D.C., de Silva A.P.

**14:40** 1376 *Characterization and Optimization of a Fiber-Optic Sensor for Detection of Enzymes and Bacteria* Han X., Brown R.S.

**15:00** Coffee Break

**15:20** 1377 *Towards Integration of Pathogen Sampling and Microfluidics-Based Biosensing* Krull† U.J., Liu X., Chan A.

**16:00** 1378 *A Fluorescence Resonance Energy Transfer (FRET) 'Switch' Strategy for Development of a Biosensor for Detection of Nucleic Acid Hybridization at an Interface* Massey M., Krull\* U.J.

**16:20** 1379 *A New Technology for Simple, Rapid Detection of E. coli and Total Coliform Bacteria in Water* Brown† R.S., Marcotte E.J.-P., Gilmour C., Dunkinson C., Aston W.P., Gallant P.

**16:40** End of Session

**Biological and Medicinal Chemistry Division**

**BM1 CC-Highland 8**

**Advances in Nucleic Acid Chemistry**

Organizer(s) - Dipankar Sen and Yingfu Li  
Chair(s) - Chris Wilds

**13:00** 1380 *Fluorescent and Colorimetric DNAzyme and Aptamer Biosensors for a Broad Range of Analytes* Lu† Y., Liu J.

**13:40** 1381 *Entrapment of Fluorescent Signaling DNA Aptamers in Sol-Gel Derived Silica for the Development of Solid-Phase Enzyme Assays* Ruppich N.R., Nutiu R., Li Y., Brennan† J.D.

**14:00** 1382 *DNA Bulge Recognition and DNA Slippage: Lessons Learned from Nature* Xi† Z.

**14:20** 1383 *Nucleobase Discriminating Fluorophores* Hudson† R.H.E.

**14:40** 1384 *In Vivo Tracking of RNA via Functional Group Labeling* Noestheden M., Hu Q., Evans C., Pezacki J.P.

**15:00** Coffee Break

Chair(s) - Yingfu Li

**15:20** 1385 *Efficient and Persistent Gene Silencing by Arabinonucleic Acids* Damha† M.J.

**16:00** 1386 *Synthesis and Investigation in Interstrand Cross-Linked DNA* Wilds† C.J., Noronha A.M., Booth J.D., Palus E.

**16:20** 1387 *Aminopyridine Peptide Nucleic Acids for Molecular Recognition of Quadruplex DNA* Linkletter B.A., Gill M.A., McInnis M., Breining B.

**16:40** 1388 *Inhibition of Ribozymes and DNA Enzymes by DNA Intercalators* Hollenstein M., Perrin D.M.

**17:00** End of Session

**BM2 CC-CornwallisSuite**

**Carbohydrates and Drug Discovery (Joint with OR) (joint with OR1)**

Organizer(s) - Dennis Whitfield  
Chair(s) - Robert Ben

**REMINDER**

**13:00** Boehringer Ingelheim Award Lecture presented by Jason Kennedy in CC-Highland 7

**13:40** 1389 *Characterizing Protein-Carbohydrate Interactions Using NanoES and FT-ICR/MS* Klassent† J.S., Kitova E.N.

**14:20** 1390 *Glycorandomization of Jadomycin B: A Chemo-Enzymatic Approach* Timmons S.C., Jakeman D.L.

**14:40** 1391 *New Effective Glycosylation Strategy at O-4 of N-Acetyl Glucosamine Glycosyl Acceptors* Cheng A., Colangelo K., Bonin M., Liao L., Hendl J., Auzanneau F.-I.

**15:00** Coffee Break

**15:20 1392** *Development and Biological Application of  $\beta$ -N-Acetylglucosaminidase Inhibitors* Macauley M.S., Whitworth G.E., Stubbs K.A., Debowski A., Chin D., Vocadlo D.J.

