

Saturday PM

Plenary Lecture

PL WCC-Rms. 1,2,11-13

Plenary Lecture

Organizer(s) - Alaa Abd-El-Aziz
Chair(s) - Alaa Abd-El-Aziz

19:00 Introductory Remarks

19:15 0001 *On Inventing New Reactions for Atom Economy* **Trost B.M.**

19:55 Closing Remarks

20:10 End of Session

Sunday AM

CIC Medal Lecture

CICML WCC-Room 3

CIC Medal Lecture

Organizer(s) - Alaa Abd-El-Aziz
Chair(s) - Alaa Abd-El-Aziz

11:25 Introductory Remarks

Introduction of Diethard Bohme by K. W. Michael Siu

11:35 0002 *Gas-Phase Ions and Chemical Mass Spectrometry* **Bohme D.K.**

12:25 End of Session

Analytical Chemistry

AN11 WCC-Room 12

General

Organizer(s) - Douglas Goltz
Chair(s) - Douglas Goltz

10:00 0003 *Kinetics of Thiomolybdate Interconversion Processes* **Reid R.S., Clark R.J.**

10:20 0004 *The Use of Raman Spectroscopy for the Control of Pharmaceutical, Chemical and Polymer Processes* **Kemper M.S., Hughes G.**

10:40 0005 *Sampling of Surface Metals Using Minimally Invasive Approaches and Atomic Spectroscopy* **Charleton K., Buffie T., Goltz D.M.**

11:00 0006 *The Structures of Copper-Thiomolybdate Adducts* **Reid R.S., Slamova D.**

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

Biological and Medicinal Chemistry

BM2 WCC-Room 8

Antioxidants and Oxidative Metabolism

Organizer(s) - Ed Krol
Chair(s) - Ed Krol and Jeffrey Atkinson

08:00 0007 *Evolution of Antioxidant Design for Biological Targets* **Wright J.S., So R., Willmore W.G., Bal M.**

08:20 0008 *Souping-Up Vitamin E and New Insights in Peroxidation Chemistry* **Pratt D.A.**

08:40 0009 *Mechanism of Vitamin E Deposition and Pickup from Phospholipid Membranes by the Tocopherol Transfer Protein* **Atkinson J., Nava P., Frahm G., Cecchini M., Virgulti A., Zhang W.X., Manor D., Morley S.**

09:00 0010 *Design and Synthesis of a BODIPY- α -Tocopherol Adduct for Use as an Off/On Fluorescent Antioxidant Indicator* **Oleynik P., Ishihara Y., Cosa G.**

09:20 0011 *Antioxidant Properties and Oxidative Metabolism of Lignans from Flaxseed and Creosote Bush* **Krol E.S., Hosseinian F.S., Billinsky J.L., Muir A.D., Westcott N.D.**

09:40 Coffee Break

REMINDER

10:00 Bernard Belleau Award Lecture presented by Masad Damha in WCC-Room 15

10:40 0012 *New Fluorescent Sensors to Detect Reactive Oxygen Species in Biological Samples* **Heyne B., Ahmed S., Beddie C., Scaiano J.C.**

11:00 0013 *Rapid Screening of Oxidative Stress via Ratiometric Redox-Active Biomarker Analysis* **Ptolemy A.S., Al Husseiny M., Britz-McKibbin P.**

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

BM5 WCC-Room 15

Nucleic Acids: Innovations in Chemistry and Applications

Organizer(s) - Masad Damha and Robert Hudson
Chair(s) - Robert Hudson

08:00 0014 *Reversible Quartet Formation of Luminescent Guanosines* **Martic S., Liu X.-Y., Wu G., Wang S.**

08:20 0015 *Structure and Mechanism of RNA Cleaving Nucleic Acid Catalysts: Probing for the General Acid and General Base Functionality* **Thomas J.M., Perrin D.M.**

08:40 0016 *Modifying p19 Viral Suppressors of RNA Silencing: From Small Molecule Inhibition to Site Directed Mutagenesis* **Pezacki J.P.**

09:00 0017 *Reversible Photo-Regulation of a Ribozyme Using a Diffusible Effector* **Sen D., Lee H.-W., Liu Y., Robinson S.G., Bandopadhyay S., Mitchell R.H.**

09:40 Coffee Break

10:00 Bernard Belleau Award Lecture presented by Masad Damha

Introduction of Masad Damha by Mario Pinto

10:00 0018 *Silencing Aberrant RNAs with Arabinonucleic Acids: Possible New Therapeutic Agents* **Damha M.J.**

10:40 0019 *Therapeutic siRNAs and Antagomirs: From Mouse to Monkey, on the Way to Man via Systemic Delivery* **Manoharan M.**

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

Chemical Education

CE2 WCC-Room 7

Chemistry Department Accreditation Standards and Laboratory Safety

Organizer(s) - Michael Mombourquette
Chair(s) - Michael Mombourquette

08:00 0020 *Laboratory Safety Management: An Integrated Approach* **Mead E.L.**

08:40 0021 *Teaching Safety: The Personal Approach* **Phillipson A.**

09:20 0022 *Laboratory Safety: Why Do Students Read this as Laboratory –@*!?* **Venkateswaran R.**

10:00 Coffee Break

10:20 0023 *Safe Science: An Interactive CD-ROM* **Hinman A.S., Wagstaff K.**

11:00 Panel Discussion

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

Inorganic Chemistry

IN3 WCC-Room 2

Mechanism and Design in Organometallic Catalysis

Organizer(s) - Peter Budzelaar, Jennifer Love and Deryn Fogg
Chair(s) - Peter Budzelaar

08:00 0024 *The Activation of C-H Bonds in Organometallic Ni(I) Complexes* **Johnson S.A.**

08:20 0025 *Bis(β -ketiminato) Complexes of Cobalt as Models for Organometallic Radical Polymerization* **McNeil W.S., Robson K.C.D.**

08:40 0026 *Strategies towards Cooperative Bimetallic Catalysts* **Lightbody O.C., Stryker J.M.**

09:00 0027 *Hyperpolarised Studies of Reaction Mechanisms by NMR Spectroscopy* **Duckett S.B., Lopez-Serrano J., Almeida Lenero K.Q., Dunne J.P., Drent E.**

09:40 Coffee Break

10:00 0028 *Mechanistic Studies in Enyne Metathesis* **Diver S.T.**

10:40 0029 *NHCs vs. Phosphines: New Insights into Ligand Effects on the Activity of Ruthenium Carbenes in Olefin Metathesis* **Getty K., Kennepohl P.**

11:00 0030 *The Generation of Efficient Supported Heterogeneous Olefin Metathesis Catalysts* **Allen D.P., Grubbs R.H.**

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

IN4 WCC-Room 3

Recent Advances on the Chemistry of Porphyrins, Phthalocyanines and Related Macrocycles

Organizer(s) - Pierre Harvey and Roger Guilard
Chair(s) - Pierre Harvey

08:35 Introductory Remarks

08:40 0031 *Expanded Porphyrins and Related Systems* **Sessler J.L.**

09:20 0032 *Heme Coordination Properties in Staphylococcus aureus Isd Proteins from Magnetic Circular Dichroism Spectroscopy* **Stillman M.J.**

09:40 Coffee Break

Session Chair - Barry Lever

10:00 0033 *Phthalocyanines and Related Systems: Old Dyes, New Materials* **Torres T.**

10:40 0034 *The Potency of Corrole Metal Complexes in Catalysis, Medicine, and Photovoltaic Cells* **Mahammed A., Aviv I., Haber A., Gross Z.**

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

IN6 Delta-A

Solid-State NMR Spectroscopy in Inorganic Materials (Joint with PT) (joint with PT12)

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - Scott Kroeker

08:00 0035 *Nuclear Spintronics via OPNMR in Semiconductors* **Reimer J.**

08:40 0036 *Probing the Environment of the Metal Center in Layered Zirconium Phosphates by Zr-91 Solid-State NMR* **Huang Y., Yan Z., Zhu J., Kirby C.W.**

09:00 0037 *New Angles for Measuring the Chemical Shift Anisotropy of Quadrupolar Nuclei* **Grandinetti P.J., Ash J.T., Trease N.M., Dey K.K.**

09:40 Coffee Break

10:00 0038 *NMR Crystallography Without a Space Group: Structure Solution of a Partially Ordered Layered Silicate Material by Solid-State NMR* **Brouwer D.H., Chmelka B., Eckert J., Levitt M. PAPER WITHDRAWN**

10:20 0039 *Solid State NMR Studies of the Formation of MFI Nanomaterials* **Darton R.J., Schneider C., Scheffler F., Fyfe C.A.**

10:40 0040 *Advances in Homo- and Heteronuclear Correlation Solid-State NMR Spectroscopy: Applications to Nanoscale Catalytic Materials* **Wiench J.W., Trebosc J., Kumar R., Pruski M.**

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

IN7 WCC-Room 5

General

Organizer(s) - Sam Yan
Chair(s) - Sam Yan

08:00 0041 *Luminescence Spectroscopy of Square-Planar Platinum(II) Complexes: Pressure-Induced Intra- and Intermolecular Effects* **Reber C., Levasseur-Thériault G., Rodrigue-Witchel A.**

08:20 0042 *Nonlinear Spatial Temporal Dynamics in the Catalyzed Bromate-Pyrocatechol Reaction* **Harati M., Wang J.**

08:40 0043 *Metal-Organic Frameworks as Materials for Intermediate Temperature Fuel Cell Membranes* **Hurd J.A., Thangadurai V., Shimizu G.K.**

09:00 0044 *Metal Organic Frameworks as Dual Materials for Fuel Cell Applications* **Shimizu G.K., Hurd J.A., Taylor J.M., Reid J.L., Liang J.**

09:20 0045 *Thermodynamic Explanations for the Patterns of Reactivity in the Cycloaddition and Reduction Reactions of Cations and Heterocycles Containing Sulphur and Nitrogen* Du H., Jenkins H.D.B., Mailman A., [§]Passmore J., Schriver M.J.

09:40 Coffee Break

10:00 0046 *An Ab Initio and Raman Study of Lithium-Sulfate Ion Pairs* [†]Pye C.C., Rudolph W. W.

10:20 0047 *Thermolysis and Exposure Experiments of Bis(cyclopentadienyl) Titanium (III) Guanidinate* Wasslen Y.A., Tois E., [†]Hauka S., [§]Barry S.T.

10:40 0048 *Variable Luminescence Energy through the Visible Spectrum for Gold(I) Dithiocarbamate Complexes* Baril-Robert F., Reber C.

11:00 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

Macromolecular Science and Engineering

MS2 WCC-Room 1

Organic Materials - Self Assembly (Joint with MT and OR)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Robert Lemieux

08:00 0049 *Self-Assembly of a Chiral Bis(dipyromethene) as Measured by Circular Dichroism* Chapman E., Thompson A.

08:20 0050 *Encapsulation of Nitroxides by Calixarenes: Structure of Complexes and Mobility of Guests as Revealed by Ultra High Field EPR* [†]Ananchenko G.S., Bagryanskaya E.G., Polovyanenko D., Udachin K.A., Ripmeester J., Coleman A.W., Schnegg A., Moebius K.

08:40 0051 *A [2]Pseudorotaxane and a [2]Rotaxane Molecular Shuttle Templated by Second-Sphere Coordination of a Pd(SCN)₂ Subunit* Blight B.A., Wisner J.A., Jennings M.C.

09:00 0052 *Molecular Printboards* Reinhoudt D.N.

09:40 Coffee Break

Session Chair - Sundar Sundararajan

10:00 0053 *Studying Different Factors on Corrosion of Coated Titanium Anodes in a NaCl Solution* Bakhshi E., Abniki F., Bakhshi A.

10:20 0054 *Verdazyl Mediated Living Free Radical Polymerization* Chen E., Teertstra S., Georges M.K.

10:40 0055 *Functional Nanostructured Organic Materials via the Polymerization of Lyotropic Liquid Crystal Assemblies* [§]Gin D.L.

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

Materials Chemistry Division

MT5 WCC-Room 1

Organic Materials - Self Assembly (Joint with MS and OR) (joint with OR7)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Robert Lemieux

08:00 Joint with Macromolecular Science and Engineering Division and Organic Chemistry Division - See MS2

09:40 Coffee Break

10:00 Session Chair - Sundar Sundararajan

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

Organic Chemistry

OR1 WCC-Room 11

Biocatalysis and its Impact on Asymmetric Synthesis

Organizer(s) - Tomas Hudlicky
Chair(s) - David Gonzalez

08:00 Introductory Remarks

08:20 0056 *Bioorganic Reagents: Design and Application* [§]Kayser M.M.

09:00 0057 *Genomic Approaches to Uncovering Useful New Enzymes* [§]Stewart J.D.

09:40 Coffee Break

10:00 0058 *Preparation of Both Enantiomers by Single Enzyme* Ohta H.

10:40 0059 *Chemoenzymatic Strategies for Natural Product Synthesis* Leisch H., [§]Hudlicky T.

11:00 0060 *Chemoenzymatic Synthesis of 7-Deoxypancratistatin via Intramolecular Aziridine-Opening* Collins J., Drouin M., Sun L., Moser M., Hudlicky T.

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

OR4 WCC-Room 4

Green Chemistry for Chemical Synthesis

Organizer(s) - C.J. Li and Robert Singer
Chair(s) - C.J. Li

08:00 0061 *Step-Economy and Stereocontrol Using Allylic Boronates* [§]Hall D.G.

08:40 0062 *Highly Reusable Catalyst-Organic Frameworks via Alternating ROMP Assembly* [§]Bergens S.H., Ralph C.K.

09:20 0063 *Simple Intermolecular Hydroamination of Alkenes and Alkynes* Beauchemin A.M.

09:40 Coffee Break

10:00 0064 *Greener Chemistry by Microwave-Assisted, Continuous Flow Organic Synthesis (MACOS)* [†]Organ M.G., Comer E., Bremner W.S., Shore G.

10:40 0065 *Catalytic Methods for Efficient Functionalization of Alkynes and Fluoroarenes* [§]Love J.A.

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

OR7 WCC-Room 1

Organic Materials - Self Assembly (Joint with MS and MT) (joint with MT5)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Robert Lemieux

08:00 Joint with Macromolecular Science and Engineering Division and Materials Chemistry Division - See MS2

09:40 Coffee Break

Session Chair - Sundar Sundararajan

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

OR11 WCC-Room 9

General - Modern Synthetic Methods

Organizer(s) - Bryan Hill
Chair(s) - Bryan Hill

08:00 0066 *Yb(OTf)₃ Catalyzed Intramolecular Cycloaddition of Oxime Ether O-Tethered Cyclopropanes: A Stereospecific Synthesis of Enantiopure Tetrasubstituted Pyrrolidines* Jackson S.K., Driega A.B., [†]Kerr M.A.

08:20 0067 *Construction of Triquinane Ring Systems from [4+4]-Cycloadducts via a Novel Anionic Rearrangement* Li L., West F.G.

08:40 0068 *The Synthesis and Study of Extended Polyene Systems* Chalifoux W.A., Tykwinski R.R., Lucotti A., Tommasini M., Del Zoppo M., Zerbi G., Aboulfadl H., Bally T.

09:00 0069 *Applications of Resonance Assisted Hydrogen Bonds (RAHBs)* Kandeephan N.

09:20 0070 *A New Synthesis of N-Hydroxyindoles* [†]Belley M., Beaudoin D., Duspara P., Sauer E., St-Pierre G., Trimble L.A.

09:40 Coffee Break

10:00 Chair - Pascal Dubé

10:00 0071 *Stereospecific Synthesis of Tetrasubstituted Olefins* [†]Ogilvie W., Lemay A., Vulic K., Ho M., Simard-Mercier J.

10:20 0072 *Stereoselective Synthesis of Acyclic and Exocyclic Substituted Enol Ethers* [†]Daoust B., Hanna R., Lemoine P.

10:40 0073 *The Mukaiyama Nitro Aldol. An Initial Investigation into the Reactivity between Trimethylsilyl Methyleneiminonate with Aldehydes* MacDonald F.K., Cameiro K.M.M., [†]Pottie I.R.

11:00 0074 *A Versatile, One-Pot Synthesis and Functionalization of Di- and Triynes* Luu T., Morisaki Y., Cunningham N., Tykwinski R.R.

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

OR12 WCC-Room 10

General - Physical Organic Chemistry

Organizer(s) - John Sorensen
Chair(s) - John Sorensen

08:20 0075 *Mechanistic Studies of the Reactions of Diarylgermylenes and Tetraaryldigermenes in Solution* Huck L.A., Leigh W.J.

08:40 0076 *The Kinetic Studies of the Reactions of Transient Germylene-Alcohol and Germylene-Ether Complexes in Neat Liquids by Nanosecond Laser Flash Photolysis* Lollmahomed F.B., McDonald J., Leigh W.J.

09:00 0077 *Collision Induced Dissociation of TEMPO: How Weak Can a Single Carbon-Carbon Bond Become?* Timerghazin Q.K., Jiang H., Delaney C., Pesherbe G.H., [§]English A.M.

09:20 0078 *Chemical Modification of Monolayer Protected Nanoparticles (MPN) by Diels-Alder Reactions under Hyperbaric Conditions* Zhu J., Ganton M.D., Kerr M.A., [†]Workentin M.S.

09:40 Coffee Break

10:00 0079 *Light-Induced Oscillations in the Acidic Bromate-4-Aminophenol System* Harati M., Wang J.

10:20 0080 *N-Sulfinyl Amines: A Computational Study of syn-anti Configuration Interconversion and its Correlation with their Reactivity towards Water* Ivanova E.V., [†]Muchall H.M.

10:40 0081 *Computational Investigations of New Fluorescent Probes for Reactive Oxygen Species* Beddie C., Heyne B., Ahmed S., [†]Scaiano J.C.

11:00 0082 *Effect of Porphyrin Structure on Binding to HSA (Human Serum Albumin)* [†]Rinco O., Hannemann A., Henderson M., Widin J.

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

Physical, Theoretical & Computational

PT6 WCC-Room 13

Diversity and Innovation in Computational Chemistry

Organizer(s) - Georg Schreckenbach and Tom Woo
Chair(s) - Matthias Emzerhof

08:35 Introductory Remarks

08:40 0083 *Role of Polarization in Simulations of Excited-State Dynamics: NaI(H₂O)_n Photodissociation as a Case Study* Koch D.M., [†]Pesherbe G.H.

09:00 0084 *Inclusion of Quantum Effects in Molecular Dynamics Simulations* [†]Issack B., Roy P.-N.

09:20 0085 *Interpolating Moving Least-Squares Methods for Fitting Potential Energy Surfaces: Computing High-Quality Fits from Low-Density ab initio Data Points* Dawes R., Thompson D.L., Wagner A.F., Minkoff M.

09:40 Coffee Break

10:00 0086 *Quantum Effects on the Solvation Structure and Thermodynamics of Ions in Aqueous Clusters* Hernández de la Peña L., Koch D.M., [†]Pesherbe G.H.

10:20 0087 *Parallelization Methods for Transition Path Sampling for Rare Chemical Events* Rowley C.N., Woo T.K.

10:40 Keith Laidler Award Lecture presented by Pierre-Nicholas Roy

Introduction of Pierre-Nicholas Roy by Rod Wasylshen

10:40 0088 *Rotational Dynamics of Doped Superfluid Clusters* [†]Roy P.-N., Blinov N.

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

PT10 Delta-C

Photoprocesses in Chemical Systems: New Directions for Photonics Applications

Organizer(s) - Kalai Saravanamuttu
Chair(s) - Kalai Saravanamuttu and Patanjali Kambhampati

08:00 0089 *Excited-State Dynamics of Frechet-Type Dendrimers with a tris-Methyl Viologen Core* **Myron B.D.**, Thompson D.W., El-Boubbou K., Ghaddar T.

08:20 0090 *Solitary Writing: Light Induced Self Inscription in Polymers and Composites* **Andrews M.P.**

08:40 0091 *Ultrafast Dynamics in Nanoscale Semiconductors* **Kambhampati P.**, Sewall S.L., Cooney R.R., Anderson K.E.H., Dias E.A.

09:00 0092 *New Electrooptical Properties of Doped Liquid Crystals* Tong X., Wang G., **Zhao Y.**

09:40 Coffee Break

10:00 0093 *PbS and PbSe Quantum Dots and their Applications* **van Veggel F.C.J.M.**

10:20 0094 *Periodically Poled Lithium Niobate for All-Optical Signal Processing and New Light Generation* **Xu C.Q.**

10:40 End of Session

REMINDER

10:40 Keith Laidler Award Lecture presented by Pierre-Nicholas Roy in WCC-Room 13

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

PT12

Delta-A

Solid-State NMR Spectroscopy in Inorganic Materials (Joint with IN) (joint with IN6)

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - Scott Kroeker

08:00 Joint with Inorganic Chemistry Division - See IN6

11:20 End of Session

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

PT13

Delta-B

Surfaces of Nanostructures, Nanostructured Surfaces

Organizer(s) - Stephen Urquhart and Peter Kruse
Chair(s) - Stephen Urquhart and Peter Kruse

08:00 0095 *Nanostructures within SAMs Formed on Planar and Nanoparticle Surfaces* **Lennox R.B.**, Lee L.Y.S., Kassam A., Fuller E.