**16:00 1393** *Design and Synthesis of New Bicyclic Mechanistic Probes for the UDP-Galactopyranose Mutase* Sadeghi-Khomami A., Forcada T.J., Jones V.C., McNeil M.R., Thomas N.R.

**16:20 1394** *Component Analysis of the X-C-Y Anomeric Effect (X = O, S; Y = F, OMe, NHMe) by DFT Molecular Orbital Calculations and Natural Bond Orbital Analysis* Watts J.K., Trapp M.L., Weinberg N., Pinto B.M.

**16:40 1395** *Do  $\beta$ -D-Glycopyranosides Ionize via the B<sub>3,0</sub> Conformation?* Whitfield D.M.

**17:00** End of Session

**BM7 CC-Mariner 4**

**Natural Products (Joint with OR) (joint with OR5)**

Organizer(s) - Paul Harrison  
Chair(s) - John Vederas

**REMINDER**

**13:00** Boehringer Ingelheim Award Lecture presented by Jason Kennedy in CC-Highland 7

**SYNTHESIS AND METABOLISM**

**13:40 1396** *A Concise Total Synthesis of Bullatacin* Pagenkopf B.L.

**14:20 1397** *First Asymmetric Total Synthesis of Allosecurinine* Wanner K.T., Gebauer P.

**14:40 1398** *Formal Enantioselective Synthesis of (+)-Compactin* Robichaud J., Tremblay F.

**15:00** Coffee Break

**15:20 1399** *An Efficient Synthesis of the Diazobenzo[a]fluorene Ring System of the Antitumour Antibiotic Isoprekinamycin* Liu W., Buck M., Shang M., Taylor N.J., Dmitrienko G.I.

**15:40 1400** *Total Synthesis of Phenanthroindolizidine and Phenanthroquinolizidine Alkaloids via Platinum-Catalysed Cycloisomerization* Kennedy J.W.J., Fürstner A.

**16:00 1401** *Studies Directed Towards the Synthesis of Reisingin A: Total Synthesis of epi-Reisingin A and (-)-Reisingin A* MaGee D.I., Shannon D.E., Setiadi S.

**16:20 1402** *Phytoalexin Metabolism: Boosting Chemical Defenses in Crucifer Plants* Pedras M.S.C., Jha M., Okeola O.G., Hossain M., Suchy M., Gadagi R.

**17:00** End of Session

**BM10 DH-Baronet 1,2,3**

**General**

Organizer(s) - Stephen Bearn  
Chair(s) - Stephen Bearn

**13:00 1403** *Bi-Aromatic Compounds that Modulate Folding and Self-Assembly of the Alzheimer Peptide,  $\beta$ -Amyloid* Carter M.D., Weaver D.F.

**13:20 1404** *Chemistry and Biology of Avrainvillamide and Stephacidin B* Wulff J.E., Myers A.G.

**13:40 1405** *Rhodotorula glutinis Phenylalanine Ammonia Lyase: GC-MS Determination of Reversal Reaction Product, Storage Stabilization, Induction, and Inhibition* D'Cunha G.B., Wall M.J.

**14:00 1406** *Application of Lipoxigenase to Degrade Wood Extractives in Thermomechanical Pulp* Zhang X., Nguyen D., Paice M., Tsang A., Renaud S.

**14:20 1407** *A Collaborative Health Research Project: Characterization of Rat Scar Tissue by Synchrotron FTIR and Conventional Immunohistochemistry* Wiens R.A., Rak M., Abraham S., Cox N., Schultke E., Juurlink B.H.J., Kulyk W., Gough K.M.

**14:40 1408** *Starting a New Company: Business Plan, Road Show Presentation and Funding Challenges for the Founding Scientist* Skinner J.D.

**15:00** End of Session

**Chemical Education Division**

**CE6 CC-Mariner 3**

**The Future of Physical Chemistry Education (Joint with MT and PT) (joint with PT11)**

Organizer(s) - Cynthia Goh  
Chair(s) - Andre Bandrauk

**13:00 1409** *Improving the Undergraduate Experience in Experimental Physical Chemistry* Anderson D.J.

**13:20 1410** *Introducing the Practical Aspects of Computational Chemistry to Undergraduate Chemistry Students* Pearson J.K.

**13:40 1411** *Incorporating a Numerical Methods/Computer Applications Course in the Undergraduate Physical Chemistry Program* Keefe C.D.

**14:00 1412** *Using Maple in Quantum Chemistry Workshops* Parnis J.M.

**14:20 1413** *On the Solution of the Associated Legendre Equation* Pye C.C.

**14:40 1414** *Team-Based Undergraduate Research: A Teaching Aid for Students, and a Research Aid for Faculty* Anderson D.J., Goh M.C.

**15:00** Coffee Break

**15:20 1415** *Nanoscience in Physical Chemistry* Walker G.C.

**15:40 1416** *Teaching Physical Chemistry via Materials Science* White M.A.

**16:00 1417** *Physical Chemistry with Anthropology: Thinking Outside the Box* Martin R.R., Nelson A.J.

**16:20 1418** *Undergraduate Physical Chemistry Education in Canada: Current Status, Future Prospects* Goh M.C.

**17:00** End of Session

**Environment Division**

**EN3 DH-Baronet 4,5**

**Biogeochemistry of Trace Metals in the Environment (Joint with AN) (joint with AN3)**

Organizer(s) - Chuni Chakrabarti and John Murimboh  
Chair(s) - Shamil Cathum, Jeff Guthrie

**13:00** Joint with Analytical Chemistry Division - See AN3

**17:00** End of Session

**Inorganic Chemistry Division**

**IN2 CC-Port Royal C2**

**Ligand Design in Transition Metal Chemistry**

Organizer(s) - Mark Stradiotto  
Chair(s) - Christopher Kozak

**13:00 1419** *Reactions of  $PCl_2[N(iPr)_2]$  on and off Metal Centers: Toward Chelating Bis(phosphonium) Dications* Baker R.T., Keaton R.J., Scott B.L.

**13:20 1420** *Tuning Spin States and Reactivity Patterns at Pseudotetrahedral Metal Centers* Peters J.C., Thomas C.M., Lu C.C., Mehn M.P., Whited M.T., Mankad N.P.

**13:40 1421** *From Pyrroles to Isoindolines: The Challenge of Synthesizing 1,4-Diimine Complexes of Late Transition Metals* Foley S.R., Chitanda J.M.

**14:00 1422** *Ligands for the Catalytic Hydrogenation and Asymmetric Hydrogenation of Polar Bonds* Morris R.H.

**14:20 1423** *Influence of Anionic Ligands on Regioselectivity of Rhodium-Catalyzed Alkyne Hydrothiolation* Love J.A.

**14:40 1424** *Diammino(o-benzoquinonedimine)ruthenium Dichloride: Towards 50%  $\pi$ -Back-Donation* Lever A.B.P., Gorelsky S.I., Rusanova J., Rusanov E., Popescu R., Christendat D., Beaulac R., Reber C., Farah A.

**15:00** Coffee Break

**15:20 1425** *Structural and Reactivity Studies of Neutral, Cationic, and Zwitterionic Rh(I) and Ir(I) Coordination Complexes of Donor-Functionalized Indene Ligands* **Cipot J.**, Stradiotto M.

**15:40 1426** *New P,N Containing Hemilabile Ligands for Mono- and Binuclear Complexes* **Bierenstiel M.**, Cowie M.

**16:00 1427** *Unique Reactivity of Tris(3-methylindolyl)phosphine* **Yu J.O.**, Lam E., Browning C.S., Farrar D.H.

**16:20 1428** *Nonamethylfluorene: Synthesis and Coordination Chemistry* **Bazinnet P.R.**, Tupper K., Tilley T.D.

**16:40 1429** *Mechanistic Shifts in the Hydroboration of Vinyl Arenes with Pinacol Borane* **Crudden C.M.**, **Edwards D.**, Hleba Y.B.