08:40 0096 *Nanostructured Materials for Spintronic Applications* Jalili H., Heinig N., Pradhan D., **Leung K.T.**

09:20 0097 *Study of the Effect of Electrode Size on Catalytic Activity Utilizing Nanowire Arrays* **Gilliam R.J.**, Kirk D.W., Thorpe S.J.

09:40 Coffee Break

10:00 0098 *Pattern Formation of Antifreeze Glycoproteins* **Younes-Metzler O.**, Ben R.N., Giorgi J.B.

10:20 0099 *Nanostructures on Natural Surfaces: Chemical Composition and Properties of Waxy Plant Skins* **Guhling O.**, Kinzler C., Buschhaus C., **Jetter R.**

10:40 End of Session

REMINDER

10:40 Keith Laidler Award Lecture presented by Pierre-Nicholas Roy in WCC-Room 13

REMINDER

11:25 CIC Medal Lecture presented by Diethard Bohme in WCC-Room 3

Sunday PM

Analytical Chemistry

AN3

WCC-Room 9

Analytical Separations: Innovative Concepts and Applications

Organizer(s) - Nicholas Toltl
Chair(s) - Nick Toltl

13:40 0100 *The Limits of Efficiency in Liquid Chromatography* **Dorsey J.G.**

14:20 0101 *Adventures in High Temperature Liquid Chromatography* **Lucy C.A.**, Liang C., Paproski R.E.

14:40 0102 *A Cationic Bonded Graphitic Carbon Stationary Phase for Ion Chromatography* **Chambers S.D.**, Lucy C.A.

15:00 Coffee Break

15:20 0103 *Application of Fast HPLC Techniques to Pharmaceutical Analysis* **Olsen B.A.**, Castle B.C.

16:00 0104 *A Stable Silica-Based Stationary Phase for Anion Exchange Chromatography* **Glenn K.M.**, Haddad P.R., Lucy C.A.

16:20 0105 *The Effect Of Analyte Acidity on Signal Suppression and the Implications for Peak Purity Determinations Using Atmospheric Pressure Ionization Mass Spectrometry* **Toltl N.P.**, Liao K., Pack B.W.

16:40 0106 *Towards Automated Identification and Quantitative Analysis of Glycans by Off-Line LC MALDI-TOF Mass Spectrometry* **Snovida S.I.**, Rak-Barville J.M., Perreault H.

17:00 End of Session

AN6

WCC-Room 10

Innovations and Instrumentation (Microfluidic Devices)

Organizer(s) - Richard Oleschuk, Cameron Skinner and Michael Bowser
Chair(s) - Richard Oleschuk

13:40 0107 *Individual Mitochondrial Analysis on Microfluidic Devices with Orthogonal Laser Induced Fluorescence Detection* **Arriaga E.A.**, Whiting C.E.

14:20 0108 *Size and Adhesion Based Microfluidic Enrichment of Cardiac Cell Populations* **Radisic M.**, Brown M.A., Plouffe B.D., Murthy S.K.

15:00 Coffee Break

15:20 0109 *Integrated Microsystems for Detection and Differentiation of Bacterial Pathogens* **Lagally E.T.**

16:00 0110 *Cell-Microelectronic Sensing of Dynamic Cellular Responses to Air Particulate Exposure* **Huang L.**, Xie L., Boyd J.M., **Li X.-F.**

16:40 0111 *Integrated Microfluidics for Label-Free Cell Characterization* **Stoeber B.**, Cheung K.C.

17:00 End of Session

Biological and Medicinal Chemistry

BM6

WCC-Room 15

Recent Advances in Natural Products Chemistry (Joint with OR) (joint with OR9)

Organizer(s) - Raymond Andersen and Russell Kerr
Chair(s) - Raymond Andersen

13:40 0112 *Combinatorial Biosynthesis: New Opportunities for Natural Products Chemistry and Drug Discovery* **Shen B.**

14:20 0113 *Novel Approaches for Antibiotic Discovery* **Singh S.B.**

15:00 Coffee Break

15:20 0114 *Design, Synthesis and Biological Activity of Analogs of Natural Peptides* **Vederas J.C.**

16:00 0115 *Reactions of Cytochrome P450_{cam} and other Pseudomonas putida Enzymes* **Plettner E.**, Rojubbally A.

16:20 0116 *Copper-Mediated Nuclease Activity of the Jadomycins* **McFarland S.A.**, Jakeman D.L.

16:40 End of Session

Chemical Education

CE6

WCC-Room 7

Professional Development Activities for High School Teachers

Organizer(s) - George Hickling
Chair(s) - George Hickling

13:40 0117 *Connections to Chemistry: A Local Section Professional Development Activity for High School Teachers* **Hoffman M.Z.**, Lantos S., Tanner R.

14:20 0118 *Reflections on Using Interactive Engagement and Just-in-Time Teaching in a First Year General Chemistry Course* **Herring F.G.**

15:00 End of Session

Inorganic Chemistry

IN3

WCC-Room 2

Mechanism and Design in Organometallic Catalysis

Organizer(s) - Peter Budzelaar, Jennifer Love and Deryn Fogg
Chair(s) - Deryn Fogg

13:40 0119 *Organometallic Chemistry by Electrospray Ionization Tandem Mass Spectrometry. Applications in the Mechanism of Olefin Metathesis and the Design of ROMP Catalysts* **Chen P.**

14:20 0120 *Investigating Organometallic Catalysis in Hydrocarbon Solvents by Electrospray Ionisation Mass Spectrometry* **Henderson M.A.**, **McIndoe J.S.**

14:40 0121 *New Insights into the Electronic Structure of Ruthenium Carbenes in Olefin Metathesis: Insights from Carbon K-Edge XAS* **Delgado Jaime M.U.**, **Kennepohl P.**

15:00 Coffee Break

15:20 0122 *Catalytic Metathesis of Alkynes with Nitriles: Synthetic and Mechanistic Advances* **Johnson M.J.A.**, Geyer A.M., Gary J.B., Wiedner E.S., Kampf J.W.

16:00 0123 *Hydroformylation of 1-Alkenes by Newly Synthesized Rhodium N-Heterocyclic Carbene Complexes* **Kotyk M.W.**, **Crudden C.M.**, **Praetorius J.M.**, **Webb J.D.**

16:20 0124 *Rational Design of Diastereoselective Rh-Catalyzed Pauson-Khand Reactions* **Baik M.-H.**

17:00 End of Session

IN4

WCC-Room 3

Recent Advances on the Chemistry of Porphyrins, Phthalocyanines and Related Macrocycles

Organizer(s) - Pierre Harvey and Roger Guillard
Chair(s) - Silviu Balaban

13:40 0125 *Bioinspired Porphyrin and Multiporphyrins: From Enzyme Models to Self-Assembled Multiporphyrins* **Weiss J.**

14:20 0126 *Vibrational and DFT Investigation of High-Valent Oxometalloporphyrins* **Czernuszewicz R.S.**

15:00 Coffee Break

Session Chair - Laszlo Kalman

15:20 0127 *Solvent Effects on the Electrochemistry and UV-Visible Spectroscopy of Manganese Corroles in Non-Aqueous Media* **Kadish K.M.**, Shen J., Ojaimi M., Gros C.P., Barbe J.-M., Guillard R.

16:00 0128 *Shape-Persistent Macrocyclic Complexes as Well-Defined Bimetallic Reaction Sites* **Love J.B.**, Volpe M., Arnold P.L., Patel D.

16:20 0129 *Extending the Self-Organization Algorithm of Chlorosomal Bacteriochlorophylls to Synthetic Pigments* **Balaban T.S.**

17:00 End of Session

IN6

Delta-A

Solid-State NMR Spectroscopy in Inorganic Materials (Joint with PT) (joint with PT12)

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - Gillian Goward

13:40 Clara Benson Award Lecture presented by **Michèle Auger**

13:40 0130 *Deciphering the Secrets of Novel Antimicrobial Agents and Spider Silk: A Solid-State NMR Investigation* **Auger M.**

14:20 0131 *Mechanism of Central Dark Line Formation in Biominerals: Solid-State NMR Study of the Transformation of Octacalcium Phosphate to Hydroxyapatite* **Chan J.C.C.**, Tseng Y.-H., Mou C.-Y.

14:40 0132 *Solid-State Chlorine NMR of Organometallic Complexes* **Rossini A.J.**, Briscoe G.A., **Schurko R.W.**

15:00 Coffee Break

15:20 0133 *Solid State NMR Strategies for the Structural Characterization of Glasses* **Eckert H.**

16:00 0134 *Solid-State ¹⁵N and ¹³C NMR of Thiazyl Materials* **Boéré R.T.**, Iuga D., Roemmele T.L., Yu X.

16:20 0135 *Solid-State NMR of Quadrupolar Nuclei: New Methods for Studying Structure and Dynamics in Minerals and Microporous Materials* **Wimperis S.**

17:00 End of Session

INP

WCC-2E-2H

Posters

Organizer(s) - Scott Kroeker
Chair(s) - Scott Kroeker

From 17:00 until 19:00

0136 *Structures, Stabilities, and Properties of Divalent Copper Bound to His-Gly Tetrapeptides* **Rauk A.**, Barry S.D., Rickard G.A., Pushie M.J.

0137 *Synthesis and Electrochemical Properties of Ferrocene-Nucleic Acid Conjugates* **Song H.**, **Kraatz H.-B.**

- 0138 Towards a FRET-Based ATP Biosensor Using Quantum Dot/Aptamer-Based Complexes **Revesz E.**, Lai E.P.C., ⁵DeRosa M.C.
- 0139 A Study on Possible Interactions of Nanoparticles with Biological Molecules **Kavianpour A.**, ⁵Kraatz H.-B.
- 0140 Nano-Structural Assembly of Dendrimers **Lataifeh A.**, ⁵Kraatz H.-B.
- 0141 ^{35/37}Cl Solid-State NMR and Computational Investigations of the Chloride Ion Environment in Amino Acid Hydrochloride Salts **Chapman B.P.**, Bryce D.L.
- 0142 Selective Tuning of the Optoelectronic Properties of Dithieno[3,2-b:2',3'-d]phosphole Materials **Dienes Y.**, Baumgartner T.
- 0143 Cationic Dithieno[3,2-b:2',3'-d]phospholes: A New Building Block for Luminescent, Conjugated Polyelectrolytes **Durben S.**, Dienes Y., ⁵Baumgartner T.
- 0144 Investigation of Reactive Species by Matrix Isolation FTIR and Time-of-Flight MS. Thermal Fragmentation of the Guanidinato Aluminum Amide Precursor [Me₂NC(NPr)₂]Al(NMe₂)₂ **Ziffle L.C.**, Kenney A.P., Barry S.T., ⁵Müller J.
- 0145 Coordination and Supramolecular Chemistry of Alkali Metal-Crown Ether Cations and Group 13 Hydride Anions **Onut L.**, McGrady G.S., Decken A.
- 0146 A Quantum Chemical Study of the Ring Opening of Cyclohexene on a Brønsted Acid Site **Mackie I.D.**, DiLabio G.A., ⁵Govindhakannan J., Ring Z.
- 0147 The Influence of the Local Environment on the Spectroscopic Properties of Tellurium **Elder P.J.W.**, Vargas-Baca I.
- 0148 Investigations of the Perfluoroaryl Boron Derivatives of BODIPY Dyes **Bonnier C.**, Piers W.E., Thompson A.
- 0149 Boron Analogues of Guanidinate Ligands **Corrente A.M.**, Chivers T.
- 0150 Mechanism and Design in Homogeneous Chromium Ethylene Trimerization Catalysis **Jabri A.**, Gambarotta S.
- 0151 Synthesis of Supported Heteroleptic Complexes for Use in Catalysis **Jones R.C.**, ⁵Canty A.J., Gardiner M.G.
- 0152 Synthesis of Heteroleptic Complexes and their Application in Catalysis **Jones R.C.**, ⁵Canty A.J., Gardiner M.G.
- 0153 Comparative Study of 2,2'-Bipyridine and its Boron-Derivatives: Synthesis and Characterization of Cu(I), Pt(II) and Ru(II) Complexes **Sun Y.**, Ross N., Wang S.
- 0154 Synthesis, Characterization and Chemistry of [RhCl(1,5-Cyclo-octadiene){P(CH₂OH)₃}] **Lorenzini F.**, Patrick B.O., ⁵James B.R.
- 0155 Exploring New Catalyst Designs for Olefin Metathesis **Romero P.**, Grubbs R.H.
- 0156 Theoretical and Experimental Investigation of the Formation of Tetradentate N,S,S,N- Binuclear Transition Metal Complexes from Mononuclear N,S,S,N- Chelates **Bierenstiel M**
- 0157 Surprising Mechanistic Insights from DFT Modeling of Ruthenium Hydride Catalysts for Alkene Hydrogenation **Rowley C.N.**, Foucault H.M., Fogg D.E., Woo T.K.
- 0158 An Investigation into Ruthenium Alkylidyne Complexes **Campbell C.D.**, ⁵Piers W.E., van der Eide E.F.
- 0159 Novel Iron(II) Complexes with Tetradentate P-N-N-P Donor Ligands and their Application in Hydrogenation of Ketones **Sui-Seng C.**, Pütz A.-M., Hadzovic A., Haque F.N., Freutel F., Zimmer-De Iulius M., Lough A.J., Morris R.H.
- 0160 Investigations of Diastereoselective Control for Bis(salicylaldiminato)copper(II) Cyclopropanation Catalysts **Boyd R.C.**, ⁵Foley S.R.
- 0161 Studies toward Cross-Coupling of Aryl Fluorides by Pt(II) Complexes **Wang T.**, Love J.A.
- 0162 Insertion of SnX₂ into the Pt-Y (X, Y = Cl, Br) Bond of Dimethylplatinum(IV) Complexes **Momeni B.Z.**, Hosseini S.S., Moradi Z.
- 0163 The Reaction of Cp*Ir(CO)₂ with Pentafluorobenzonitrile: C-F Activation **Leong W.K.**, Chan P.K.
- 0164 Alkylboronate Tantalum(V) Clusters: A Multifunctional Lewis Acid Cage for Host-Guest Purposes **Fontaine F.-G.**, Garon C.N., Sigouin O.
- 0165 Synthesis, Characterization, and Properties of Conjugated Iron(III) Spin-crossover Complexes **Lemaire M.T.**, Dujkic B.
- 0166 A Comparative Study of Two p-Benzoquinones: Redox and Coordination Chemistry **Trefz T.K.**, Hicks R.G.
- 0167 In-Situ ATR Investigation of Calcium Phosphate on Magnesium Alloy Substrates **Strong M.**, ⁵Gray-Munro J.
- 0168 Transition Metal Complexes Containing Quinone-Type Bridging Ligands **Oakley S.R.**, Hicks R.G.
- 0169 Chemical Oscillations and Photosensitivity in the Uncatalyzed Bromate-Pyrocatechol System **Harati M.**, Wang J.
- 0170 Catalytic Activity of Au, Pd and Bimetallic Nanoparticles in Ionic Liquids **Dash P.**, ⁵Scott R.W.J.
- 0171 Cobalt-Mediated [5+2] Cycloaddition Reaction: Structure/Reactivity Relationship of η⁵-Pentadienyl Complexes **Ylijoki K.E.O.**, Witherell R.D., Kirk A.D., McDonald R., Ferguson M.J., ⁵Stryker J.M.
- 0172 Substituted Crown Ethers for Building Metal Organic Rotaxane Frameworks, MORFs **Mercer D.J.**, ⁵Loeb S.J.
- 0173 Pressure-Induced Luminescence Effects on Mo(IV)-Oxo Complexes **Reber C.**, Lanthier E.
- 0174 In-Situ Near-IR Spectroscopy as a Tool in Catalyst Discovery **Kerton F.M.**, Soper R.G., Butt S.M.
- 0175 Reactivity of Hemilabile Complexes of Transition and Main Group Metals **Dureen M.A.**, Stephan D.W.
- 0176 Further Explorations of the Coordination Chemistry of 2-(2'-Aniliny)-4,4-dimethyl-2-oxazoline **Gossage R.A.**, Decken A., Quail J.W., Jenkins H.A., Jackson S.M., Eisnor C.R.
- 0177 Iron(III) Complexes of Amine-Bis(phenolate) Ligands: Structure, Magnetic Behaviour and Reactivity **Kozak C.M.**, Roy Chowdhury R., Crane A.K.
- 0178 Alkylation of Phosphinimide-Supported Titanium(III) and Titanium(IV) Propargyl Complexes. Titanacyclobutene and 3,3'-Dititanacyclobutene Complexes by Radical and Nucleophilic Addition **Morita M.**, Stryker J.M.
- 0179 H-H Distance in Some Dihydrogen Complexes of Osmium **Tardiff B.J.**, McGrady G.S., Jagirdar B.
- 0180 Molybdenum and Tungsten Sulfide Fluoride Chemistry **Gerken M.**, Hillary W., **Nieboer J.**
- 0181 Crown Ether Ligation and its Effects on the Synthesis, Structure and Reactivity of Low Oxidation State Group 13 Salts **Cooper B.F.T.**, ⁵Macdonald C.L.B.
- 0182 Novel Indolylphosphines and their Anion-Binding Affinities **Ang M.T.C.**, Yu J.O., Mulani A., Browning C.S., ⁵Farrar D.H.
- 0183 Self-Assembly of Metal Organic Rotaxane Polygons, MORPs **Viljoen E.**, ⁵Loeb S.J.
- 0184 Investigations into the Generality of Cu(II) Systems as Homogeneous Catalysts for Ethylene Polymerization **Olson J.A.**, Boyd R.C., ⁵Foley S.R.
- 0185 Developing a Viable Interface between Silicon and Neurons: Nanopatterned Surfaces for Understanding the Basics of Neuron Function **Daly B.**, ⁵Giuliani F., ⁵Buriak J.M.
- 0186 Electrophilic Phosphinidene Complexes and P-Element Bond Forming Reactions **Sterenberg B.T.**, Bolton T.M., Miller L.R., Ulmer T.J.
- 0187 Synthesis and Characterization of Palladacyclic Complexes of Imino-Isoindoline and Unsupported γ-Diimine Ligands: Effective Pre-Catalysts for Carbon-Carbon Bond Formation Reactions **Chitanda J.M.**, Quail J.W., ⁵Foley S.R.
- 0188 Photochromic Valence Tautomeric Complexes Capable of Tunable Wavelength Photomagnetic Processes **Frank N.L.**, Kopelman R.A., **Paquette M.M.**
- 0189 Synthesis of Geometrically Spin Frustrated Trinuclear Plaquettes: Building Blocks for Molecular Magnetic Materials **Hatnean J.A.**, Johnson S.A.
- 0190 Lanthanide Clusters: Synthesis, Characterisation and Spectroscopic Study of New Materials **Baril-Robert F.**, Reber C., Petit S., Luneau D.
- 0191 Voltammetric Modelling of the Relationship between S₄N₄ and S₃N₃⁻ **Chivers T.**, ⁵Boeré R.T., **Roemmele T.L.**
- 0192 Organophosphines Bearing Pendant Acetylenes **Greenberg S.**, Stephan D.W.
- 0193 Di-N-Heterocyclic Carbenes as Bridging Ligands in Dirhodium Complexes **Wells K.D.**, McDonald R., Ferguson M.J., ⁵Cowie M.
- 0194 Using Coordination Chemistry to Control the Threading and Unthreading in Pseudorotaxane Ligands **Sharma S.**, ⁵Loeb S.J.
- 0195 Organoiron Polymers Containing Rigid and Flexible Linkages **Abd-El-Aziz A.S.**, **Vakili S.A.C.**, Hegmann T.
- 0196 Novel Coordination Compounds Based on Water Soluble Cysteine-Containing Organoiron Complexes **Abd-El-Aziz A.S.**, **Vakili S.A.C.**, Kroeker S.
- 0197 Coordination Polymers of Bis(cyclopentadienyliron)arene Complexes Containing Cysteine Moieties **Abd-El-Aziz A.S.**, **Winram D.J.**, **Vakili S.A.C.**, Kroeker S.
- 0198 Redox-Dependent Isomerization in Cp*RuII/RuIII Complexes containing the Scorpionate Hydrotris(methimazolyl)borate Ligand **Goh L.Y.**, Kuan S.L., Leong W.K., Webster R.D.
- 0199 Electron Transfer Reactions of the {(Nickel(II)cyclam).Cucurbituril[8] Inclusion Complex **Hart L.A.**, ⁵Haines R.I.
- 0200 Investigations of Multiple-Quantum Off-Magic Angle Spinning NMR **Aguiar P.M.**, Michaelis V.K., ⁵Kroeker S.
- 0201 Characterization of Simple Paramagnetic Solids by Fast MAS NMR Spectroscopy **Sidhu P.S.**, Aguiar P.M., ⁵Kroeker S.
- 0202 ⁶⁷Li Solid State NMR Study of Li-Ion Mobility in LiMn₂O₄: Microscopic Insight into a Promising New Cathode Material **Davis L.J.M.**, Cahill L.S., Chapman B., ⁵Goward G.R.
- 0203 NMR Studies of Speciation and Homogeneity in Cesium Borosilicate Glasses **McKinley C.**, Aguiar P.M., ⁵Kroeker S.
- 0204 Solid-State ³¹P and ¹³C NMR of Extremely Bulky Phosphines **Boeré R.T.**, Iuga D., Hazendonk P.
- 0205 A Multi-Nuclear Solid-State NMR Study of Layered Metal Phosphates **Zhu J.**, ⁵Huang Y.
- 0206 Probing the Local Structure of Ionic Liquid Salts with ³⁵Cl, ⁷⁹Br and ¹²⁷I Solid State NMR **Gordon P.G.**, Brouwer D.H., ⁵Ripmeester J.
- 0207 A Solid-State NMR Study of Glass Crystallization Behavior **Longstaffe J.G.**, Zwanziger J.W., Schneider J.F.
- 0208 S-33 and K-39 Solid State NMR of Potassium Sulfates **Moudrakovski I.**, Lang S., Patchkovskii S., Ripmeester J.
- 0209 NMR study of Fluoride-Doped Alkaline Silicate Glasses **Karpukhina N.G.**, Zwanziger J.W., Werner-Zwanziger U., Kiprianov A.A.
- 0210 Magnetic Shielding Tensors of Hydridic Protons in Transition-Metal Hydrides **Wang M.**, ⁵Wasylishen R.E.
- 0211 A ¹⁰⁹Ag, ¹³C and ²H NMR and Quantum Chemical Study of Solid Organosilver Compounds **Liu B.**, ⁵Penner G.H.
- 0212 A Solid-State Phosphorus-31 NMR Investigation of a Multiple Spin Rhodium-Triphosphine Complex **Bernard G.M.**, Feindel K.W., ⁵Wasylishen R.E.
- 0213 A Preliminary Arsenic-75 NMR Study of Arsenic Containing Solids **Penner G.H.**, Liu B.
- 0214 A Solid-State ⁵¹V NMR Investigation of the Magnetic Shielding and Quadrupolar Coupling of [V(O)(ONMe₂)₂]O **Teymoori R.**, Bernard G.M., ⁵Wasylishen R.E.
- 0215 Ultrahigh-Field NMR Studies of Nitrogen Doping and Spin-Lattice Relaxation in Two Polytypes of Silicon Carbide **Bain A.D.**, **Hartman J.S.**, Berno B.
- 0216 A Multimuclear Solid-State NMR Study of Platinum Mono- and Bisdithiolene Species **Tang J.A.**, Kogut E., Lough A.J., Widdfield C.M., Fekli U., ⁵Schurko R.W.
- 0217 Investigation of Silver-Phosphorus Halides Complexes [L_nAgX] Using Solid-State ¹⁰⁹Ag and ³¹P NMR Spectroscopy **Chen F.**, ⁵Wasylishen R.E.
- 0218 A Study of Proton Dynamics in Solid Acids Using Solid-State NMR **Traer J.W.**, Soo K.J., ⁵Goward G.R.
- 0219 Big Spins and Big Quadrupoles **Bain A.D.**
- 0220 The Offset Compensated DVMAM Experiment **Montina T.D.**, ⁵Hazendonk P., Wormald P.
- 0221 Structural Characterization of Produced Water Using Solid-State ¹³C NMR Techniques **Clewett C.F.M.**, Corcoran B., Alam T.M., Osantowski E., ⁵Pullin M.J.
- 0222 Morphological Studies on the Crystalline Domain in Poly(bistrifluoroethoxy) Phosphazene Using Domain Selective ¹³C{¹H, ¹⁹F} MAS NMR Spectroscopy **Borisof A.S.**, ⁵Hazendonk P., Hayes P.G., Iuga A., DeDenus C.
- 1138 Synthesis and Solid State NMR Analysis of Rubidium Methane Phosphonate **Vijayakumar M.**, Traer J.W., Britten J.F., ⁵Goward G.R.