**17:00** End of Session

**IN3 CC-Port Royal C1**

**Macromolecular and Supramolecular Chemistry (Joint with MS and OR) (joint with OR4)**

Organizer(s) - Bruce Grindley  
Chair(s) - Bruce Grindley

**REMINDER**

**13:00** **Boehringer Ingelheim Award Lecture presented by Jason Kennedy in CC-Highland 7**

**13:40 1430** *Rotaxanes as Ligands for Molecular Machines and Metal Organic Frameworks* **Davidson G.J.E.**, Hoffart D.J., Mercer D.J., Tiburcio J., Vella S.J., **Loeb S.J.**

**14:20 1431** *Design, Synthesis and Application in Catalysis of Host-Rotaxanes* **Schmitzer A.R.**, Noujeim N., Salhi A.

**14:40 1432** *Van der Waals Nanocapsules of Amphiphilic Calixarenes* **Ananchenko G.S.**, Pojarova M., Udachin K.A., Ripmeester J.A., Coleman A.W.

**15:00** **Coffee Break**

**15:20 1433** *Thiazine-1,1-Dioxide as a Hydrogen-Bond Donating Subunit and the Self-Assembly of Artificial Sequence-Specific Double Helices* **Wisner J.A.**, Li J.

**15:40 1434** *Host Properties of a Fluorescent Cucurbit[6]uril Analogue* **Wagner B.D.**, Boland P.G., Isaacs L., Lagona J.

**16:00 1435** *Electron Transfer and Photochemical Reactions of Cucurbit[7]uril-Ferrocene Host-Guest Complexes* **Macartney D.H.**, Wang R., Yuan L.

**16:20 1436** *Nano Toys and Nano Art: How Fun and Beauty Inspire Chemical Creativity* **Stoddart J.F.**

**17:00** End of Session

**IN6 CC-Mariner 2**

**Semiconductor and Metal Nanoparticles: Synthesis, Properties and Applications (Joint with MT) (joint with MT8)**

Organizer(s) - Matthew Moffitt and Michael Wolf  
Chair(s) - Jonathan Veinot

**13:00 1437** *SEM, TEM and EDX Characterization of Granular Activated Carbon Impregnated with Nanoscopic Cu and CuO* **Westreich P.**, Fortier H., Dahn J.R.

**13:20 1438** *Synthesis of Colloidal Upconverting NaYF<sub>4</sub> Nanocrystals Doped with Er<sup>3+</sup>, Yb<sup>3+</sup> and Tm<sup>3+</sup>, Yb<sup>3+</sup> via Thermal Decomposition of Lanthanide Trifluoroacetate Precursors* **Boyer J.-C.**, Bédard M., Vetrone F., Cuccia L.A., Capobianco J.A.

**13:40 1439** *Synthesis of TiO<sub>2</sub> Nanomaterials and Applications in Biosensor Design* **Chen A.**, Peng X., Holt-Hindle P., Liu S.

**14:00 1440** *Synthesis and Characterization of Group II Trimethylsilylchalcogenolate Reagents: Precursors in the Assembly of Ternary Clusters* **Corrigan J.F.**, **Borecki A.E.**

**14:20 1441** *Understanding Structure-Function Relationships in Molecule-Linked Au Nanoparticle Films: A Bottom-Up Approach* **Dhirani A.-A.**, Dunford J., Suganuma Y., Zabet-Khosousi A.

**15:00** **Coffee Break**

**15:20 1442** *Hydrogen Silsesquioxane: A Molecular Precursor for Silicon Nanostructures* **Hessel C.**, Veinot J.G.C.

**15:40 1443** *Development of Superparamagnetic Materials for Biological Applications* **Somaskandan K.**, Veres T., Simard B.

**16:00 1444** *Synthesis of Mixed-Chalcogen Cadmium and Mercury Nanoparticles from a Sulfur-Selenium Single Source Precursor* **Turner E.A.**, Huang Y., Corrigan J.F.

**16:20** End of Session

**IN7 DH-Baronet 6**

**General**

Organizer(s) - Neil Burford  
Chair(s) - Neil Burford

**13:00 1445** *Electronic Structure of Ruthenium Olefin Metathesis Catalysts - Experimental and Theoretical Considerations* **Kennepohl P.**

**13:20 1446** *Characterization and Catalytic Studies of a Novel Ruthenium bis IMes Complex* **Blacquiere J.M.**, Dharmasena U.L., Foucault H.M., Fogg D.E.

**13:40 1447** *Copper(I) Complexes with Exceptionally Long Excited State Lifetimes* **McCormick T.M.**, Liu Q.-D., Jia W.-L., Wang S.

**14:00 1448** *Synthesis and Characterization of Complexes of the Type RuHX(diamine)(PPh<sub>3</sub>)<sub>2</sub> and their Use as Catalysts* **Clapham S.E.**, Guo R., Zimmer-De Iullis M., Rasool N., Lough A., Morris R.H.

**14:20 1449** *Synthesis of s-trans-Chromium Dienes and η<sup>3</sup>-Allyl Chromium-Tin Complexes* **Norman D.W.**, Stryker J.M.

**14:40 1450** *Development of a Homogeneous Rhodium Oxidation Catalyst* **Praetorius J.M.**, Allen D.P., Webb J.D., Crudden C.M.

**15:00** **Coffee Break**

**15:20 1451** *Studies in Optimizing the Suzuki-Miyaura Reaction* **Mitchell E.A.**, Baird M.C.

**15:40 1452** *Ruthenium Metathesis Catalysts Containing Catecholate Ligands: Activity versus Ligand pK<sub>a</sub>* **Monfette S.**, Fogg D.E.

**16:00 1453** *Transition Metal Trialkyls: Lewis-Acidity, Catalytic Activity, and Synthetic Approaches Towards Novel Topologies* **Fekl U.**, Hofmann A., Ren R., Hsieh V., De Crisci A.

**16:20** End of Session

**Macromolecular Science and Engineering Division**

**MS2 CC-Port Royal C1**

**Macromolecular and Supramolecular Chemistry (Joint with IN and OR)**

Organizer(s) - Bruce Grindley  
Chair(s) - Bruce Grindley

**REMINDER**

**13:00** **Boehringer Ingelheim Award Lecture presented by Jason Kennedy in CC-Highland 7**

**13:40** **Joint with Inorganic Chemistry and Organic Chemistry Divisions - See IN3**

**17:00** End of Session

**MS5 CC-Mariner 1**

**Organic Materials for Optical, Electronic or Photonic Applications (Joint with MT and OR) (joint with OR7)**

Organizer(s) - Wayne Wang and Tim Bender  
Chair(s) - Michael Wolf

**13:00 1454** *Reversible Photocyclization Reactions of Hexatrienes and their Use as Molecular Switches* **Branda N.R.**

**13:40 1455** *Azobenzene Polyelectrolytes for Photo-Reversible Structures and Surfaces* **Barrett C.J.**

**14:00 1456** *Selective Tuning of the Optoelectronic Properties of Dithieno[3,2-b:2',3'-d]phospholes* **Baumgartner T.**, Dienes Y., Neumann T.

**14:20 1457** *Optical Self-Trapping and Related Phenomena in Photochemical Systems* **Saravanamuttu K.**, Kasala K., Burgess I., Shimmel W., Sakalauskas M., Zhang J.

**14:40 1458** *Effect of Amines on Sensitivity of Photopolymer Light-Sensitive Films* **Olifirenko I.**

### 15:00 Coffee Break

Chair(s) - Stephan Eichhorn

**15:20 1459** *Easy Snap-Together Synthesis of New Conjugated Materials* **Skene† W.G.**, Bourgeaux M., Dufresne S., Tsang D., Guarin-Perez S.A.