19:00 End of Session

Macromolecular Science and Engineering

MS2

WCC-Room 1

Organic Materials - Self Assembly (Joint with MT and OR)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Alex Adronov13:40 0223 Secondary Bonding Interactions of Heavy Main Group Elements in Supramolecular Chemistry
Cozzolino A.F., Elder P.J.W., **Vargas-Baca I.**14:00 0224 Synthesis and Self Assembly of Janus-AT Heterocycles: Applications to DNA Recognition **Asadi A.**, **Perrin D.M.**14:20 0225 Functional Nanostructured Liquid Crystals **Kato T.**

15:00 Coffee Break

Session Chair - Ignacio Vargas-Baca

15:20 0226 *Synthesis and Characterization of New Indolo[3,2-b]carbazole Derivatives* **Boudreault P.-L.**, Leclerc M., Wakim S., Tao Y.

15:40 0227 *Gold Nanoclusters in Nematic Liquid Crystals: Optically Activity, Ordering and Electro-Optics* Qi H., [§]**Hegmann T.**

16:00 0228 *Self-Assembly of Dipyrromethene Complexes* **Thompson A.**

16:20 0229 *Amphidynamic Materials and Molecular Machinery* [§]**Garcia-Garibay M.A.**

17:00 End of Session

MS4**WCC-Room 12****Polymer Surfaces, Structures and Interfaces**

Organizer(s) - Christopher Barrett
Chair(s) - Christopher Barrett

13:40 0230 *Langmuir-Blodgett Films of Perfluorinated Molecules for the Control of Liquid Crystal Surface Anchoring* **Ritcey A.M.**, Galstian T.V., Simonyan L.

14:20 0231 *Selective Electroless Metallization of Elastomeric Substrates: A New Approach to Flexible Electronics* Mailloux C.M., Miller M.S., Sahli B.J., [§]**Carmichael T.B.**

14:40 0232 *Mode and Polarization State Selected Guided Wave Spectroscopy of Orientational Anisotropy in Model Membrane Cellulosic Polymer Films: Relevance to Lab-on-a-Chip* **Andrews M.P.**, Kanigan T.

15:00 Coffee Break

15:20 0233 *Self-Assembly of Block Copolymers and Quantum Dots in Langmuir Films: Adventures at the Air-Water Interface* **Moffitt M.G.**, Cheyne R.B., von Aderkas E., Harirchian Saei S.

16:00 0234 *A Molecular Dynamics Study of the Solid-State Structures of Linear Low-Density Polyethylenes* Zhang M., Yuen F., [§]**Choi P.**

16:20 0235 *Design and Study of Polymer Microcapsules* **Stöver H.D.H.**

17:00 End of Session

Materials Chemistry Division**MT5****WCC-Room 1****Organic Materials - Self Assembly (Joint with MS and OR)** (joint with OR7)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Alex Adronov

13:40 Joint with Macromolecular Science and Engineering Division and Organic Chemistry Division - See MS2

15:00 Coffee Break

Session Chair - Ignacio Vargas-Baca

17:00 End of Session

Organic Chemistry**OR1****WCC-Room 11****Biocatalysis and its Impact on Asymmetric Synthesis**

Organizer(s) - Tomas Hudlicky
Chair(s) - Jon Stewart

13:40 0236 *Chemoenzymatic Approach to the Preparation of Biologically Active Marine Metabolites* [§]**Seoane G.**

14:20 0237 *Lipase-Mediated Oxidations of Olefins and Ketones* **Olivo H.F.**

15:00 Coffee Break

15:20 0238 *Broad Substrate Spectrum and Crystal Structures of a New Baeyer-Villiger Cyclohexanone Monooxygenase of Rhodococcus Origin* Wang S., Mirza A., Yachnin B., Berghuis A., Iwaki H., Hasegawa Y., Imura A., Grosse S., Bergeron H., **Lau P.C.K.**

16:00 0239 *Biocatalysts From Unusual Sources: The Reducing Power of Common Plants* **Gonzalez D.**

16:40 0240 *Molecular Modeling of a Baeyer-Villiger Monooxygenase: Homology Modeling and Docking Studies on Cyclohexanone Monooxygenase (CHMO)* **Clouthier C.M.**, Kayser M.M.

17:00 End of Session

OR4**WCC-Room 4****Green Chemistry for Chemical Synthesis**

Organizer(s) - C.J. Li and Robert Singer
Chair(s) - Robert Singer

13:40 0241 *The Utility of CO₂ in Organic Synthesis* [§]**Jessop P.G.**

14:20 0242 *Catalysis and New Soluble Supports in Synthesis* [§]**Charette A.B.**

15:00 Coffee Break

15:20 0243 *Linking Synthetic Elegance, Material Efficiency, and Green Chemistry Principles for Synthesis Design and Analysis* **Andraos J.**

15:40 0244 *In Praise of Ionic Liquids: Chemicals for all Seasons* [§]**Chan T.H.**, Miao W., He X., Donga R., Law M.C., Tong K.H., Tang M.C.Y., Damha M.J., Wong K.Y., Khalilq Uz-Zaman S.M.

RSC Green Chemistry Lecture

16:20 0245 *Organic Synthesis in Supercritical Carbon Dioxide and Related Environmentally Friendly Media* **Danheiser R.L.**, Tester J.W., Mak X.Y., Ciccolini R.P., Holmes A.B.

17:00 End of Session

OR7**WCC-Room 1****Organic Materials - Self Assembly (Joint with MS and MT)** (joint with MT5)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Alex Adronov

13:40 Joint with Macromolecular Science and Engineering Division and Materials Chemistry Division - See MS2

15:00 Coffee Break

Session Chair - Ignacio Vargas-Baca

17:00 End of Session

OR8**WCC-Room 5****Recent Advances in Mechanistic Organic Chemistry**

Organizer(s) - Matthew Lukeman
Chair(s) - William Leigh and Peter Guthrie

13:40 0246 *Does Aromaticity in a Reaction Product Increase or Decrease the Intrinsic Barrier?* **Bernasconi C.F.**

14:20 0247 *Predicting the Rates of Organic Reactions in Solution* **Guthrie J.P.**

15:00 Coffee Break

15:20 0248 *Alkyl Ion Rearrangement and Beta Scission: Reconciling Computational Results with Conventional Mechanisms* **East A.L.L.**

15:40 0249 *Stability and Selectivity of Arenonium Carbocations* [§]**More O'Ferrall R.A.**, McDonnell C.M., Pelet S., Lawlor D., Galvin M.

16:20 End of Session

OR9**WCC-Room 15****Recent Advances in Natural Products Chemistry (Joint with BM)** (joint with BM6)

Organizer(s) - Raymond Andersen and Russell Kerr
Chair(s) - Raymond Andersen

13:40 Joint with Biological and Medicinal Chemistry Division - See BM6

16:40 End of Session

Physical, Theoretical & Computational**PT6****WCC-Room 13****Diversity and Innovation in Computational Chemistry**

Organizer(s) - Georg Schreckenbach and Tom Woo
Chair(s) - Tom Woo

13:40 0250 *The Best of Three Worlds: Combined Linear, Cluster, and Perturbation Expansions for Electron Correlation in Accurate Chemical Simulations* [§]**Hirata S.**

14:20 0251 *Electron Transport in Molecular Electronic Devices* **Ernzerhof M.**

15:00 Coffee Break

15:20 0252 *Combinatorial Quantum Chemistry and Computational Methods* **Mezey P.G.**

16:00 0253 *The Problem of Effective Potentials in Density Functional Theory* **Staroverov V.N.**

16:20 0254 *From Size (and Shape) to Interelectronic Distance* **Poirier R.A.**, Hollett J.W.

16:40 0255 *Theoretical Overview of the Ultraviolet Singlet Excited States of NO Dimer* **Shi H.**, East A.L.L.

17:00 End of Session

PT10**Delta-C****Photoprocesses in Chemical Systems: New Directions for Photonics Applications**

Organizer(s) - Kalai Saravanamuttu
Chair(s) - Kalai Saravanamuttu and Patanjali Kambhampati

REMINDER

13:40 Clara Benson Award Lecture presented by Michèle Auger in Delta-A

14:20 0256 *Design of Chiral Dopants for Ferroelectric Liquid Crystal Photoswitches* **Lemieux R.P.**, Roberts J.C., Li L.

15:00 Coffee Break

15:20 0257 *Gold Nanoparticle Stacking* [§]**Mittler S.**, Rezaee A., Manifar T., Bourke T.C., Aliganga A.K.A.

16:00 0258 *Surface Plasmon Optical Transmission Sensors* [§]**Kavanagh K.L.**, Brolo A.G., Gordon R.

16:40 0259 *Polarization-Dependent SERS, and an Application in Analytical Chemistry* **Anema J.R.**, Brolo A.G.

17:00 End of Session

PT12**Delta-A****Solid-State NMR Spectroscopy in Inorganic Materials (Joint with IN)** (joint with IN6)

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - Gillian Goward

13:40 Joint with Inorganic Chemistry Division - See IN6

REMINDER

13:40 Clara Benson Award Lecture presented by Michèle Auger in Delta-A

17:00 End of Session

PT13**Delta-B****Surfaces of Nanostructures, Nanostructured Surfaces**

Organizer(s) - Stephen Urquhart and Peter Kruse
Chair(s) - Stephen Urquhart and Peter Kruse

REMINDER

13:40 Clara Benson Award presented by Michèle Auger in Delta-A

14:20 0260 *Self Assembled Nano-Structures on Silicon Surfaces* **McNab I.R.**, Polanyi J.C., Dobrin S., Harikumar K.R., Lim T.B., Leung L., Sloan P.A., Waqar Z., Yang J.(S.Y.), Ayissi S., Hofer W.

15:00 Coffee Break

15:20 0261 *Interface States and Properties of Organic Nanostructures on Silicon* [§]**DiLabio G.A.**

16:00 0262 *Label Free Electrical Biosensing on Crystalline Silicon* Mischki T.K., Bin X., Fan C., Koukiekolo R., Pezacki J.P., Lopinski G.P., [§]**Wayner D.D.M.**

16:20 0263 *Surface Characterization of Fluorinated Poly(dimethylsiloxane) Microfluidic Chips* **Wang D.**, Oleschuk R.D., Horton J.H.

16:40 End of Session

PTP**WCC-2E-2H****Posters**

Organizer(s) - Kathleen Gough
Chair(s) - Kathleen Gough

0264 *A Computational Investigation of the Thermodynamics and Kinetics of Purine Glycosidic Bond Cleavage* **Hunter K.C.**, Wetmore S.D.

0265 *A Computational Investigation of the Properties of Damaged Nucleobases* **Millen A.L.**, Wetmore S.D.

0266 *Configurations and S_N2 Mechanisms of Dacarbazine and its Structural Analogues: Systematic Computational Configurational and Bimolecular Nucleophilic Substitution Reaction Mechanism Studies of Dacarbazine, a Triazene-Containing Anti-Neoplastic Agent, and its Structural Analogues* **Doucet K.G.**, Pye C.C.

0267 *Quantum Molecular Similarity: An Atoms-in-Molecules Approach* **Bohorquez H.J.**, Boyd R.J.

0268 *Migration of Hydrogen Gas through Small and Large Clathrate Hydrate Cages* [§]**Alavi S.**, Ripmeester J.

0269 *An Approximate Diatomics in Molecules Formulation of Generalized Valence Bond Theory* **Cullen J.M.**

0270 *Average Value Many Body Perturbation Theory* **Cullen J.M.**

0271 *Adsorption and Diffusion of H₂ and CO on FeCo Alloy Surfaces* **Lo J.M.H.**, Ziegler T.

0272 *Analysis of the Molecular Polarizability and Raman Scattering Intensities in Bicyclo-[1.1.1]-pentane with the Theory of Atoms in Molecules* **Qu W.**, Gough K.M.

0273 *Theoretical Study on the Stability of some Unusual BN Helices* Szakacs C.E., Mezey P.G.

0274 *Computational DFT Study of Polypyrrolic Macrocycles: Analysis of Actinyl-Oxo to Transition Metal Bonding* Berard J.J., Schreckenbach G., Arnold P.L., Patel D., Love J.B.

0275 *A Density Functional (DFT) Study of the Various Forms of UN₄O₁₂ Containing Uranyl Nitrate* Berard J.J., Shamov G.A., Schreckenbach G.

0276 *Geometry and Electronic Structures of Boron-Nitrogen Nano-Needles* Simon E., Mezey P.G.

0277 *Towards the Understanding of the Impact of Functionalisation on Single-Wall Carbon Nanotubes* Moonosawmy K.R., Kruse P.

0278 *Solvation and Selectivity at the Interface of Pirkle-Type Chiral Stationary Phases* Nita S., Cann N.M., Horton J.H.

0279 *Binary SAMs Formed by Passive Co-Adsorption, Exchange Reaction, and Electrochemical Co-Adsorption* Lee L.Y.S., Lennox R.B.

0280 *Theoretical and Experimental Investigation of Radical Molecular Arrays on Hydrogen-Terminated Silicon(100)-2x1* Shimoi Y., Dogel S., DiLabio G.A., Lin S., Ingold K.U.

0281 *Microcontact Printing of Organic Monolayers on Hydride-Terminated Silicon Surfaces* Wang D., Buriak J.M. PAPER WITHDRAWN

0282 *Volume and NMR Studies of Gemini Surfactants and Cyclodextrins in Aqueous Solution* Wilson L.D., Verrall R.E.

0283 *The Nature of the Electronic Transition in TiAs* Grosvenor A.P., Cavell R.G., Mar A.

0284 *Second Shell, Next-Nearest Neighbour Contributions to P 2p_{3/2} X-Ray Photoelectron Binding Energy Shifts of Mixed Transition-Metal Phosphides (M₁₋₃M₂P) with the MnP-Type Structure* Grosvenor A.P., Cavell R.G., Mar A.

0285 *X-Ray Photoelectron Emission Microscopy of Grain Boundary Phases in Stainless Steel Alloys* Haines B., Lanke U.D., Hall B., Chioveli S., Anderson M., Kenny K., Urquhart S.G.

0286 *X-Ray Microscopy of Organic-Clay Interactions* Covelli D., Urquhart S.G., Munoz V., Oladipo O., Mikula R.

19:00 End of Session

Monday AM

Analytical Chemistry

AN3 WCC-Room 9

Analytical Separations: Innovative Concepts and Applications

Organizer(s) - Nicholas Toltl
Chair(s) - Nick Toltl

08:00 0287 *Application of 1D and 2D-HPLC Techniques for the Analysis of Commercial Influenza Vaccines* Garcia-Cañas V., Lorbetskie B., Girard M.

08:40 0288 *Innovative Methods in Glycomics* Lattova E., Chen V.C., Snovida S.I., Perreault H.

09:00 0289 *High-Content Hypothesis-Driven Phosphoproteomics Using the Sequence Specific Retention Time Calculator (SSRTC) for Off-Line HPLC MALDI-MS/MS* Chen V.C., Chou C.-C., Hsieh H.-Y., Khoo K.-H., Perreault H.

09:20 0290 *Determination of Enzymatically-Induced Deacetylation Patterns in Chitosan Oligosaccharides by Hydrophilic Interaction Chromatography (HILIC)-Mass Spectrometry and Capillary Electrophoresis-Laser Induced Fluorescence* Tang M.-C., Waldron K.C., Nisole A., Pelletier J., Boucher I., Dupont C.

09:40 Coffee Break

10:00 W.A.E. McBryde Award Lecture presented by Sergey Krylov

Introduction of Sergey Krylov by K.W. Michael Siu

10:00 0291 *Kinetic Capillary Electrophoresis - An Analytical Swiss Army Knife* Krylov S.N.

10:40 0292 *Molecularly Imprinted Polymer-Modified Nanomaterials for Chemical Sensing of Trace Mycotoxins and Estrogens* Lai E.P.C., Wei Y., Pereira M., de Maleki Z.

11:00 0293 *A Novel Micro-Flame Detection Method and Its Potential for Portable GC Applications* Thurbide K.B., Hayward T.C.

11:20 0294 *Time-Resolved Photoacoustic Spectroscopy Using Fiber Bragg Grating Acoustic Transducers* Yang Q., Barnes J.A., Loock H.-P., Pedersen D.

11:40 End of Session

AN4 WCC-Room 11

Biospectroscopy and Biodiagnostics (Joint with PT) (joint with PT4)

Organizer(s) - Marco Gruwel, Larry Leonardi, Lin-P'ing Choo-Smith and Mike Sowa

Session Chair - Marco Gruwel

08:00 0295 *How do Studies of Protein Structures by NMR Spectroscopy Contribute to the Health of Canadians?* Aubin Y.

08:40 0296 *Membrane Composition Modulates the Interaction Between a New Class of Antineoplastic Agents Deriving from Aromatic 2-Chloroethylureas and Lipid Bilayers: A Solid-State NMR Study* Cronier F., Patenaude A., C.-Gaudreault R., Auger M.

09:00 0297 *NMR Studies of Cardiac Potassium Fluxes and Metabolism in Rodent Models of Diabetes* Jilkina O., Kuzio B., Kuplyanov V.V.

09:20 0298 *Towards Multimodal Longitudinal Analysis of Alzheimer Plaque Formation in vivo* Szczereba S., Manley D.M., Gruwel M.L.H., Jackson M.

09:40 Coffee Break

10:00 0299 *A Longitudinal Study Of Myelin Oligodendrocyte Glycoprotein (MOG)-Induced EAE Using Non-Invasive Imaging Techniques* Martin M., Chavakula V., Cardigan Smith B., Schellenberg A., Kim A., Procissi D., Buist R., Readhead C.

10:40 0300 *Modified Vaccinia Virus Induces Immune Response without Preventing Carcinogenesis* McKenzie E.J., Sun J., Deschambault Y., Jackson M., Grudeski E., Cao J., Gruwel M.L.H.

11:00 0301 *Improvements in Magnetic Resonance Spectroscopic Imaging of the Prostate* Venugopal N., McCurdy B., Ryner L.

11:20 0302 *Effects of Pentosan Polysulfate Treatment on Survival Time and Magnetic Resonance Images of Scrapie Infected Hamsters* Baydack R.S., Booth T., Jackson M.

11:40 End of Session

AN6 WCC-Room 10

Innovations and Instrumentation (Microfluidic Devices)

Organizer(s) - Richard Oleschuk, Cameron Skinner and Michael Bowser
Chair(s) - Cameron Skinner

08:00 0303 *Entrapped Fluorous Microspheres: System Design, Optimization and Application* Daley A.B., Oleschuk R.D., Hyndman D.J.

08:20 0304 *Microfluidic ELISA with Increased Sensitivity through the Reduction of the Background Noise Caused by Non-Specific Adsorption* Herrmann M., Roy E., Veres T., Tabrizian M.

09:00 0305 *Microfluidic Microarray Assembly and Its Applications to DNA Hybridization* Wang L., Li P.C.H.

09:40 Coffee Break

REMINDER

10:00 W.A.E. McBryde Award Lecture presented by Sergey Krylov in WCC-Room 9

10:40 0306 *Open Tubular and Gel-Filled Microfluidic Chip Research at Micralyne* Crabtree H.J.

11:20 0307 *Anything but Fluorescence Spectroscopy on Pico-liter-Sized Samples* Barnes J.A., Bescherer K., Li R., Loock H.-P., Oleschuk R.D., Trefiak N.

12:00 End of Session

AN7 WCC-Room 6

Metal Speciation

Organizer(s) - Zoltan Mester, John Murimboh and Feiyue Wang
Chair(s) - Zoltan Mester and Feiyue Wang

08:20 0308 *From Elemental Speciation to Metallomics* Caruso J.A.

09:00 0309 *Metabolomics of Selenium Based on Speciation Analysis by HPLC-ICP-MS* Suzuki K.T.

09:40 Coffee Break

REMINDER

10:00 W.A.E. McBryde Award Lecture presented by Sergey Krylov in WCC-Room 9

10:40 0310 *Which Analytical Techniques are Most Appropriate for Measurements of Trace Metal Bioavailability?* Wilkinson K.J.

11:00 0311 *Aquatic Trace Metal Complexation: Advances in Methods of Modeling Experimental Studies of Equilibria and Kinetics for Natural Ligands* Hudson R.J.M.

11:20 0312 *Lability of Metal Species in Aquatic Systems: A Multi-Method Approach* Murimboh J., Chaulk A.H., Gaabass I.

11:40 End of Session

Biological and Medicinal Chemistry

BM4 WCC-Room 8

Latest Trends in Medicinal Chemistry, Drug Discovery and Design (Joint with OR) (joint with OR5)

Organizer(s) - Lakshmi Kotra and Christine Gottardo
Chair(s) - Christine Gottardo

08:20 0313 *Investigation of the Mechanism of Binding of UDP, UDP-Galp, UDP-Galf, and UDP-[3-F]Galf to UDP-Galactopyranose Mutase by STD-NMR/Molecular Dynamics Simulation* Pinto B.M.

09:00 0314 *New Paramagnetic MRI Contrast Agents: Synthesis of Lanthanide(III) Complexes of Cyclen Oligopeptide Conjugates* Suchy M., Wojciechowski F., Li A.X., Bartha R., Hudson R.H.E.

09:20 0315 *Hyperpolarized ¹³C Succinate for Biomedical MR Imaging and Spectroscopy* Chekmenev E.Y., Bhattacharya P., Norton V.A., Hovener J., Ross B.D., Weitekamp D.P.

09:40 Coffee Break

10:00 Boehringer Ingelheim Award Lecture presented by Margaret Johnson

Introduction of Margaret Johnson by Mario Pinto

10:00 0316 *NMR Studies of Molecular Mimicry in Protein-Ligand Interactions* Johnson M.A.

10:40 0317 *Preparation of Modified Lantibiotics: Possible Antimicrobial Agents against Gram Negative Bacteria* Yoganathan S., Pattabiraman V.R., Martin-Visscher L.A., Cobb S.L., Sit C.S., Vederas J.C.

11:00 0318 *Antibiotic Resistance via Aminoglycoside 6'-N-Acetyltransferase: Inhibition and Activation, Mechanism and Structure* Auclair K.

11:40 End of Session

BM6 WCC-Room 15

Recent Advances in Natural Products Chemistry (Joint with OR) (joint with OR9)

Organizer(s) - Raymond Andersen and Russell Kerr
Chair(s) - Russell Kerr

08:00 0319 *Collectible and Culturable: Both Reasonable Options for the Discovery of New Marine Natural Products* Wright J.L.C.

08:40 0320 *Bioactive Peptides from Panamanian Marine Cyanobacteria* Gerwick W.H., McPhail K.L., Medina R., Lirington R.G., Antunes E.

09:20 0321 *Exiguamine A and B, Novel Inhibitors of IDO* Brastianos H.C., Vottero E., Patrick B.O., Van Soest R., Maitanaho T., Mauk A.G., Andersen R.J.

09:40 Coffee Break

10:00 0322 *Studies of the Dinoflagellate *Alexandrium ostenfeldii* and its Production of a Novel Class of Marine Toxins Known as the Spirolides* MacKinnon S.L.

10:40 0323 *The Diels-Alder Approach to Palau'amine* Gleason J.L., Cemak T.A.

11:00 0324 *A Novel Route to β -Lactones* Anwar J., Jenkins S.I., Harrison P.H.M.

11:20 0325 *Surprising β -Proton Exchange in the Biosynthesis of Sirodesmin PL* Yu Y., Pedras M.S.C.

11:40 End of Session

Chemical Education

CE8 WCC-PanAm

Undergraduate Research and Education

Organizer(s) - Lamine Diop and Michael Dickman
Chair(s) - John Olson and Bob Brown

08:00 0326 *Enriching the Culture of Undergraduate Research in Canadian Chemistry* Mahaffy P.G.

08:20 0327 *"Everybody Wins" - Improving the Undergraduate Organic Laboratory Experience via Student Research Projects* Dicks A.P.

08:40 0328 *Level 1 Science Inquiry at McMaster University* McCarry B.E.

09:20 0329 *Introducing Undergraduate Students to Research through a Laboratory Inquiry Course* Vargas-Baca I., Cozzolino A.F.

09:40 Coffee Break

10:00 CIC Chemical Education Award Lecture presented by Robert Burk

Introduction of Robert Burk by Ray Clement

10:00 0330 *Teaching with Technology in First Year Chemistry: A 10 Year Confluence of Expediency, Opportunities and Demand* [†]**Burk R.C.**

10:40 0331 *The Other Side of the Coin: Undergraduate Research at a Research-Intensive University* **Loppnow G.R.**

11:00 0332 *The End of Chemical Education* **Grant A.S.**

11:40 End of Session

CE9 WCC-Room 7

Women in Science

Organizer(s) - Gro Thorne-Tjomsland
Chair(s) - Gro Thome-Tjomsland

10:00 0333 *Project Catalyst: Taking Action to Increase the Percentage of Women Faculty in the Sciences* **Armour M.-A.**

10:40 0334 *Connecting Women in Science* **Vassileva J.I.**

11:20 0335 *Intersections of Feminism and Science: A Women's Studies Primer* **Dodd J.G.**

12:00 Panel Discussion and Bag Lunch

Inorganic Chemistry

IN3 WCC-Room 2

Mechanism and Design in Organometallic Catalysis

Organizer(s) - Peter Budzelaar, Jennifer Love and Deryn Fogg
Chair(s) - Jennifer Love

08:20 0336 *Oxidative Addition of Carbon-Oxygen Bonds to Palladium: Towards a Mild, Catalytic Approach to Amino Acid Synthesis* [†]**Arndtsen B.A.**, Lu Y., Black D.A., Beveridge R.

08:40 0337 *Palladacycles versus Chelating N-Heterocyclic Carbene Complexes of Nickel: Champion Catalysts for C-C Bond Forming Reactions* Chitanda J.M., Paulose T.A., [†]**Foley S.R.**

09:00 0338 *Alkenyl and Phosphinite Ligand Effects in Palladium Mediated Organic Transformations* [†]**Fairlamb I.J.S.**

09:40 Coffee Break

10:00 Strem Chemicals Award in Pure or Applied Inorganic Chemistry presented by Deryn Fogg

Introduction of Deryn Fogg by Tito Scaiano

10:00 0339 *Catalyst Design in Olefin Metathesis and Tandem Catalysis* [†]**Fogg D.E.**

10:40 0340 *Synthesis and Reactivities of Cp*₂RhMe₂(PMe₂CH₂AlMe₂): Influence of a Lewis Acid Tethered to a Rh(III) Metal Center on the Activity* **Fontaine F.-G.**, Boudreau J., Thibault M.-H., Drouin F.

11:00 0341 *Structures and Reactivity of Borane-Appended Late Transition Metal Complexes* **Emslie D.J.H.**, Oakley S.R., Parker K.D., Huk N.L.

11:40 End of Session

IN4 WCC-Room 3

Recent Advances on the Chemistry of Porphyrins, Phthalocyanines and Related Macrocycles

Organizer(s) - Pierre Harvey and Roger Guilard
Chair(s) - Ronald Steer

08:20 0342 *Porphyrinoids with an Embedded Pyridine Moiety* [†]**Latos-Grazynski L.**, Mysliborski R., Rachlewicz K.

09:00 0343 *Analysis of the Circular Dichroism of Systems Containing Multiple Phthalocyanine or Porphyrin Ligands* [†]**Kobayashi N.**, Muranaka A.

09:40 Coffee Break

REMINDER

10:00 Strem Chemicals Award in Pure or Applied Inorganic Chemistry Lecture presented by Deryn Fogg in WCC-Room 2

Session Chair - Jean Weiss

10:40 0344 *Supramolecular Functionalization of Carbon Nanotubes with Conjugated Porphyrin Oligomers and Polymers* [†]**Adronov A.**, Cheng F.

11:00 0345 *Non-Planar Oligopyrrolic Macrocycles from meso-Alkylidene porphyrins to Porphyrinogen-Like Macrocycles* [†]**Lee C.H.**

11:40 End of Session

IN6 Delta-A

Solid-State NMR Spectroscopy in Inorganic Materials (Joint with PT) (joint with PT12)

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - Darren Brouwer

08:20 0346 *Recent Applications of Solid-State NMR to the Characterisation of Materials* [†]**Smith M.E.**

09:00 0347 *Characterization of Multiphases in the System MgO-Al₂O₃-TiO₂, by ¹⁷O and ²⁷Al MAS NMR, Rietveld Refinement of X-Ray Diffraction (XRD) Data, and Electron Probe Microanalysis (EPMA)* [†]**Flemming R.L.**, Izawa M., Kirby C.

09:20 0348 *³⁹K Solid State NMR in Potassium Salts at 21 T* [†]**Moudrakovski I.**, Lang S., Patchkovskii S., Ripmeester J.

09:40 Coffee Break

REMINDER

10:00 Strem Chemicals Award in Pure or Applied Inorganic Chemistry Lecture presented by Deryn Fogg in WCC-Room 2

10:40 0349 *Double Quantum Solid-State ¹⁹F MAS NMR Spectroscopy of Novel Tantalum Oxyfluoride Nanoclusters* [†]**Alam T.M.**, Clawson J.S., Bonhomme F., Thoma S.G., Zheng S., Autschbach J.

11:20 0350 *Solid-State ¹⁹F NMR Spectroscopy of the IO₂F₂⁻ and IO₂F₂⁻ Anions* [†]**Gerken M.**, Hazendonk P., Iuga A., Mack J.P.

11:40 End of Session

IN7 WCC-Room 12

General

Organizer(s) - Sam Yan
Chair(s) - Sam Yan

08:00 0351 *Synthesis, Structure and Reactivity of Novel Non-Cyclopentadienyl Organothorium(IV) Cations* **Cruz C.A.**, Emslie D.J.H.

08:20 0352 *Synthesis and Catalytic Activity of Chelating N-Heterocyclic Carbene Complexes of Group 10 Metals* [†]**Foley S.R.**, **Paulose T.A.**, [†]**Quail J.W.**

08:40 0353 *Cumylene Activation Promoted by Adjacent Ir/Ru Centres* **Samant R.G.**, Trepanier S.J., Dutton J., McDonald R., Ferguson M.J., [†]**Cowie M.**

09:00 0354 *Synthesis and Characterization of Several Key Catalytic Intermediates. Investigation of the Metal-Ligand Bifunctional Mechanism of Asymmetric Catalytic Ketone Hydrogenations* [†]**Hamilton R.J.**, Bergens S.H.

09:20 0355 *Synthesis and Characterization of Stable Titanium(IV) Allenyl and Propargyl Complexes Supported by Phosphinimide Ligand System and Further Transformations into Titanacyclobutene Complexes.* **Morita M.**, [†]**Stryker J.M.**

09:40 Coffee Break

REMINDER

10:00 Strem Chemicals Award for Pure or Applied Inorganic Chemistry Lecture presented by Deryn Fogg in WCC-Room 2

10:40 0356 *C-F Bond Activation Promoted by Adjacent Metal Centres* Anderson D.J., Wigginton J.R., McDonald R., [†]**Cowie M.**

11:00 0357 *New Dinitrogen Complexes of Zirconium* MacLachlan E.A., Hess F.M., [†]**Fryzuk M.D.**

11:20 0358 *"NacNac"-Ligands in Complexes of Cu, Cr and Zr* **Schaper F.**

11:40 End of Session

Macromolecular Science and Engineering

MS2 WCC-Room 1

Organic Materials - Self Assembly (Joint with MT and OR)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Alison Thompson

08:00 0359 *Supramolecular Functionalization of Single-Walled Carbon Nanotubes* [†]**Adronov A.**, Cheng F., Yiming P., Bahun G.J.

08:20 0360 *Electrically Conducting Photoswitchable Molecules Based on the Dimethyldihydropyrene Photoswitch* **Robinson S.G.**, [†]**Mitchell R.H.**

08:40 0361 *Engineering Crystalline Networks via Hydrogen Bonding of Hexaphenylbenzene Derivatives and Related Compounds* [†]**Maly K.E.**, Gagnon E., Maris T., [†]**Wuest J.D.**

09:00 0362 *DNA-Mediated Patterning of Gold Nanoparticles into Discrete Structures: Modularity, Write/Erase and Structural Switching* Aldaye F., [†]**Sleiman H.F.**

09:40 Coffee Break

Session Chair - Torsten Hegmann

10:00 0363 *Self-Organizing [2]Rotaxanes* **Suhan N.**, [†]**Loeb S.J.**, [†]**Eichhorn S.H.**

10:20 0364 *Formation of Colloidal Crystals by Microgel Particles and Sensing Applications* Meng Q.B., Chen Y.L., Gautrot J.E., Colonne M., Freiberg S., [†]**Zhu X.X.**, Li Z.Y.

10:40 0365 *Schiff Base Macrocycles Containing Polycyclic Aromatics: En Route to Giant Shape-Persistent Macrocycles* **Boden B.N.**, [†]**MacLachlan M.J.**

11:00 0366 *Using Functional Small Molecules to Control Self-Assembly and Structure in Block Copolymer Thin Films* **Bazuin C.G.**

11:40 End of Session

Materials Chemistry Division

MT5 WCC-Room 1

Organic Materials - Self Assembly (Joint with MS and OR) (joint with OR7)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Alison Thompson

08:00 Joint with Macromolecular Science and Engineering Division and Organic Chemistry Division - See MS2

09:40 Coffee Break

Session Chair - Torsten Hegmann

11:40 End of Session

Organic Chemistry

OR4 WCC-Room 4

Green Chemistry for Chemical Synthesis

Organizer(s) - C.J. Li and Robert Singer
Chair(s) - C.J. Li

08:20 0367 *Expansion of the Peptide Synthase Specificity of a Transglutaminase Enzyme by Directed Evolution* **Chica R.A.**, Gillet S.M.F.G., Laroche J., Lesage P., Keillor J.W., [†]**Pelletier J.N.**

09:00 0368 *Environmentally Benign Methods of Oxidation and Reduction for Organic Compounds* **Hudlicky T.**

09:40 Coffee Break

10:00 0369 *Metal Catalyzed One Step Synthesis: Developing Efficient and Direct Routes to Biomolecule Formation* [†]**Arndtsen B.A.**, Dhawan R., Siamaki A., Worrall K.

10:40 0370 *New Cyclization Reactions via Transition Metal Vinylidene-Mediated Catalysis* **Lee C.**

11:20 0371 *Applications of Phosphonium Salt Ionic Liquids in Organic Synthesis* **Cheekoori S.**

11:40 End of Session

OR5 WCC-Room 8

Latest Trends in Medicinal Chemistry, Drug Discovery and Design (Joint with BM) (joint with BM4)

Organizer(s) - Lakshmi Kotra and Christine Gottardo
Chair(s) - Christine Gottardo

08:20 Joint with Biological and Medicinal Chemistry Division - See BM4

REMINDER

10:00 Boehringer Ingelheim Award Lecture presented by Margaret Johnson in WCC-Room 8

11:40 End of Session

OR7 WCC-Room 1

Organic Materials - Self Assembly (Joint with MS and MT) (joint with MT5)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Alison Thompson

08:00 Joint with Macromolecular Science and Engineering Division and Materials Chemistry Division - See MS2

09:40 Coffee Break

Session Chair - Torsten Hegmann

11:40 End of Session

OR8 WCC-Room 5

Recent Advances in Mechanistic Organic Chemistry

Organizer(s) - Matthew Lukeman
Chair(s) - Vladimir Popik and Thomas Tidwell

08:00 0372 *Ketene and Bisketene Reactions with Imines* Allen A.D., Fu N., Gadoy J., Kobayashi S., **Tidwell T.T.**, Vukovic S.

08:40 0373 *The Nucleophilicity of DMSO in Acetonitrile* Phan T.B., [†]**Kobayashi S.**, [†]**Mayr H.**

09:00 0374 *Direct Detection and Characterization of Silicon Analogues of Arylcarbenes by Laser Photolysis of Cyclic Trisilanes.* [†]**Leigh W.J.**, [†]**Moiseev A.G.**

09:40 Coffee Break

10:00 0375 *A Renaissance of Photochemical Protecting Groups* [§]Wirz J., Givens R., Klan P., Sket B.

10:40 0376 *Photorelease from Ketoprofen and Xanthone Acetic Acid Derivatives: Mechanism and Applications in Corneal Antiviral Treatments* Blake J.A., Scaiano J.C., Lukeman M.

11:00 0377 *Design and Generation of Very Reactive Eneidyne Compounds* Poloukhine A., Karpov G., [§]Popik V.

11:40 End of Session

OR9

WCC-Room 15

Recent Advances in Natural Products Chemistry (Joint with BM) (joint with BM6)

Organizer(s) - Raymond Andersen and Russell Kerr
Chair(s) - Russell Kerr

08:00 Joint with Biological and Medicinal Chemistry Division - See BM6

11:40 End of Session

Physical, Theoretical & Computational

PT4

WCC-Room 11

Biospectroscopy and Biodiagnostics (Joint with AN) (joint with AN4)

Organizer(s) - Marco Gruwel, Larry Leonardi, Lin-P'ing Choo-Smith and Mike Sowa

08:00 Joint with Analytical Chemistry Division - See AN4

Session Chair - Marco Gruwel

11:40 End of Session

PT6

WCC-Room 13

Diversity and Innovation in Computational Chemistry

Organizer(s) - Georg Schreckenbach and Tom Woo
Chair(s) - Gren Patey

08:20 0378 *The Development of Spiral Turbulence in a Reaction-Diffusion Medium Exhibiting Complex Reaction Dynamics* [§]Wang J., Gao Q., Zhang L., Wang Q.

08:40 0379 *Event-Driven Simulations Using Energy Discontinuities* [§]Schofield J., van Zon R.

09:00 0380 *Computational Studies of Linear and Nonlinear Molecular Response Properties* Autschbach J.

09:40 Coffee Break

10:00 0381 *The Beauty of High Pressure Chemistry* [§]Tse J.S.