**16:00 1460** *New Strategies in Synthesis of Polythiophenes* **Perepichka D.F.**

**16:20 1461** *Investigation of Liquid Crystalline Properties of a Series of Polycatenar Atropisomeric Biphenyls* **Moran M.J.**, Lemieux R.P.

16:40 End of Session

## Materials Chemistry Division

### MT7 CC-Mariner 1

#### Organic Materials for Optical, Electronic or Photonic Applications (Joint with MS and OR)

Organizer(s) - Wayne Wang and Tim Bender  
Chair(s) - Michael Wolf, Stephan Eichhorn

**13:00** Joint with Macromolecular Science and Engineering and Organic Chemistry Divisions - See MS5

16:40 End of Session

### MT8 CC-Mariner 2

#### Semiconductor and Metal Nanoparticles: Synthesis, Properties and Applications (Joint with IN) (joint with IN6)

Organizer(s) - Matthew Moffitt and Michael Wolf  
Chair(s) - Jonathan Veinot

**13:00** Joint with Inorganic Chemistry Division - See IN6

17:00 End of Session

### MT10 CC-Mariner 3

#### The Future of Physical Chemistry Education (Joint with CE and PT)

Organizer(s) - Cynthia Goh  
Chair(s) - Andre Bandrauk

**13:00** Joint with the Chemical Education and Physical Chemistry Divisions - See CE6

17:00 End of Session

## Organic Chemistry Division

### OR1 CC-Cornwallis Suite

#### Carbohydrates and Drug Discovery (Joint with BM) (joint with BM2)

Organizer(s) - Bruce Grindley  
Chair(s) - Robert Ben

### REMINDER

**13:00** Boehringer Ingelheim Award Lecture presented by Jason Kennedy in CC-Highland 7

**13:40** Joint with Biological and Medicinal Chemistry Division - See BM2

17:00 End of Session

### OR4 CC-Port Royal C1

#### Macromolecular and Supramolecular Chemistry (Joint with IN and MS) (joint with IN3)

Organizer(s) - Bruce Grindley  
Chair(s) - Bruce Grindley

### REMINDER

**13:00** Boehringer Ingelheim Award Lecture presented by Jason Kennedy in CC-Highland 7

**13:40** Joint with Inorganic Chemistry and Macromolecular Science and Engineering Divisions - See IN3

17:00 End of Session

### OR5 CC-Mariner 4

#### Natural Products (Joint with BM) (joint with BM7)

Organizer(s) - Paul Harrison  
Chair(s) - John Vederas

### REMINDER

**13:00** Boehringer Ingelheim Award Lecture presented by Jason Kennedy in CC-Highland 7

#### SYNTHESIS AND METABOLISM

**13:40** Joint with Biological and Medicinal Chemistry Division - See BM7

17:00 End of Session

### OR7 CC-Mariner 1

#### Organic Materials for Optical, Electronic or Photonic Applications (Joint with MS and MT) (joint with MS5)

Organizer(s) - Wayne Wang and Tim Bender  
Chair(s) - Michael Wolf, Stephan Eichhorn

**13:00** Joint with Macromolecular Science and Engineering and Materials Chemistry Divisions - See MS5

16:40 End of Session

### OR10 CC-Highland 7

#### Recent Advances in Organic Synthesis

Organizer(s) - Jean Burnell and Ian Pottie  
Chair(s) - Jean Burnell

**Boehringer Ingelheim Award Lecture presented by Jason Kennedy**

Introduction of Jason Kennedy by Graham Bodwell

**13:00 1462** *Stereogenic Quaternary Carbon Centres via Lewis Acid Catalysed Allylboration* **Kennedy† J.W.J.**, Hall D.G.