10:40 0382 *Development of First-Principles Cohesive Laws for Strongly-Correlated Materials* Mosey N.J., Carter E.A.

11:00 0383 *Sequestration of Carbon Dioxide in Clathrate Hydrates under Deep Ocean Conditions: Free Energy Studies from Molecular Dynamics Simulations* Alavi S., Dornan P., [§]Woo T.K.

11:20 0384 *Transition States and Second-Order Saddle Points for Chain Transfer to Monomer* [§]Budzelaar P.H.M., Talaño G.

11:40 1139 *New Developments in Multireference Electron Correlation Methods* Nooijen M.

12:00 End of Session

PT10

Delta-C

Photoprocesses in Chemical Systems: New Directions for Photonics Applications

Organizer(s) - Kalai Saravanamuttu
Chair(s) - Kalai Saravanamuttu and Patanjali Kambhampati

08:00 0385 *Nonlinear Optical Phenomena in Polymerisation Systems: From Self-Trapped Beams to Spontaneous Formation of Optical Patterns* [§]Saravanamuttu K., Kasala K., Villafranca A., Burgess I.B., Shimmell W.E.

08:20 0386 *The Photo-Mechanical Effect in Azo Polymers: From Reflectometry to Robots* [§]Barrett C.J., Ikeda T.

09:00 0387 *Moving Heaven and Earth in the Nanoworld: New Interactions of Laser Light* [§]Andrews D.L.

09:40 Coffee Break

10:00 0388 *Ultrafast Photoinduced Solid State Phase Transitions Probed by Femtosecond Electron Diffraction* Ernstorfer R., Harb M., Hebeisen C.T., Dartigalongue T., Jordan R.E., Sciaiani G., [§]Miller R.J.D.

10:40 0389 *The Solvent Effect in Luminescence Energy Transfer and Light Harvesting* [§]Scholes G.D., Curutchet C., Mennucci B., Cammi R., Tomasi J., Mirkovic T., Wong C.Y.

11:20 0390 *Light Harvesting and Carrier Transport in Core/Barrier/Shell Semiconductor Nanocrystals* [§]Kambhampati P., Dias E.A., Sewall S.L.

11:40 End of Session

PT12

Delta-A

Solid-State NMR Spectroscopy in Inorganic Materials (Joint with IN) (joint with IN6)

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - Darren Brouwer

08:20 Joint with Inorganic Chemistry Division - See IN6

REMINDER

10:00 Strem Chemicals Award in Pure or Applied Inorganic Chemistry Lecture presented by Deryn Fogg in WCC-Room 2

11:40 End of Session

PT13

Delta-B

Surfaces of Nanostructures, Nanostructured Surfaces

Organizer(s) - Stephen Urquhart and Peter Kruse
Chair(s) - Iain McNab and Tong Leung

08:00 0391 *Functionalized Nanoparticles for Biological Applications: Characterization of Surface Structure and Composition* Castner D.G.

08:40 0392 *Shape Control in Silver Nanoparticles: Decahedra* [§]Kitaev V., Pietrobon B.

09:00 0393 *Synthesis of Aqueous Gold Nanoparticles via Photochemically Generated Radicals* McGilvray K.L., Scaiano J.C.

09:20 0394 *Manipulation of Quantum Dot Surface Chemistry for the Development of FRET-Based Nucleic Acid Biosensors* Algar W.R., [§]Krull U.J.

09:40 Coffee Break

10:00 0395 *Synthesis of Nanowires by Design through Surface Chemistry* [§]Gates B.D., Wang M., Majidi E., Mobhan-Shafiee N.

10:40 0396 *Effect of Pre-Treatment with Elemental Selenium on the Luminescence of CdSe Quantum Dots* [§]René-Boisneuf L.T., Scaiano J.C.

11:00 0397 *Halide-Promoted Oxidation of Gold Monolayer Protected Clusters* [§]Scott R.W.J., Dasog M.

11:20 0398 *Nanostructures in YSZ(001) Surfaces: Implications for Metal Nanoparticle Growth* Green R.G., Barre L., [§]Giorgi J.B.

11:40 End of Session

Monday PM

Analytical Chemistry

AN4

WCC-Room 11

Biospectroscopy and Biodiagnostics (Joint with PT) (joint with PT4)

Organizer(s) - Marco Gruwel, Larry Leonardi, Lin-P'ing Choo-Smith and Mike Sowa

Session Chair - Mike Sowa

13:00 0399 *Contrast Agents and Live Cell Imaging of HCV Using CARS Microscopy* [§]Pezacki J.P.

13:40 0400 *Self-Contained Fluorescent DNA Biosensors* Krull U.J., Massey M., Algar W.R.

14:20 0401 *Multifunctional Nanoparticle Architectures for Rapid Pathogen Detection* Kell A., Simard B.

15:00 Coffee Break

15:20 0402 *Synchrotron Radiation Infrared Spectroscopy and Spectromicroscopy in the Characterization of Biological Systems* Quaroni L.

16:00 0403 *Analyses of Fungal Hyphae with Raman, SERS and Synchrotron FTIR Microspectroscopy* Szeghalmi A.V., Kaminskyj S., [§]Gough K.M.

16:20 0404 *Diagnostic and Analytical Metabolic Profiling: Integration of Microfluidics with Biomedical Infrared Spectroscopy* [§]Shaw R.A., Man A., Low-Ying S., Mansfield C.

16:40 0405 *Enhancing the Reliability of FTIR Bacteria Identification Through Infrared Imaging* Ghetter A., Kirkwood J., Sedman J., Iugovaz I., Gour L., [§]Ismail A.

17:00 End of Session

AN6

WCC-Room 10

Innovations and Instrumentation (Microfluidic Devices)

Organizer(s) - Richard Oleschuk, Cameron Skinner and Michael Bowser
Chair(s) - Michael Bowser

13:00 0406 *Fabrication Strategies for Microfluidics: From Rapid Prototyping to Actuation in Three Dimensions* Wheeler A.R., Abdelgawad M., Watson M.W.L.

13:40 0407 *An Inexpensive Moulded PDMS Sheath Flow Cuvette* [§]Skinner C.D.

14:00 0408 *Soft-Lithographic Approaches to the Patterning of Miniaturized DNA Microarrays* [§]Geissler M., Roy E., Diaz-Quijada G.A., Veres T.

14:20 0409 *Detection of Respiratory Viruses with Plastic High Throughput Screening Devices* Zhao Z., Diaz-Quijada G.A., Peytavi R., Huletsky A., LeBlanc É., Frenette J., Boivin G., Zoval J.V., Madou M.J., Dumoulin M.M., Teodor V., Bergeron M.G.

14:40 0410 *Isolating Aptamers Using μ -Free Flow Electrophoresis* [§]Bowser M.T., Fonslow B.R., Mosing R.K.

15:00 Coffee Break

15:20 0411 *Development of Affinity Based Technologies to Probe the Proteome* [§]Figeys D., Hou W., Valislescu J., Denis N.J., Smith J.C., Lambert J.P., Ethier M., Major N., Garay E., Abu-Farha M.

16:00 0412 *Electronic DNA Microarray Detection of Viable but Non-Culturable Escherichia coli O157:H7 in River and Treated Water* Liu Y., Gilchrist A., Zhang J., [§]Li X.-F.

16:20 0413 *Hacking Up Proteins on a Chip: Improvements on Solution Based Enzymatic Digestion* Douma M., Shver E., Bodley D., [§]Oleschuk R.D.

16:40 0414 *Affinity Techniques for Analysis of Proteins* Zhang H., Zhao Q., Hamula C., Wang Z., [§]Le X.C.

17:00 End of Session

AN7

WCC-Room 6

Metal Speciation

Organizer(s) - Zoltan Mester, John Murimboh and Feiyue Wang
Chair(s) - Zoltan Mester and Feiyue Wang

13:00 0415 *Synchrotron X-Ray Absorption Spectroscopy Speciation: Arsenic, Selenium and the World's Worst Mass Poisoning* Pickering I.J., George G.N.

13:40 0416 *Speciation of Arsenic and Vanadium* Li S., McKnight-Whitford A., Yuan C., Lu X., Lew K., [§]Le X.C.

14:20 0417 *The Distribution of Mercury Species in Hg Mining Areas in Guizhou, China* [§]Feng X., [§]Qiu G., Li P., Wang S., Li G.

15:00 Coffee Break

15:20 0418 *Distribution of Total and Methyl Mercury in Different Ecosystem Compartments in the Everglades: Implications for Mercury Bioaccumulation* Liu G., [§]Cai Y., Philippi T., Kalla P., Scheidt D., Richards J., Scinto L., Appleby C.

16:00 0419 *Solid Phase Preconcentration of MeHg from Natural Water Samples via Thiourea-Catalyzed Ligand Exchange: A Novel Method and its Application in Wetlands of the Grand Calumet River (Indiana) Watershed* Vermillion B.R., [§]Hudson R.J.M.

16:20 0420 *Methylmercury Speciation by HPLC-ICP-MS* Lemes M., Cooper M., [§]Wang F.

16:40 End of Session

AN10

Delta-C

Post-Modern Electrochemistry (Joint with PT) (joint with PT11)

Organizer(s) - Sylvie Morin, Ian Burgess and Alexandre Brolo
Chair(s) - Karen Kavanagh and Gregory Jerkiewicz

13:20 0421 *Scanning Electrochemical Microscopy for Materials, Live Cells and Microfabrication* Zhu R.K., Zhao X.C., Diakowski P.M., Tiedemann M., [§]Ding Z.F.

14:00 0422 *Towards a General Theory of Cathodic and Anodic Stripping Voltammetry at Solid Electrodes: Mathematical Modelling and Numerical Simulations* [§]Ward Jones S.E., Chevallier F.G., Compton R.G.

14:20 0423 *Epitaxial GaAs Contacts by Electrodeposition* [§]Kavanagh K.L.

14:40 0424 *Fabrication and Applications of Nanoscale Carbon Electrodes* [§]McDermott M.T., Du R.

15:00 Coffee Break

15:20 0425 *Growth of Monolayer Oxides on Pt Electrodes: A Comprehensive Study* [§]Jerkiewicz G., Alsabet M., Grden M.

15:40 0426 *Recognizing the Virtues of Imperfection: Controlling Defects in Electrodeposited Thin Films* Ren T., Baker H.R., [§]Poduska K.M.

16:00 0427 *Effects of γ -Radiation on Steel Corrosion* Daub K., Zhang X., Noël J.J., [§]Wren J.C.

16:20 0428 *Formation of Robust, Freestanding Tantalum Oxide Films with Controlled Morphology* [§]Kruse P., Singh S.

16:40 End of Session

Biological and Medicinal Chemistry**BM4 WCC-Room 8****Latest Trends in Medicinal Chemistry, Drug Discovery and Design (Joint with OR) (joint with OR5)**Organizer(s) - Lakshmi Kotra and Christine Gottardo
Chair(s) - Lakshmi Kotra

13:00 0429 *Emerging Frontiers of Designed Multiple Ligands. Rationale Design of Dual Action Nitric Oxide Synthase Inhibitors with 5HT Agonism for the Treatment of Migraine* Maddaford S., Ramnauth J., Patman J., Renton P., Annedi S., Rakhit S., Andrews J., Vanderah T., Zhang D., Majuta L., Porreca F., Garcin-Hosfield E., Bunton D., Rankin L., Stevenson C., Macdonald K., Nair S., Lee D.

13:40 0430 *Design and Testing of Novel Potent Inhibitors of β Amyloid Oligomerization* Roy S., Rauk A.

14:00 0431 *Targeting Post-Translationally Modified Amino Acids with Synthetic Receptors* Mahnke D.J., Whiting A.L., Fowler N.M., Hof F.

14:20 0432 *Selective Ligand Design for Nuclear Receptors* Shadnia H., Wright J.S., Ziebell T.

14:40 0433 *Structural and Functional Proteomics of the SARS Coronavirus* Johnson M.A., Almeida M.S., Serrano P., Chatterjee A., Neuman B., Joseph J., Saikatendu K., Subramanian V., Stevens J., Wilson I.A., Buchmeier M.J., Stevens R.C., Kuhn P., Wüthrich K.

15:00 Coffee Break

15:20 0434 *Structure-Guided Design, Synthesis and In Vivo Characterization of Inhibitors of Enoyl ACP Reductase* Pauls H.W.

16:00 0435 *Nonpeptidic Biaryl Bearing Benzylic Amines as Inhibitors of Human Cathepsin K* Isabel E., Black W.C., Falgueyret J.-P., Mellon C., Oballa R., Percival M.D., Prasit P., Robichaud J.

16:20 End of Session

BM6 WCC-Room 15**Recent Advances in Natural Products Chemistry (Joint with OR) (joint with OR9)**Organizer(s) - Raymond Andersen and Russell Kerr
Chair(s) - Russell Kerr

13:00 0436 *Natural Products in a World-Out-of-Balance* Cordell G.A.

13:40 0437 *A Case Study: Using Plant Genomics and Microbial Metabolic Engineering for the Production of a Pharmaceutical in Microbes* Ro D.K., Paradise E.M., Keasling J.D.

14:00 0438 *Novel Constituents of Plant Cuticular Waxes: Very-Long-Chain Polyketides* Wen M., Jetter R.

14:20 0439 *Learning from Nature: Paldoxins for Environmentally Sustainable Treatments of Plant Diseases* Pedras M.S.C.

15:00 Coffee Break

15:20 0440 *New Glutathione-S-Transferase Inhibitors from *Barleria prionitis** Kalhari K.S., Nawaz H., Ata A., Samarasekera R.

15:40 0441 *Secondary Metabolites Involved in the Interaction of Canola with the White Rust Fungus *Albugo candida** Zheng Q.A., Pedras M.S.C.

16:00 0442 *The Biosynthesis of Crucifer Phytoalexins: Unprecedented Incorporation of Indolyl-3-acetothiohydroxamic Acid* Okinyo D.P.O., Pedras M.S.C.

16:20 End of Session

BMP WCC-2E-2H**Posters**Organizer(s) - Athar Ata
Chair(s) - Athar Ata

From 17:00 until 19:00

0443 *Methicillin-Resistant Factor *FmtA* of *Staphylococcus Aureus* is a Penicillin-Binding Protein* Golemi-Kotra D., Fan X., Liu Y.-H., Konermann L., Siu M.K.W.

0444 *Most Recent Common Ancestor of the Plant Chalcone Synthase Superfamily* Gordon G., Suh D.-Y.

0445 *Divergent Evolution of Condensing Enzymes and the Chalcone Synthase Superfamily* Jiang C., Suh D.-Y.

0446 *A Thiamine Catalyzed Bioorthogonal Approach Toward Activity-Based Protein Profiling* McKay C., Hoop K., Blais D., Rakic B., Pezacki J.P.

0447 *L-Lysine Biosynthesis in Plants: Characterization and Inhibition Studies of LL-Diaminopimelate Aminotransferase* Clay M.D., Flegel M.D., van Belkum M.J., Marcus S.L., Vederas J.C.

0448 *Mechanism of Tocopherol Transfer by Human α -Tocopherol Transfer Protein (TTP) Investigated by FRET* Zhang W.X., Frahm G., Atkinson J.

0449 *Structure-Activity Relationships Between β -Lactams and Anthrax Lethal Factor* Dabous J.R., Carbone R.A., Siemann S.

0450 *Characterization of Tetrachlorohydroquinone Reductive Dehalogenase (PcpC) in the Pentachlorophenol (PCP) Biodegradation Pathway* Su Y., Chen L., Yang J.

0451 *Deciphering the Role of Zinc in Anthrax Lethal Factor through Metal-Substitution* Carbone R.A., Dabous J.R., Siemann S.

0452 *Substrate Specificity of AlkA, a DNA Repair Enzyme* Ramnarine A., Berti P.J.

0453 *Structure, Interactions, and Dynamics of the RING Domain from TRAF6, a Signaling Adaptor Protein* Mercier P.M., Lewis M.J., Hau D.D., Salibus L.F., Xiao W., Spyropoulos L.

0454 *Preparation of Glycosylated Oligodeoxyribonucleotides* Yan H., Anguilar A.L.

0455 *Intrinsically Fluorescent Nucleobases: Design, Synthesis and Applications* Hudson R.H.E.

0456 *A New Structural Alternative in Benzo[b]furans for Antimicrobial Activity* Chowdhury R., Khan M.W., Alam M.J., Rashid M.A.

0457 *Inhibitors of Aminoacyl-tRNA Synthetases and tRNA-Dependent Amidotransferases* Balg C., Huot J., Blais S., Lapointe J., Chenevert R.

0458 *New Paramagnetic MRI Contrast Agents: Magnetic (CEST) Properties of Lanthanide(III) Complexes of Cyclen Oligopeptide Conjugates* Suchy M., Li A.X., Wojciechowski F., Hudson R.H.E., Bartha R.

0459 *Kinetic Study of Cis-Trans Isomerization of Model Peptides Containing Spirocyclic Sugar-Proline Hybrids* Zhang K., Schweizer F.

0460 *Methodology for Stereospecific Synthesis of Oxygen Analogs of Lanthionine and β -Methylanthionine* Liu H., Pattabiraman V.R., Vederas J.C.

0461 *Divergent Route to Truncated Pancreatistatin Analogues* Nair J.J., McNulty J.

0462 *Antibacterial Activity-Exhibiting Natural Products from *Sphaeranthus indicus** Betteridge J., Schaub E., Ata A., Samarasekera R.

0463 *Efficient Synthesis of the first Naturally Occurring Indolyl-3-methylthiol Carbamate Phytoalexin Brussalexin A* Zheng Q.A., Pedras M.S.C.

0464 *Bioactive Chemical Constituents of *Artocarpus nobilis** Zahid S., Ata A., Samarasekera R.

0465 *Biologically-Active Terpenoidal Glycosides from *Nauclealatifolia** Udenigwe C.C., Ata A.

0466 *Exploration of the Metabolome of *Cardamine diphylla* (Michx.) Wood* Montaut S., Bleeker R.

0467 *The Total Synthesis of Montanin A and Teuscorolide* Liu H.J., Chen I.C., Wu Y.K., Zhu J.L.

0468 *1,4-Triazole Formation: Trapping Terminal Di-, Tri-, and Tetraynes with Benzyl Azide* Luu T., Vallee D., Ha E., Tykwinski R.R.

19:00 End of Session

Chemical Education**CE7 WCC-Room 7****Recycling and Composting (Joint with EN) (joint with EN7)**Organizer(s) - Aurèle Boisvert
Chair(s) - Aurèle Boisvert

15:40 0469 *Collège de Rosemont, a Montreal Collegial Institution Providing General and Professional Education to 3000 Students, Leads the Path to Institutional Ecodevelopment in Quebec* Litzler R.

16:20 0470 *Material Recycling: New Problems, New Cool Green Chemistry Solutions* Lafortune F., Deblois M.

17:00 End of Session

CE8 WCC-PanAm**Undergraduate Research and Education**Organizer(s) - Lamine Diop and Michael Dickman
Chair(s) - John Olson and Bob Brown

13:00 0471 *ACE Organic, a Web-Based Organic Chemistry Homework Program* Grossman R.B., Finkel R.A., Joiner K., Allu M.S.

13:40 0472 *Authentic/Alternative Assessment in Chemistry/Science Education II: The Effect of the Auto Quiz on the Achievement of Science College Students* Camacho M.

14:00 0473 *Authentic/ Alternative Assessment II: Classification of Organic Compounds, Reactions/Mechanisms by Science Majors* Camacho M.

14:20 0474 *Chemistry in Action at Simon Fraser University (CIA@SFU)* Lavieri S.

14:40 0475 *Integrating Work Placements to Enhance Student Learning at CNA-Qatar* Bhattacharya R.

15:00 End of Session

CE9 WCC-Room 7**Women in Science**Organizer(s) - Gro Thorne-Tjomsland
Chair(s) - Gro Thorne-Tjomsland

14:00 End of Session

Environment**EN7 WCC-Room 7****Recycling and Composting (Joint with CE) (joint with CE7)**Organizer(s) - Aurèle Boisvert
Chair(s) - Aurèle Boisvert

15:40 Joint with Chemical Education Division - See CE7

17:00 End of Session

Inorganic Chemistry**IN2 WCC-Room 4****Main Group Compounds in Catalysis, Materials Research and Biochemistry**Organizer(s) - Lothar Stahl and Paul Ragogna
Chair(s) - Paul Ragogna13:00 0476 *Silylium Ion-Like Chemistry* Reed C.A.

13:40 0477 *New Directions in Low Oxidation State Main Group Chemistry* Macdonald C.L.B.

14:00 0478 *Catenated Phosphorus Cations: A New Direction in the Chemistry of Phosphorus* Burford N., Carpenter Y.-Y.S., Conrad E.D., Dyker C.A., Riegel S.D., Weigand J.J.

14:20 0479 *"Frustrated Lewis Pairs": A New Avenue to Reactivity and Main Group Catalysis* Stephan D.W., Welch G.C., McCahill J., Chase P.A.

14:40 0480 *Emerging Structural and Property Trends of the Cycloaddition Products of SNS' with para-Quinones* Passmore J., Mailman A., Decken A., Monroe K.

15:00 Coffee Break

15:20 0481 *Electronic Structures of Group 13-16 N-Heterocyclic Carbene Analogues* Tuononen H.M.

15:40 0482 *New Approaches to Selenium-Element Bond Formation* Dutton J.L., Tabeshi R., Ragogna P.J.

16:00 0483 *Supporting Main Group Compounds with Chelating Diamidonaphthalene Ligands: Application and Analysis with Low Coordinate Pnictogenium Cations* Spinney H.A., DiLabio G.A., Korobkov I., Richeson D.S.

16:20 0484 *A Donor-Stabilization Strategy for the Preparation of Group 13/15 Multiple Bonds* Rivard E., Merrill W. A., Fettinger J.C., Power P.P.

16:40 0485 *Investigations into the Mechanism of Thermal Hydrosilation on Silicon Surfaces* Wright V.A., Buriak J.M.

17:00 End of Session

IN4 WCC-Room 3**Recent Advances on the Chemistry of Porphyrins, Phthalocyanines and Related Macrocycles**Organizer(s) - Pierre Harvey and Roger Guillard
Chair(s) - Martin Stillman

13:00 0486 *Great Adaptability of the Heme-Cysteinate Monoxygenases Family to Very Diverse Substrates and Sophisticated Reactions* Mansuy D., Lafite P.

13:40 0487 *Cationic Porphyrine Electrochemistry* Lever A.B.P., Chen J., Qi M., Lee S., Hoffman B.M., Ma Y., Kobayashi N., Yokoyama M., Stefan S.L.

14:00 0488 *Photophysics of Soret-Excited Metalloporphyrins* Steer R.P., Kowalska D., Liu X., Tripathy U., Velate S.

14:20 0489 *Oxygen Concentration Imaging in a Single Living Cell Using Phosphorescence Lifetime of Pt-Porphyrin* Saito T., Asakura N., Kamachi T., Okura I.

15:00 Coffee Break

Session Chair - Roger Guillard

15:20 0490 *Modulation of the Singlet-Singlet Through Space Energy Transfer Rates in Cofacial Bisporphyrin and Porphyrin-Corrole Dyads* **Gros C.P.**, Aly S.M., El Ojaimi M., Barbe J.-M., Brisach F., Abd-El-Aziz A.S., Guilard R., Harvey P.D.

16:00 0491 *Designs Leading to Photosystems with Unique Properties* **Kalman L.**, Williams J.C., Allen J.P.

16:20 0492 *Supramolecular Assembly of Metal Salphen Macrocyclic Complexes* **MacLachlan M.J.**, Hui J.K.H.

16:40 0493 *Photosynthetic Models Composed of Porphyrins and Nanocarbon Materials* **Fukuzumi S.**, Saito K., Ohtani M.

17:20 End of Session

IN6 Delta-A

Solid-State NMR Spectroscopy in Inorganic Materials (Joint with PT) (joint with PT12)

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - David Bryce

13:00 0494 *New Selective Techniques for ¹⁹F MAS NMR Spectroscopy of Highly Reactive Inorganic Fluorides* **Hazendonk P.**, Gerken M., Iuga A., Iuga D.

13:20 0495 *Progress of Solid State NMR Methods for the Characterization of Polyatomic Structural Motifs in Inorganic Compounds and Glasses* **Massiot D.**, Fayon F., Deschamps M., Montouillout V., Pellerin N., Roiland C., Hiet J., Kempgens P., Florian P.

14:00 0496 *Silicophosphates and Calcium Phosphates: Dipolar and J Experiments, First Principles Calculations* **Bonhomme C.**, Gervais C., Coelho C., Pourpoint F., Azais T., Bonhomme-Courty L., Babonneau F., Mauri F.

14:20 0497 *Advantages of Performing Solid-State NMR Experiments at High Magnetic Field Strengths* **Wasylishen R.E.**, Bernard G.M., Feindel K.W., Forgeron M.A.M., Ooms K.J., Pawsey S., Terskikh V.V., Wang M.

15:00 Coffee Break

15:20 0498 *Quadrupolar Nuclei: New Decoupling Sequences and R²-HETCOR Experiments* **Amoureux J.P.**, Trebosc J., Delevoye L., Hu B., Gan Z.

15:40 0499 *Solid State NMR Determinations of the Complete 3D Structures of the Complexes of Organic Molecules and Mixtures of Organic Molecules in Zeolite Molecular Sieves* **Fyfe C.A.**, Lee J.S., Darton R.J., Brouwer D.H., Diaz A.

16:20 0500 *The Influence of Alkali Cations on Borate Glass Network Structures: Multimuclear Magnetic Resonance Study* **Michaelis V.**, Aguiar P.M., Kroeker S.

16:40 0501 *High Field NMR of Quadrupolar Nuclei in Alkali Halide Solid Solutions* **Ratcliffe C.I.**, Ripmeester J., Terskikh V.V.

17:00 End of Session

IN7 Delta-B

General

Organizer(s) - Sam Yan
Chair(s) - Sam Yan

13:00 0502 *[3×3] Mixed Metal Squares and Homometallic Rectangles: Structural and Magnetic Studies* **Dawe L.N.**, Thompson L.K.

13:20 0503 *Bis(alkylimidazolium)-Based Ionic Liquids and Related N-Heterocyclic Carbene Ligands* **Prokopchuk E.M.**

13:40 0504 *Synthesis, Metallation, and Self-Assembly of a 3+3 Schiff Base Macrocyclic* **Frischmann P.D.**, MacLachlan M.J.

14:00 0505 *Chemistry with Novel Shape-Persistent Ligands: Porosity, Coordination, and Guest Exchange* **Chong J.H.**, MacLachlan M.J.

14:20 0506 *The Quest for Versatile Building Blocks for the Self-Assembly of Novel Molecule-Based Materials* **Pilkington M.**, Chahma M., Wang J. **PAPER WITHDRAWN**

14:40 0507 *Design of Novel Organoiron Complexes Containing Three Unique Azo Dyes* **Abd-El-Aziz A.S.**, Shipman P.O., Winram D.J., Harvey P.D.

15:00 Coffee Break

15:20 0508 *The Preparation and Structure of Two Novel SO₃- and PhNSO-Bridged Diketiminato Aluminum Dimers.* **Rys A.Z.**, Bélanger-Gariépy F., Shaver A.

15:40 0509 *Properties and Coordination Chemistry of an Atropisomeric N,N Chelating Ligand* **McCormick T.M.**, Wang S.

16:00 0510 *Oligo-Nuclear Ru(II) Complexes Based on Tridentate Ligands* **Hanan G.S.**, Cooke M.W., Chartrand D.

16:20 0511 *Using Guanidates as Ligands for Chemical Vapour Deposition and Atomic Layer Deposition of Copper* **Coyle J.P.**, Barry S.T.

16:40 0512 *Some Unusual Reactions of Ferrocenylacetylene with Metal Carbonyls* **Mathur P.**, Chatterjee S., Das A., Singh A.K., Mobin S.M.

17:00 End of Session

Macromolecular Science and Engineering

MS2 WCC-Room 1

Organic Materials - Self Assembly (Joint with MT and OR)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Kenneth Maly

13:00 0513 *Sensing Vase-to-Kite Switching of Cavitands by Sum-Frequency Vibrational Spectroscopy* **Pagliusi P.**, Shen R., Dalcanale E., **Laguné-Labarthe F.**, Shenoy D.

13:20 0514 *Immobilized Tetraurea Calix[4]arenes: From Synthesis, Dimerization to Capsules, Self-Assembly on Gold, Electrochemical Responses, and Detection of the Redox States by a Tip - Towards Molecular Information Storage* **Xu S.**, Podoprygorina G., Boehmer V., Zhu R.K., Ding Z.F., Rooney P., Rangan C., **Mittler S.**

13:40 0515 *Effect of Single versus Double Hydrogen Bonding Groups on the Crystallization and Morphology of a Model System for Polyurethanes: The Case of Self-Assembling Carbamates with Alkyl Side Chains* **Sundararajan P.**, Khanna S., Moniruzzaman M.

14:00 0516 *Chemical Modification of Maleimide Protected Monolayer Protected Nanoparticles (MPNs) by Michael Addition Reactions* **Zhu J.**, **Workentin M.S.**

14:20 0517 *Nanowires through Block Copolymer Self Assembly* **Winnik M.A.**, Wang H., Guerin G., Wang X.-S., Manners I.

15:00 Coffee Break

Session Chair - Gennady Ananchenko

15:20 0518 *Oligothiophenes with Thiocyanato Substituents: Will They Act as Thiol Mimics?* **MacKinnon C.D.**, Morgan I.S., Hudolin M.L., Chen A., Jenkins H.A., Winter A.J.

15:40 0519 *Electrospinning of Self-Assembled Inclusion Complexes* **Pellerin C.**, Liu Y.

16:00 0520 *The Morphologies of Magnetically Alignable Bicelle Mixtures* **Nieh M.-P.**, Kucerka N., Pencer J., Katsaras J.

16:20 0521 *Tunable Spectroscopic and Electrochemical Properties of Self-Assembled Conjugated push-push, push-pull and pull-pull Thiophenoazomethines* **Dufresne S.**, Bourgeaux M., **Skene W.G.**

16:40 0522 *Effects of Mesogen Polarity and Spacer Length in Ionic Complexes of Azobenzene Surfaceactomesogens and Oppositely Charged Polyelectrolytes* **Zhang Q.**, **Bazuin C.G.**

17:00 End of Session

MS5 WCC-Room 5

Polymers for Nanoscience and Nanotechnology (Joint with MT) (joint with MT6)

Organizer(s) - Wai Kin Chan and Yue Zhao
Chair(s) - Wai Kin Chan

13:00 0523 *Nanostructured Functional Materials Based on Organic and Hybrid Dendritic Architectures* **Guillon D.**

13:40 0524 *Nanopatterning and Electrochemical Nanolithography of Precursor Conjugated Polymer Ultrathin Films* **Advincula R.C.**

14:20 0525 *Surface Functionalization Approaches for Polymer Vesicles and Nanoparticles: Controlling Biocompatibility, Cell Uptake, and Targeting* **Gillies E.R.**, Martin A., Li B., Maris M.

14:40 0526 *Layer-by-layer Assembly of Polymer Micelles: A New Route to Incorporating Hydrophobic Functional Polymers into Nanostructured Thin Films* **Qi B.**, Tong X., Bertrand J., Zhao Y., **Zhao Y.**

15:00 Coffee Break

Chair - Yue Zhao

15:20 0527 *Biomimetic-Inspired Inorganic/Organic Materials* **Kato T.**

16:00 0528 *Rational Design of Crystals and Supramolecules Constituted of Parallel Stacks of Cyclic Peptides* **Dory Y.L.**, Baillargeon P., Bélanger D., Leclair S., Gauthier D., Skouta R., Zhao Y.

16:40 0529 *Enhancing Mechanical Properties of Polymer Materials by Forming Nacre-Like Micro-Sheet Structures in Bulk Polymers* **Yu M.**, Xu W., Jiao M., Han K., Teng C.

17:00 End of Session

MSP WCC-2E-2H

Posters

Organizer(s) - Michael Freund
Chair(s) - Michael Freund

From 17:00 until 19:00

0530 *Biochemistry in Bacterioferritin* **Suttisansanee U.**, Daub E., Gargatsougias L., **Honek J.F.**

0531 *Synthesis of Soluble 2,6,9,13-Tetraethynyl Substituted Pentacenes for Thin Film Electronics* **Alarcon I.Q.**, Geng Z., VanCrey K., Benard C.P., Heuft M.A., **Fallis A.G.**

0532 *Rational Nanopatterning of Graphite Surfaces by Adsorption of Derivatives of Isophthalic Acid* **Zhou H.**, **Wuest J.D.**

0533 *Engineering Crystals Built from Molecules with Complex Unsaturated Structures* **Eisler S.**, Gagnon E., Maly K., **Wuest J.D.**

0534 *Tailoring the Morphology and Crystallization of Model Compounds of Polyurethanes by Homologous Blending* **Khan M.K.**, **Sundararajan P.**

0535 *π -Interaction Mediated Self Assembly of Small Molecules in a Polymer Matrix: The Effect of Solvent on the Morphology* **Islam M.R.**, **Sundararajan P.**

0536 *Crosslinked Polymers Containing η^6 -Arene- η^5 -Cyclopentadienyliron Cations* **Abd-El-Aziz A.S.**, **Winram D.J.**, Pereira N.M., Sidhu D.J., Kroeker S.

0537 *Design of Ferrocene-Containing Norbornene Monomers and their Polymerization* **Abd-El-Aziz A.S.**, **Chohan S.K.**, Shipman P.O.

0538 *Hexakis(4-nitrophenyl)benzene: Highlighting the Role of N-O - - N Interactions in Crystal Engineering* **Gagnon E.**, Maris T., Maly K.E., **Wuest J.D.**

0539 *Effects of Hydrophilic and Hydrophobic Gold Nanoclusters on the Stability and Ordering of Bolaamphiphilic Liquid Crystals* **Qi H.**, Lepp A., Heiney P.A., **Hegmann T.**

0540 *Bent-Core Liquid Crystal Decorated Gold Nanoclusters: Synthesis of Sulfur Functionalized Bent Core LCs* **Marx V.M.**, **Hegmann T.**

0541 *Engineering Crystals Built from Molecules Derived from Pyrogallol* **Hamilton T.D.**, **Wuest J.D.**

0542 *Use of Metal Coordination to Direct Supramolecular Assembly* **Duong A.**, Helzy F., **Wuest J.D.**

0543 *Supramolecular Co-Assemblies of Halogenated Triptycenes with C₆₀ and C₇₀* **Raymond F.**, **Wuest J.D.**

0544 *Synthesis and Characterization of Cyclodextrin-Based Polyurethane Materials* **Wilson L.D.**, Fadeyi O.M.

0545 *Surface Modification of Lead Sulfide Nanocrystals with Poly(acrylic acid) through a Ligand Exchange Process* **Lin W.**, **Winnik M.A.**, **Scholes G.D.**

0546 *Polyurethane Evaluation in Mixed Radiation Environments Using MAD, FTIR, and DMA Analysis* **Mortley A.**, Bonin H.W., Bui V.T.

0547 *Modeling Mass Transport in Membrane Introduction Mass Spectrometry to Measure Diffusion and Partition Coefficients in Capillary Hollow Fibres* **Janes D.W.**, van Pel D.M., Lynch M.S., Gill C.G., Durring C.J., **Krogh E.T.**

0548 *Microscale Bioactive Patterning: A Novel Surface Modification of Poly(dimethylsiloxane)* **MacLachlan J.M.**, Patrito N., McCague C., **Norton P.R.**, **Petersen N.O.**

0549 *Determination of the Conformation and Adsorption Energy of Normal Alkanes on a Relaxed Al₂O₃ (0001) Surface by Molecular Dynamics Simulations* **Li C.**, **Choi P.**

0550 *Tunable Conducting Poly(anilineboronic acid) Nanostructures: Synthesis and Characterization* **Deore B.A.**, Freund M.S.

0551 *Sorption Studies of Cyclodextrin-Based Polyurethanes* **Mohamed M.H.**, **Wilson L.D.**, **Headley J.V.**

0552 *Studies on Silica Cyclodextrin Hybrid Materials* **Mahmud S.T.**, **Wilson L.D.**

0553 *Sorption Studies of Modified Activated Carbon Materials* **Kwon J.H.**, **Wilson L.D.**

0554 *Functionalized Polymers for the Development of Nanoparticles with Novel Properties* **Oleksenko Y.**, **Goh C.M.**

0555 *Synthesis of Nanoscale Metallic Features for Semiconductor Chip Interconnects* **Sayed S.Y.**, **Buriak J.M.**

0556 *Synthesis, Spectroscopic, and Electrochemical Investigation of Oligomeric and Polymeric Ferrocene Amides* **Mahmoud K.A.**, Wilks R.G., Moewes A., **Kraatz H.-B.**

0557 *Construction of Nanoscale Metallic Structures on Polydimethylsiloxane* **Mizuno H.**, **Buriak J.M.**

0558 *Covalently Bound Multilayers on Silicon Surfaces* **Li Y.-H.**, **Buriak J.M.**

0559 *Metal Nanostructure Growth in Controlled, Three Dimensional Etched Structures on Silicon* **Qiao Y.H.**, **Buriak J.M.** **PAPER WITHDRAWN**

0560 *Polymer Nanotubes by π -Stacking Interactions in Styrene Containing Alternating Copolymers* **Lazzara T.D.**, Whitehead M.A., Van de ven T.G.M.

0561 *Conducting Polymer Porous Hybrid Materials for Electrochemical Supercapacitors* **Suppes G.**, Deore B.A., Freund M.S.

0562 *Effect of the Presence of [Co(bpy)₃]²⁺ on the Electrochromic Responses of Ni-Al Layered Double Hydroxide Thin Films* **Yu L.**, Munroe K., Villemure G.

0563 *Metallic Nanoparticle Arrays on Semiconductor Surfaces for Electrochemical Energy Conversion Studies* **Aizawa M.**, Buñiak J.M.

0564 *Nonlinear Phenomena in Light-Mediated Low Acid Q-H₂O-Bromate Reaction* **Li N.**

19:00 End of Session

Materials Chemistry Division

MT3

WCC-Room 12

Laboratory X-Ray and Neutron Diffraction for Materials Chemistry (Joint with PT) (joint with PT8)

Organizer(s) - Lachlan Cranswick and James Britten
Chair(s) - Lachlan Cranswick

13:00 0565 *Deciphering the Structural Information in a Zeolite Powder Diffraction Pattern* **McCusker L.B.**

13:40 0566 *Ab Initio Structure Determination of Novel Inorganic Borates Using FOX* **Barbier J.**

14:20 0567 *Application of X-Ray Powder Diffraction to the Study of Plastic Crystal-Based Solid Electrolytes for Lithium Batteries* **Whitfield P.S.**, Abouimrane A., Davidson I.J.

15:00 Coffee Break

Session Chair - James Britten

15:20 0568 *Total Scattering: The Key to the Local and Medium Range Structure of Complex Materials* **Proffen T.**

16:00 0569 *Powder X-Ray In-Situ Diffraction for Solid State Reactions* **Bieringer M.**

16:40 End of Session

MT5

WCC-Room 1

Organic Materials - Self Assembly (Joint with MS and OR) (joint with OR7)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Kenneth Maly

13:00 Joint with Macromolecular Science and Engineering Division and Organic Chemistry Division - See MS2

15:00 Coffee Break

Session Chair - Gennady Ananchenko

17:00 End of Session

MT6

WCC-Room 5

Polymers for Nanoscience and Nanotechnology (Joint with MS) (joint with MS5)

Organizer(s) - Wai Kin Chan and Yue Zhao
Chair(s) - Wai Kin Chan

13:00 Joint with Macromolecular Science and Engineering Division - See MS5

15:00 Coffee Break

Chair - Yue Zhao

17:00 End of Session

MTP

WCC-2E-2H

Posters

Organizer(s) - Mario Bieringer
Chair(s) - Mario Bieringer

From 17:00 until 19:00

0570 *Crystal Structure and Thermoelectric Properties of the New Isostructural Polytellurides Ba_{6.76}Cu_{2.42}Te₁₄ and Ba₇Au₂Te₁₄* **Cui Y.**, Kleinke H.

0571 *Towards More Efficient Thermoelectric Materials* **Ritchie A.**, White M.A.

0572 *Synthesis and Characterization of Novel Metastable Vanadates* **Shafi P.S.**, Bieringer M.

0573 *A New Lead-Free Relaxor Ferroelectric (1-x)BaTiO₃-xBiAlO₃ Solid Solution* **Yu H.**, Ye Z.-G.

0574 *Structural Diversity in Polychalcogenides with Uncommon Q_n²⁻ Units* **Assoud A.**, Kleinke H.

0575 *Study of Magnetism of Face-Center-Cubic Double Perovskite Compounds* **Aharen T.**, Greedan J.E.

0576 *Structure and Physical Properties of Ternary Rare-Earth Chromium Germanides RECrGe₃ (RE = La-Nd, Sm)* **Bie H.**, Zelinska O.Ya., Tkachuk A.V., Mar A.

0577 *Investigation of the Bixbyite and Perovskite Oxidation Pathway* **Kotyk M.W.**, Lundgren R.J., Bieringer M.

0578 *Investigation of V²⁺ and V⁴⁺ in Layered Oxide Structures* **Hancock M.**, Bieringer M.

0579 *Synthesis of NaGdF₄ Nanocrystals Doped with Ce³⁺ and Tb³⁺ and Investigation of their Optical Properties* **Boyer J.-C.**, Gagnon J., Cuccia L.A., Capobianco J.A.

0580 *Using Thermal Bubble Inkjet Printing to Investigate Thermochromic Materials* **Tang H.**, MacLaren D.C., White M.A.