**13:40 1463** *Ruthenium-Mediated Cross Metathesis Reactions of Terminal Alkenes with Two Oxygen Functions* **Stamp C.T.M.**, Burnell D.J.

**14:00 1464** *The Synthesis of Cyclophanes Containing Nonplanar Polycyclic Aromatic Hydrocarbons* **Merner B.L.**, Bodwell G.J.

**14:20 1465** *Novel Electroactivated System for the Temporary Immobilisation and Protection of Amines on Electrode Surfaces and its Use as an Innovative Solid Support for Synthesis* **Giasson R.**, Pan Q.M.

14:40 Discussion

### 15:00 Coffee Break

**15:20 1466** *Reactive Intermediates in Organic Synthesis: Utilizing the Rearrangement of Allene Oxides to Produce Substituted Cyclopentenone Rings* **Konecny M.**, Schepp N.P.

**15:40 1467** *Stereoselective  $6\pi$  Electrocyclization Reactions of Bridged Bicyclic Trienes* **Benson C.L.**, West F.G.

**16:00 1468** *New Methods For the Preparation of  $\alpha$ -Chiral Allylic Boronate Reagents Using Metal-Catalyzed Substitution Reactions and Their Applications in the Synthesis of Oxygenated Heterocycles* **Peng F.**, Hall\* D.G.

**16:20 1469** *Domino Reactions of Meldrum's Acid Alkylidenes Involving Friedel-Crafts Chemistry* **Fillion E.**, **Dumas A.M.**, Hogg S.A., Kuropatwa A., Malhotra N.R., Sittler T.C.

16:40 End of Session

## Physical, Theoretical and Computational Division

### PT1 CC-Highland 9

**Ab initio Methods: Orbital and Plane Wave Methods**

17:00 End of Session

Organizer(s) - Russell Boyd and Josef Zwanziger  
Chair(s) - Mariusz Klobukowski

13:00 1470 *New Density Functionals Applied to Old Problems* **Scuseria† G.E.**

13:40 1471 *Grid-Based Approaches to Quantum Chemistry* **Ayers† P. W.**

14:20 1472 *Orbital-Corrected Orbital-Free Density Functional Theory* Zhou B.-J., **Wang† Y.A.**

**15:00 Coffee Break**

15:20 1473 *Designing Molecules by Optimizing Potentials* **Yang† W.**

16:00 1474 *New Ways of Thinking about London Forces and Dispersion* **Gill† P.M.W.**, Crittenden D.L., O'Neill D.P.

16:40 End of Session

**PT3 CC-Highland 11**

**Biophysical Chemistry**

Organizer(s) - Gonzalo Cosa and Paul Wiseman  
Chair(s) - Antonella Badia

13:00 1475 *Designing Photo-Controlled Peptides and Proteins* **Woolley† A.**

13:40 1476 *Exploring the Possibilities for Solution NMR in the Study of Membrane Protein Structure* **Goto† N.K.**, Shih S., Stoica I.

14:20 1477 *Functional Imaging and Mapping of Membrane Dynamics and Structures* **Yip† C.M.**

**15:00 Coffee Break**

Chair(s) - Christopher Yip

15:20 1478 *Ceramide Modulation of Raft Domains in Supported Membranes* **Johnston† L.J.**, Ira

16:00 1479 *Investigation of Main Phase Transitions in Supported Phospholipid Bilayers* **Badia† A.**, Goren M.

16:40 1480 *Raman Spectroscopic Study of the Interaction of Lactoferricin B Derivatives with Model Cell Membranes* Westwick H., Nowacka L., Quan B., **Ianoul A.**

17:00 End of Session

**PT11 CC-Mariner 3**

**The Future of Physical Chemistry Education (Joint with CE and MT) (joint with CE6)**

Organizer(s) - Cynthia Goh  
Chair(s) - Andre Bandrauk

13:00 Joint with the Chemical Education and Materials Chemistry Divisions - See CE6