0581 *The First Examples of Intrachain Energy Transfer in Conjugated Organometallic Oligomers and Polymers* **Aly S.M.**, Ho C.-L., Wong W.-Y., Abd-El-Aziz A.S., Harvey P.D.

0582 *Synthesis and Excited State Dynamics of Conjugated Alternating Thiophene-Pyrimidine Co-Monomers: Precursors for Hybrid Polymers* **Dufresne S.**, Skene W.G.

19:00 End of Session

Organic Chemistry

OR5

WCC-Room 8

Latest Trends in Medicinal Chemistry, Drug Discovery and Design (Joint with BM) (joint with BM4)

Organizer(s) - Lakshmi Kotra and Christine Gottardo
Chair(s) - Lakshmi Kotra

13:00 Joint with Biological and Medicinal Chemistry Division - See BM4

16:20 End of Session

OR6

WCC-Room 2

Metal-Catalyzed Organic Synthesis

Organizer(s) - Andrew Wee and Laurel Schafer
Chair(s) - Andrew Wee

13:00 Introductory Remarks

13:20 0583 *The Use of Bidentate Hemi-Labile Ligands in Asymmetric Catalysis* **Charette A.B.**

14:00 0584 *Construction of Fused Bicyclic Medium-Sized Rings via Sulfur Directed Stevens [1,2]-Shift* **Stewart C.**, West F.G.

14:20 0585 *Total Synthesis of Cryptophycin Analogues by a Scaffold Approach* **McCubbin J.A.**, Maddess M.L., Lautens M.

14:40 0586 *The Metal-Catalyzed Reaction of N-(2-Indolyl)methyl, N-bis(trimethylsilyl)methyl Diazoamides: An Entry into the β-Carboline Ring System* **Zhang B.**, Wee A.G.H.

15:00 Coffee Break

15:20 1137 *A Toolbox of Hydrocarbon Oxidation Methods for Synthesis* **White M.C.**

16:00 0587 *Structurally Unique Chiral Ru-Based Catalysts for Enantioselective Olefin Metathesis* **Fournier P.A.**, Collins S.K.

16:20 Eric Carreira talk

17:00 End of Session

OR7

WCC-Room 1

Organic Materials - Self Assembly (Joint with MS and MT) (joint with MT5)

Organizer(s) - Torsten Hegmann, Robert Lemieux and Sundar Sundararajan
Chair(s) - Kenneth Maly

13:00 Joint with Macromolecular Science and Engineering Division and Materials Chemistry Division - See MS2

15:00 Coffee Break

Session Chair - Gennady Ananchenko

17:00 End of Session

OR9

WCC-Room 15

Recent Advances in Natural Products Chemistry (Joint with BM) (joint with BM6)

Organizer(s) - Raymond Andersen and Russell Kerr
Chair(s) - Russell Kerr

13:00 Joint with Biological and Medicinal Chemistry Division - See BM6

16:20 End of Session

OR10

WCC-Room 9

Stereoelectronic Effects

Organizer(s) - Cathleen Crudden
Chair(s) - Cathleen Crudden

13:00 0588 *Orbital Interactions in Diels-Alder Cycloadditions* **Spino C.**, Rezaei H., Pesant M., Dory Y.L.

13:40 0589 *From Stereoelectronic Principles to the Total Synthesis of (-)-Ouabagenin* **Deslongchamps P.**

14:20 0590 *Sterics vs Electronics in Ring Opening of Cyclobutenes* **Murakami M.**, Hasegawa M., Usui I., Matsuda T.

15:00 Coffee Break

15:20 0591 *Understanding the Stereoselective Reactions of Oxocarbenium Ions: Conformational Analysis, Stereoelectronic Effects, and Reactivity* **Woerpel K.A.**

16:00 0592 *Stereoelectronic Effects and Diastereoselectivity* **Guindon Y.**

16:40 0593 *Rapid Assembly of Complex Nitrogen Containing Molecules from Bench-Stable Amino Aldehydes* **Hilli R.**, Yudin A.K.

17:00 End of Session

ORP

WCC-2E-2H

Posters

Organizer(s) - Philip Hultin
Chair(s) - Philip Hultin

From 17:00 until 19:00

0594 *Lipase-Catalyzed Kinetic Resolution of Nonsteroidal Antiinflammatory Drugs (NSAIDs) in Non-Standard Solvents: Enantioselective Access and Chiral Analysis* **Ghanem A.**, El-Beahry M.F., Al-Ahdal M.N.

0595 *Design and Asymmetric Synthesis of New Allenophanes* **Leclère M.**, Fallis A.G.

0596 *Aldol Reactions of Dioxanones: Stereoselective Approach to Higher Carbohydrates* **Palyam N.**, Majewski M.

0597 *Computational Study of the cis-trans Isomerization of Fused and Spirocyclic Carbohydrate-Templated Proline Analogues: Kinetic and Conformational Analysis of N-Acetyl-GlcProH-NHMe and N-Acetyl-GlcPro-OMe in the Gas Phase and Water* **Teklebrhan R.B.**, Schreckenbach G., Schweizer F.

0598 *Synthesis of Neoglycolipids Containing β-D-Mannuronic Acid as Potential Ligands for Toll-Like Receptors* **Xu R.**, Jiang Z.-H.

0599 *Synthesis and Characterization of Surface-Modified Chitosan with Tetraazamacrocycles* **Miller K.J.**, Haines R.I.

0600 *Palladium-Catalyzed Suzuki-Miyaura Cross-Coupling Reaction Using bis(di-tert-Butylphosphino)-Orthoxylene Ligand* **Sliwinski M.**, McNulty J., Robertson A.J., Capretta F.

0601 *Evaluation of Novel Chiral Olefin Metathesis Catalysts with NHC Ligands Bearing Alkyl Substituents* **Savoie J.**, Collins S.K.

0602 *Ligands for Copper Catalyzed C-N, C-S Bond Formation* **Zhu D.**, Wan B.

0603 *[4+2]-Cycloaddition Based Approaches Towards Vinigrol* **Souweha M.S.**, Fallis A.G.

0604 *Chemoenzymatic Synthesis of Enantiopure Oxazolidine* **Wang J.**, Kayser M.M., Rochon F.D.

0605 *Magnetostructural Studies of Benzene Bridged Verdazyl Diradicals* **Gilroy J.B.**, McKinnon S.D.J., Ferguson M.J., Kennepohl P., Thompson L.K., Hicks R.G.

0606 *Preparation of Functionalized Dihydropyrido[3,4-b]pyrrolizines and Tetrahydropyrido[3,4-b]indolizines* **Roy P.**, Leblanc Y., Lachance N., Dufresne C., Wang Z.

0607 *Organocatalysis at the University of Saskatchewan* **Gravel M.**, Sanchez-Larios E., Wang L., Som V.

0608 *An Improved Synthesis of α-Phosphonoamine Based Plant Growth Regulators* **Das P.**, McNulty J.

0609 *Nicholas Reaction Approach to Cyclohepta[de]naphthalenes: A Model Study for Microstegiol* **Taj R.A.**, Green J.R.

0610 *Applications of the Phosphonium Bound Triphenylphosphine Reagents* **Roy M.-N.**, Charette A.B.

0611 *Total Syntheses of (+) and (-)-Balasubramide* **Johansen M.B.**, Leduc A.B., Kerr M.A.

0612 *Selective Derivatization of α,α-Dibromovinyl Triflates* **Azyat K.**, Tykwinski R.R.

0613 *Synthetic Approaches Towards (+)-Dactylosol* **Murphy G.K.**, Johnston J.R., West F.G.

0614 *Towards the Synthesis of a New Sesquiterpene Having a Unique Carbon Skeleton* **Marcoux D.**, Charette A.B.

0615 *Metal-Free Reduction of Tertiary Amides* **Barbe G.**, Charette A.B.

0616 *The Synthesis and Electronic Structure of Annelated Delocalized Stable Organic Radicals for Multifunctional Materials* **Dooley B.M.**, [†]Frank N.L., [†]Bowles S.E., Storr T., Macrae M.X., Benedict J., Kaminsky W.

0617 *Synthesis of a Dithiol Fluorous Auxiliary and its Utilization in the Construction of Skeletally Diverse Ring Systems* **Sharma M.**, Hultin P.G.

0618 *Nickel and Palladium-Catalyzed Synthesis of Functionalized Aryltriphosphonium Salts: Application to Chiral Separation* **Laberge K.-A.**, Marcoux D., Charette A.B.

0619 *The Synthesis of (1S, 8aS)-Indolizidin-1-ol from a Bicyclic γ -Lactam Lactone Derived from Rh₂(4S-MPPIM)₄-Catalyzed Intramolecular C-H Insertion Reaction* **Bayirino H.M.**, Wee A.G.H.

0620 *Progress Towards the Total Synthesis of the Kainoids* **Sapeta K.A.**, [†]Kerr M.A. **PAPER WITHDRAWN**

0621 *Partially Reduced Heterocycles in the Synthesis of Chiral Phenanthroline and Aminoferrrocene Based N-Heterocyclic Carbenes* **Zaifman J.**, Barrett F.B., Xu S., Metallinos C., Taylor (in memoriam) N.J.

0622 *Synthesis of (+)-(S)-[8-¹⁴C]-Abscisic Acid* Gai Y., **Nelson K.M.**, [†]Abrams S.R.

0623 *A Novel Lewis Acid-Mediated Rearrangement of Trienyl Esters: The Vinylogous Nazarov Reaction* **Rieder C.J.**, Winberg K., West F.G.

0624 *Enantioselective Conjugate Addition Reactions to α,β -Unsaturated- β,γ -Substituted 2,5-Cyclohexadienones* **Mulligan K.**, Nelson K.M., Majewski M., Abrams S.R.

0625 *An Examination of the Homo-[3+2]-Dipolar Cycloaddition: Mechanistic Insights into Regio-, and Diastereoselectivity* **Karadeolian A.**, [†]Kerr M.A.

0626 *Nucleophilic Alkynylation of N-bis(Trimethylsilyl)methyl Aldimines* **Zhang B.**, Wee A.G.H.

0627 *Generation of N-Containing Benzo-Fused Bicycles via Radical Cyclization onto Aromatic Rings* **Ziffle V.E.**, Fletcher S.P., Peng J., Wingert D., [†]Clive D.L.J.

0628 *Synthesis of a Novel Retinoid with Disubstituted Adamantyl Radical. An Unusual Friedel-Crafts Alkylation* **Chen L.**, [†]Bi J., Li W., Tian L., Yao X., Wang R.

0629 *Hydroxamic Acids as Sources of Electrophilic Nitrogen: Base-Catalyzed Lossen Rearrangement and Fe(II)-Catalyzed N-Acylation* **Dube P.**, Couturier M., Ghosh A., Kelly III R.

0630 *Novel and Convenient Synthesis of 2,3-Dihydro-1H-benzof[*h*]chromenes* **Huang P.-J.J.**, Mukherjee C., [†]Jha A.

0631 *Chemical Modification of Monolayer Protected Nanoparticles (MPNs) Using Dipolar Cycloadditions under Hyperbaric Conditions* **Ismaili H.**, Zhu J., Lines B., Ganton M.D., Kerr M.A., [†]Workentin M.S.

0632 *Differential Hydrogen Bonding in Organic Solids by Deuterium MAS NMR Spectroscopy* **Webber R.**, Penner G.H.

0633 *Syntheses and Photochromic Studies of Linked Multi-State Photoswitches Based on Dihydropyrenes* **Zhang R.**, Mitchell R.H.

0634 *Fluorescent Switches as Probes for Mapping Proton Concentrations at Micelle Membranes* **Magri D.C.**, de Silva A.P.

0635 *Investigation into the Effects of Glycosylating Hydroxyproline Model Peptides* **Owens N.W.**, Braun C., Schweizer F.

0636 *Design and Synthesis of Macrocyclic Peptides toward the Formation of Synthetic Nanopores* **Voyer N.**, Blanchette J.-P.

0637 *Bioinspired Polypeptide Designed Surfaces* **Voyer N.**, Tremblay M., Martin J., Richer J., Bissonnette V.

0638 *Synthesis and Characterization of Peptide Nanostructures Designed for Sensing Applications* **Voyer N.**, Arseneault M., Otis F.

0639 *New Substrates for Suzuki-Miyaura Cross-Coupling Reactions* **Voyer N.**, Boudreau P.-L.

0640 *An EPR and DFT Investigation of the Reactive Intermediates Formed in the Reaction of Al Atoms with H₂O and Acyclic Ethers* **Brunet F.D.**, [†]Joly H.A.

0641 *Photochromic Liposomes: Photoregulation of Membrane Permeability with Spirooxazines* Louis K.M., [†]Murphy R.S.

19:00 End of Session

Physical, Theoretical & Computational

PT4 **WCC-Room 11**

Biospectroscopy and Biodiagnostics (Joint with AN) (joint with AN4)

Organizer(s) - Marco Gruwel, Larry Leonardi, Lin-P'ing Choo-Smith and Mike Sowa

13:00 Joint with Analytical Chemistry Division - See AN4

Session Chair - Mike Sowa

17:00 End of Session

PT6 **WCC-Room 13**

Diversity and Innovation in Computational Chemistry

Organizer(s) - Georg Schreckenbach and Tom Woo
Chair(s) - Georg Schreckenbach

13:00 0642 *Modeling Free Energies of Solvation, Vapor Pressure, Partitioning, Solubility, and Condensed-Phase Properties and Reaction Mechanisms* [†]**Cramer C.J.**, Truhlar D.G., Kelly C.P., Chamberlin A.C., Elmasy N.

13:40 0643 *The Molecular Origin of the "Continuous" Infrared Absorption in Aqueous Solutions of Weak Acids* **Ifimie R.**

14:00 0644 *Insights into the Model Chemistry Dependence of the Ring-Opening Mode of Oxirene from an Analysis of the Electron Density* [†]**Mawhinney R.C.**

14:20 0645 *A Molecular Dynamics Study of the Whelk-O1 Chiral Stationary Phase: Solvation and Selectivity* **Cann N.**, Zhao C.

15:00 Coffee Break

15:20 0646 *Improvements to a Solvation Model in the ADF Package* **Pye C.C.**, Louwen J.N.

15:40 0647 *Computational Investigation of Fluorescent Proteins* [†]**Brown A.**, Timerghazin Q.K.

16:00 0648 *Structure and Interaction in Aqueous Urea-Trimethylamine-N-oxide (TMAO) Solutions: How Does TMAO Counter Urea-Induced Protein Denaturation?* **Patey G.N.**, Paul S.

16:40 0649 *Molecular Quantum Computing: The Multi-Configuration Time-Dependent Hartree Approach* **Carreon-Macedo J.-L.**, Schroeder M., [†]Brown A.

17:00 End of Session

PT8 **WCC-Room 12**

Laboratory X-Ray and Neutron Diffraction for Materials Chemistry (Joint with MT) (joint with MT3)

Organizer(s) - Lachlan Cranswick and James Britten
Chair(s) - Lachlan Cranswick

13:00 Joint with Materials Chemistry Division - See MT3

15:00 Coffee Break

Session Chair - James Britten

16:40 End of Session

PT11 **Delta-C**

Post-Modern Electrochemistry (Joint with AN) (joint with AN10)

Organizer(s) - Sylvie Morin, Ian Burgess and Alexandre Brolo
Chair(s) - Karen Kavanagh and Gregory Jerkiewicz

13:20 Joint with Analytical Chemistry Division - See AN10

16:40 End of Session

PT12 **Delta-A**

Solid-State NMR Spectroscopy in Inorganic Materials (Joint with IN) (joint with IN6)

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - David Bryce

13:00 Joint with Inorganic Chemistry Division - See IN6

17:00 End of Session

Tuesday AM

Montreal Medal Lecture

MML **WCC-Room 3**

Montreal Medal Lecture

Organizer(s) - Alaa Abd-El-Aziz
Chair(s) - Alaa Abd-El-Aziz

11:25 Introductory Remarks

Introduction of Joseph Hubert by Robert Prud'homme

11:35 0650 *Analytical Chemistry and Society* **Hubert J.**

12:25 End of Session

Analytical Chemistry

AN2 **Delta-B**

Analytical Separations by Capillary Electrophoresis (Joint with BM) (joint with BM1)

Organizer(s) - Douglas Craig
Chair(s) - Douglas Craig

08:00 0651 *Detection of a DNA Repair Protein in Single Bacteria by Ultrasensitive Capillary Electrophoresis with Laser-Induced Fluorescence* **Turner E.H.**, Pugsley H.R., Palmer V.R., [†]Dovichi N.J.

08:20 0652 *High-Throughput Screening of Holoprotein Conformational Stability by Dynamic Ligand Exchange-Capillary Electrophoresis* **Gavina J.M.A.**, [†]Britz-McKibbin P.

08:40 0653 *Effect of Arsenic on the Formation of Benzo[a]pyrene Induced DNA Adducts* **Guthrie J.W.**, [†]Le X.C., Lee J., Weinfeld M.

09:00 0654 *Use of Laboratory-Built Capillary Electrophoresis for Study of Size-Separation of Quantum Dots and Bioconjugation Using Small Biological Molecules* **Pereira M.**, [†]Lai E.P.C.

09:20 0655 *Sensitive Light Emitting Diode (LED) Fluorescence Detectors in Capillary Electrophoresis* [†]**Lucy C.A.**, de Jong E.P.

09:40 Coffee Break

10:00 0656 *Single Molecule Separations of β -Galactosidase from Escherichia coli* **Nichols E.R.**, [†]Craig D.B.

10:20 0657 *Creating a Tunable Coating for Separations by Capillary Electrophoresis Using a Modified Self-Assembled Surfactant/Diblock Copolymer* **MacDonald A.M.**, [†]Lucy C.A.

10:40 0658 *Effect of Experimental Factors on Phospholipid Bilayer Coatings in Capillary Electrophoresis* **Gulcev M.D.**, [†]Lucy C.A.

11:00 0659 *Recent Developments in Capillary Electrophoresis of Pollutants* **Dabek-Zlotorzynska E.**

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

AN4 **WCC-Room 11**

Biospectroscopy and Biodiagnostics (Joint with PT) (joint with PT4)

Organizer(s) - Marco Gruwel, Larry Leonardi, Lin-P'ing Choo-Smith and Mike Sowa

08:00 Session Chair - Lin-P'ing Choo-Smith

08:00 0660 *In Vivo Evaluation of Tissue Morphological and Physiological Changes from Probeless Endoscopic Reflectance Spectroscopy for Improving Lung Cancer Detection* **Zeng H.**, Fawzy Y.S., Petek M., Terceij M.

08:40 0661 *UV Raman Spectroscopy as a Diagnostic Tool in Photobiological Problems* **Lopnow G.R.**

09:00 0662 *Chemometric Analysis of Electrophoretic Data: Prediction of Birth Outcomes from Amniotic Fluid Using Bayesian Classification* [†]**Boisvert M.R.**, Burns D.H., Koski K., Skinner C.D.

09:20 0663 *Control of Protein Density on Nanoparticles for SERS-Based Immunoassays* **Nsiah F.**, McDermott M.T.

09:40 Coffee Break

10:00 Session Chair - Larry Leonardi

10:00 0664 *The Role of Optical Spectroscopy and Imaging in Optimizing New Cancer Therapies* [†]**Weersink R.**

10:40 0665 *Optical Coherence Tomography as a Tool to Investigate Tissue Morphology* **Hewko M.D.**, Choo-Smith L.-P., Ko A., Werner J., Kohlenberg E., Dong C.C.S., Cleghorn B., Dufour M., Lamouche G., Sowa M.G.

11:00 0666 *In Vivo Evaluation of Infarcted Tissue Degradation after Ischemia Using NIR Spectroscopy in Pig Hearts* **Yang Y.**, Jilkina O., Manley D.M., [†]Kupriyanov V.V.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

AN8 **WCC-Room 8**

Microscopy and Biophysical Chemistry (Joint with PT) (joint with PT9)

Organizer(s) - Matthew Paige and David McMillen
Chair(s) - Matthew Paige

08:00 0667 *Surface Modified Lanthanide Doped Nanoparticles as New Robust Biolabels* **van Veggel F.C.J.M.**

08:40 0668 *The Joy and Sorrow of Quantum Dots in Biophysical Applications* [†]**Cramb D.T.**, Swift J.L., Heuff R.F.

09:20 0669 *Nitrile-Functionalized Nanoprobes as Vibrational Contrast Agents in Mammalian Cell Surface Imaging by Surface-Enhanced Raman Spectroscopy* **Hu Q.**, Tay L., [§]Pezacki J.P.

09:40 Coffee Break

10:00 0670 *Diffusion and Reaction in Crowded Cells* **Kapral R.**

10:40 0671 *Single Molecule Studies on Supramolecular Interactions in Lipid Membranes* Ngo A.T., Karam P., Burger M., [§]Cosa G.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

AN9 WCC-Room 6

Nuclear and Radiochemistry - Applications and Waste Disposal

Organizer(s) - Michael Attas, Chunsheng Li and Tjalle (Chuck) Vandergraaf
Chair(s) - Tjalle (Chuck) Vandergraaf

08:00 0672 *Trace Element Analysis Using Neutron Activation: Pushing the Limits* **Chatt A.**

08:40 0673 *Portable Gamma-Ray Spectrometry for Decommissioning: Anywhere, Anytime, Anything* **Attas E.M.**, Bialas E., Evans S., Haroon T., Rhodes M., Ridgway R.

09:00 0674 *Applications of Synchrotron Techniques in the Nuclear Industry* **Kotzer T.G.**, Cutler J.N.

09:20 0675 *Getting it Up, Moving About, Getting it In and Getting it Out: Consideration of the Aerosol Threat from a Radiological Dispersal Device* **Waller E.J.**

09:40 Coffee Break

10:00 0676 *Environmental Uranium Analyses: A Comparison of ICP-MS and Gamma-Ray Spectrometric Methods* **Bennett L.G.I.**, Kelly D.G., Mattson K.M., Nielson K.S., **White S.D.**

10:20 0677 *Neutron Activation Analysis for Quality Control and Product Development in Canadian Industries* **Kennedy G.**

10:40 0678 *Uranium in Natural Water and in Lung Fluid* **Li W.**, Li C., Skinner R., Chen J., Kiser S., Cornett R.J., Megna K., Perera S., Murimboh J., Erhardt L., Waller E.J.

11:00 0679 *The Effect of Dissolved Metallic Impurities on Water Radiolysis Product Behavior* **Joseph J.M.**, Hamdun A., [§]Noel J.J., [§]Wren J.C.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

AN10 Delta-C

Post-Modern Electrochemistry (Joint with PT) (joint with PT11)

Organizer(s) - Sylvie Morin, Ian Burgess and Alexandre Brolo
Chair(s) - Dan Bizzotto and Antonella Badia

08:20 0680 *Partial Desorption and Backfilling Studies of Carboxylic Acid SAMs on a Polycrystalline Gold Electrode* **Shepherd J.L.**, Ahinful W.K., Guerra E.

08:40 0681 *Towards the Controlled Assembly of Nanomaterials and Nanomechanical Actuation Using Charge Transfer Reactions in Electroactive Self-Assembled Monolayers* [§]Norman L.L., **Badia A.**

09:00 0682 *Electron Transport and Redox Reactions in Carbon-Based Molecular Electronic Junctions* [§]McCreery R.L., Wu J., Yan H., Bonifas A., Bergren A., Deng F.

09:40 Coffee Break

10:00 0683 *Electrochemical Characterization Si(111) Modified with Linear and Branched Alkyl Chains* **Wayner D.D.M.**, Bin X., Fan C., Mischki T.K., Lopinski G.P.

10:20 0684 *On the Oxidative Desorption of an Alkylthiol Monolayer Adsorbed onto Au as Studied by Fluorescence and Capacitance Measurements* **Bizzotto D.**, Musgrove A.

10:40 0685 *Electrochemical Evaluation of 4-Dimethylaminopyridine Adsorption on Polycrystalline Gold* [§]Burgess I.J., Bartow B.C.

11:00 0686 *Study of Metal Phthalocyanines Modified Gold Single-Crystal Electrodes* Khanfar M.F., Zheng S.H., [§]Morin S.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

Biological and Medicinal Chemistry

BM1 Delta-B

Analytical Separations by Capillary Electrophoresis (Joint with AN) (joint with AN2)

Organizer(s) - Douglas Craig
Chair(s) - Douglas Craig

08:00 Joint with Analytical Chemistry Division - See AN2

11:20 End of Session

BM4 WCC-Room 15

Latest Trends in Medicinal Chemistry, Drug Discovery and Design (Joint with OR) (joint with OR5)

Organizer(s) - Lakshmi Kotra and Christine Gottardo
Chair(s) - Christine Gottardo

08:20 0687 *Synthesis of Natural Products that Incorporate Hexahydropyrroloindolines as Precursors to a Library of Amanitins and Phalloidins* May J.P., [§]Perrin D.M.

09:00 0688 *Identification of New HIV-1 Protease and Fungal 14 α -Demethylase Inhibitors: Lead Compound Discovery and Optimization Using Click Chemistry* **Hein J.E.**, Pitram S.M., Tripp J.C., Whiting M., Fokin V.V., [§]Sharpless K.B.

09:20 0689 *A Supramolecular Approach to DNA Targeting and Anti-Cancer Drug Design* **Petitjean A.**, Lehn J.-M., Verrelle P.

09:40 Coffee Break

10:00 0690 *Design and Synthesis of Bis-Indoles for the Treatment of Alzheimer's Disease* [§]Weaver D., Carter M., Jacobo S., Lu E.

10:40 0691 *Synthesis of Diosgenyl Saponin Analogues and their Anti-Cancer Properties* **Kaskiw M.J.**, Tassotto M.L., Th'ng J., Jiang Z.-H.

11:00 0692 *Triciferols: Hybrids of Vitamin D and Trichostatin A as Anticancer Compounds* **Gleason J.L.**, Quach T.D., White J.H., Tavera-Mendoza L.E.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

Chemical Education

CE3 WCC-Room 7

Computational Chemistry in Chemical Education (Joint with PT) (joint with PT5)

Organizer(s) - James Xidos
Chair(s) - James Xidos

10:00 0693 *Teaching Computational Chemistry at the University Of Minnesota: Curriculum and Philosophy* [§]Cramer C.J.

10:40 0694 *From Particle-in-a-Box to Computational Chemistry: In One Term? In Second Year?* **Brown A.**

11:00 0695 *Computational Chemistry for the Masses* **Xidos J.D.**

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

CE5 WCC-Room 7

Polymer Education in the Undergraduate Curriculum (Joint with MS) (joint with MS3)

Organizer(s) - Phillip Choi and Sundar Sundararajan
Chair(s) - Sundar Sundararajan and Phillip Choi

08:20 0696 *An Industry's Perspective of Polymer Education. How Well Prepared Are Undergraduate Students?* **Farrugia V.**, Moffat K., Ng H., Burns P.

09:00 0697 *Polymer Education at the Undergraduate Level at Carleton University, Ottawa* [§]Sundararajan P., Wang Z.Y.

09:20 0698 *A Newly Developed Polymer Materials Elective Stream at the University of Alberta* **Choi P.**

09:40 End of Session

Inorganic Chemistry

IN2 WCC-Room 4

Main Group Compounds in Catalysis, Materials Research and Biochemistry

Organizer(s) - Lothar Stahl and Paul Ragogna
Chair(s) - Thomas Baumgartner

08:00 0699 *New Electronically Interesting Polymers and Materials Featuring Main Group Elements* [§]Protasiewicz J.

08:40 0700 *Living Anionic Polymerization of P=C Bonds: A Route to New Functional Macromolecules* Noonan K.J.T., **Gates D.P.**

09:00 0701 *Applications of New Tellurium-Centered Ligands in Single-Source Precursors of Main Group Metal Tellurides* [§]Chivers T., **Ritch J.S.**

09:20 0702 *Amidinates and Guanidinates as Ligands for Thin Film Precursors* Brazeau A.L., DiLabio G.A., [§]Barry S.T.

09:40 Coffee Break

10:00 0703 *NLO Studies of Main-Group Systems* Yang Q., Elder P.J.W., **Vargas-Baca I.**

10:20 0704 *New Trimethylsilylchalcogen Reagents for Nanocluster Assembly* [§]Corrigan J.F., MacDonald D.G., Khadka C., Ahmar S., Vijayaratnam N.

10:40 0705 *Transition Metal Complexes of Neutral Radical Thiazyl Ligands: Intermolecular Contacts in the Solid State and the Resulting Magnetic Properties* [§]Preuss K.E., Hearn N.G.R., Wu J., Madhu N.T.

11:00 0706 *The First [1]Molybdarenophanes. Novel Precursors for Organometallic Polymers?* Lund C.L., Schachner J.A., **Müller J.**, Quail J.W.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

IN3 WCC-Room 2

Mechanism and Design in Organometallic Catalysis

Organizer(s) - Peter Budzelaar, Jennifer Love and Deryn Fogg
Chair(s) - Deryn Fogg

08:00 0707 *Intramolecular C-H Activation Directed Self-Assembly of an Organoplatinum(II) Molecular Square: Structural and Mechanistic Study* **Zhao S.-B.**, [§]Wang S.

08:20 0708 *A Remarkably Active, Formally Zwitterionic Ruthenium Precatalyst for the Transfer Hydrogenation of Ketones that Does Not Feature an Ancillary Ligand N-H Functionality* **Lundgren R.J.**, Rankin M.A., [§]Stradiotto M.

08:40 0709 *Practical Catalytic Hydrogenation Catalysts and Processes* [§]Abdur-Rashid K., Guo R., Jia W., Chen X., Lough A.J.

09:00 0710 *Chemistry and Catalysis of Rhodium(I)-P(CH₂OH)₃ Complexes* Lorenzini F., Patrick B.O., [§]James B.R.

09:40 Coffee Break

10:00 0711 *Activation of the Elemental Molecules Dinitrogen and Tetraphosphorus and Subsequent N- or P-Atom Transfer* **Cummins C.C.**, Curley J.J., Piro N.A., Figueroa J.S., Mendiratta A., Cossairt B.M.

10:40 0712 *Spirocyclic, Bimetallic, Bis(iminophosphorano)methandiide Pd(II) Complexes: Synthesis, Crystal Structure and Solution Behaviour* **Cavell R.G.**, Ma G., McDonald R.

11:00 0713 *Enantioselective Michael Addition and H₂-Hydrogenation Reactions Catalyzed by BINAP/1,2-Diamine-Ruthenium(II) Complexes* **Sui-Seng C.**, Lough A.J., Morris R.H.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

IN6 Delta-A

Solid-State NMR Spectroscopy in Inorganic Materials (Joint with PT) (joint with PT12)

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - Robert Schurko

08:20 0714 *Stress Fields and Crystallization in Glass* **Zwanziger J.W.**, Karpukhina N.G., Longstaffe J.G., Wemer-Zwanziger U., Schneider J.

09:00 0715 *Oxide Glass Structure: Insights from High Resolution O-17 NMR* [§]Stebbins J.F.

09:40 Coffee Break

10:00 0716 *Optically Polarized NMR of ^{69/71}Ga in Semi-Insulating GaAs* [§]Hayes S.E., Mui S., Ramaswamy K.

10:20 0717 *Solid State NMR Spectroscopic Characterization of Nafion and Nafion Composites* **Ye G.**, Mills C., [§]Goward G.R.

10:40 0718 *New Developments in the ¹²⁹Xe NMR Spectroscopy of Solids* [§]Ripeester J., Anedda R., Ananchenko G.S., Soldatov D., Brouwer D.H., Enright G., Moudrakovski I., Udachin K.A., Ratcliffe C.I.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

Macromolecular Science and Engineering**MS1 WCC-Room 9****Electrochemical Energy Storage and Conversion (Joint with MT and PT)**Organizer(s) - Colin Cameron
Chair(s) - Colin Cameron08:00 0719 *Direct Ethanol Fuel Cells* [†]Pickup P.G., Li G., Bennett D., Ghuman A.08:40 0720 *Molecular Modeling of Proton Diffusion in the Short-Side-Chain Perfluorosulfonic Acid Ionomer* [†]Hristov I.H., Paul R., Paddison S.J.09:00 0721 *Electrochemical Supercapacitors* Bélanger D.

09:40 Coffee Break

10:00 0722 *Future Electrochemical Power Systems for the Canadian Forces* Andrukaitis E.E.10:40 0723 *Effect of the Counter Anions on the Stability of Nickel Aluminium Layered Double Hydroxide Thin Films Subjected to Potential Cycling in Basic Electrolytes* Yu L., Villemure G.11:00 0724 *Controlled Particle Deposition by Design of an Electrochemical Adsorption Cell* Abniki F., Bakhshi E., Mosalla M.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

MS3 WCC-Room 7**Polymer Education in the Undergraduate Curriculum (Joint with CE) (joint with CE5)**Organizer(s) - Phillip Choi and Sundar Sundararajan
Chair(s) - Sundar Sundararajan and Phillip Choi

08:20 Joint with Chemical Education Division - See CE5

09:40 End of Session

MS5 WCC-Room 5**Polymers for Nanoscience and Nanotechnology (Joint with MT) (joint with MT6)**Organizer(s) - Wai Kin Chan and Yue Zhao
Chair(s) - Julian Zhu

08:00 Macromolecular Science and Engineering Award Lecture presented by Guojun Liu

Introduction of Guojun Liu by Julian Zhu

08:00 0725 *Nanoworld of Block Copolymers - Block Copolymer Assembly, Chemical Processing and Nanomaterial Application* Liu G.J.08:40 0726 *Self-Assembled Azo Polyelectrolyte Surfaces for Directed Growth of Neural Cells* [†]Barrett C.J., Fournier A., Lu P., Hara M.09:00 0727 *Modification of ZnO Tetrapod and Nanorod Surfaces by the Layer-by-Layer Deposition Process* [†]Chan W.K., Tse C.W., Djurisic A.B.09:20 0728 *Poly lactides: From Main-Chain Chirality to Lamella Curvature* Maillard D., Prud'homme R.E.

09:40 Coffee Break

Chair - Christopher Barrett

10:00 0729 *Hierarchical and Functional Nanostructures from Rod-Coil Block Copolymers* de Cuendias A., Babin J., Chécot F., Taton D., Cloutet E., Cramail H., [†]Lecommandoux S.10:40 0730 *Nanoparticle-Polymer Mixtures for Use in Inkjet-Printed Electronics and Fluorescence Enhancement of Conjugated Polymers* Nguyen B.T., Gautrot J.E., Nguyen M.T., Zhu X.X.11:00 0731 *Functionalization of Carbon Nanotubes with Well-Defined Polymers to Form Discrete Polymer-Nanotube Composites* [†]Adronov A., Cheng F., Lawson G., Behal S., Bahun G.J.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

Materials Chemistry Division**MT1 WCC-Room 10****Applications of Synchrotron Analysis of Materials (Joint with PT) (joint with PT2)**Organizer(s) - Jeffrey Cutler
Chair(s) - Rob Blyth08:40 0732 *The Application of Computed X-Ray Tomography in Materials Science* Wilkinson D.S.09:20 0733 *Photoelectron Emission Microscopy Studies of Thin Aniline Oligomer Films on Iron for Corrosion Protection* [†]Kruse P., Greiner M.T.

09:40 Coffee Break

10:00 0734 *Hard X-Ray Micro-Analysis Beamline at the Canadian Light Source* [†]Jiang D.T.10:40 0735 *The Electronic Structure of HfSi_{0.5}As_{1.5}* [†]Grosvenor A.P., Cavell R.G., Mar A.11:00 0736 *Near-Edge X-Ray Absorption Fine Structure Spectroscopy Study of Symmetric and Asymmetric Iron Metalloenes and Polymers* [†]Otero E., Wilks R.G., Moewes A., Shipman P.O., Abd-El-Aziz A.S., [†]Urquhart S.G.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

MT2 WCC-Room 9**Electrochemical Energy Storage and Conversion (Joint with MS and PT) (joint with PT7)**Organizer(s) - Colin Cameron
Chair(s) - Colin Cameron

08:00 Joint with Macromolecular Science and Engineering Division and Physical, Theoretical & Computational Division - See MS1

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

MT3 WCC-Room 12**Laboratory X-Ray and Neutron Diffraction for Materials Chemistry (Joint with PT) (joint with PT8)**Organizer(s) - Lachlan Cranswick and James Britten
Chair(s) - James Britten08:00 0737 *Charge Density Studies and their Chemical Applications* Cameron S.08:40 0738 *Heavy Stuff: Some Challenges in Diffraction Analysis of Intermetallic Compounds* Mar A.09:20 0739 *Ternary Gold Intermetallics SrAu₃In_{4-x} and SrAu₂Sn_{4-x} with the BaAl₄-Type Structure* Tkachuk A.V., [†]Mar A.

09:40 Coffee Break

Session Chair - Lachlan Cranswick

10:00 0740 *Diffuse Scattering Insights into Three-Dimensional Defect Structures in Complex Oxides* Campbell B.J.10:40 0741 *Stacking the Odds: Structural Challenges in Neutral Radical Materials* Beer L., Brusso J.L., Clements O.P., Leitch A.A., Reed R.W., Robertson C.M., Oakley R.T.11:00 0742 *Ferromagnetic Ordering in Neutral Radical Conductors* Robertson C.M., Myles D.J.T., Leitch A.A., Reed R.W., Thompson L.K., Dooley B.M., Frank N.L., [†]Oakley R.T.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

MT6 WCC-Room 5**Polymers for Nanoscience and Nanotechnology (Joint with MS) (joint with MS5)**Organizer(s) - Wai Kin Chan and Yue Zhao
Chair(s) - Julian Zhu

08:00 Joint with Macromolecular Science and Engineering Division - See MS5

REMINDER

08:00 Macromolecular Science and Engineering Award Lecture presented by Guojun Liu in WCC-Room 5

09:40 Coffee Break

Chair - Christopher Barrett

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

Organic Chemistry**OR4 WCC-Room 1****Green Chemistry for Chemical Synthesis**Organizer(s) - C.J. Li and Robert Singer
Chair(s) - Robert Singer08:00 0743 *Amine-Bis(phenol) Ligands: Their Synthesis in Benign Solvents Under Microwave Irradiation and their Use in Catalysis* [†]Kerton F.M., Soper R.G., Holloway S., Power A.08:40 0744 *Avoiding Substrate Pre-Activation in Carbon-Carbon Bond Formation* [†]Fagnou K.09:20 0745 *Hydrogen Transfer Catalysts for Green Chemistry: Application to Hydrogen Storage and Amine Alkylation* [†]Moore A.H., Poyatos M., Gnanamgari D., Bowring M., Crabtree R.H.

09:40 Coffee Break

10:00 0746 *Applications of Phosphonium Salt Ionic Liquids in Organic Synthesis* McNulty J., Cheekoori S., Nair J.J., Larichev V.10:40 0747 *Ligand Effects in Aqueous Biphasic Lewis Acid Catalysis* [†]Lindstrom U.M.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

OR5 WCC-Room 15**Latest Trends in Medicinal Chemistry, Drug Discovery and Design (Joint with BM) (joint with BM4)**Organizer(s) - Lakshmi Kotra and Christine Gottardo
Chair(s) - Christine Gottardo

08:20 Joint with Biological and Medicinal Chemistry Division - See BM4

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

OR8 WCC-Room 3**Recent Advances in Mechanistic Organic Chemistry**Organizer(s) - Matthew Lukeman
Chair(s) - Matthew Lukeman and Cornelia Bohne08:20 0748 *Fluorescent Proteins as Nanobeakers for Proton Transfer Reactions* [†]Tolbert L.M., Sontsev K.M., Dong J., Huppert D.09:00 0749 *Efficiency of Proton Transfer Catalysis in Enzymes and Models* Kirby A.J.

09:40 Coffee Break

10:00 0750 *Photohydrolysis of the Trifluoromethyl Group in Hydroxybiaryls* Milligan M., [†]Lukeman M.10:20 0751 *Determining Product Ratios for Kinetic Schemes Without Rate Laws: A New Method Using Directed Graphs* Andraos J.11:00 0752 *Photochirogenesis of the Cyclodimerization of AC in the Presence of HSA* Pace T.C.S., Nishijima M., Wada T., Mori T., Bohne C., Inoue Y.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

Physical, Theoretical & Computational**PT2 WCC-Room 10****Applications of Synchrotron Analysis of Materials (Joint with MT) (joint with MT1)**Organizer(s) - Jeffrey Cutler
Chair(s) - Rob Blyth

08:40 Joint with Materials Chemistry Division - See MT1

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

PT3 WCC-Room 13

Biocomputational Chemistry

Organizer(s) - Chérif Matta
Chair(s) - James Gauld

08:00 0753 *The Fast-Marching Method for Predicting the Products of Enzyme-Like Chemical Catalysis* [§]Ayers P.W., Liu Y.L.

08:40 0754 *A New Density Functional for Bio-Organic Systems* Becke A.D., Johnson E.R.

09:20 0755 *A Unified Density-Functional Treatment of Dynamical, Nondynamical and Dispersion Correlations* Johnson E.R., Becke A.D.

09:40 Coffee Break

10:00 0756 *Chromatin Modeling and Simulation: A Tale of Histone Tails* [§]Schlick T., Zhang Q., Arya G.

10:40 0757 *Computational Studies of DNA Nucleobases with "Expanded" Structures* Wetmore S.D.

11:00 0758 *Highly Accurate ²³Na Chemical Shielding Calculations as a Tool for Probing Na⁺ Ion Binding in G-Quadruplex DNA* Wu G., Capovilla M., Kwan I.C.M.

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

PT4 WCC-Room 11**Biospectroscopy and Biodiagnostics (Joint with AN) (joint with AN4)**

Organizer(s) - Marco Gruwel, Larry Leonardi, Lin-P'ing Choo-Smith and Mike Sowa

08:00 Joint with Analytical Chemistry Division - See AN4

10:00 Session Chair - Lin-P'ing Choo-Smith

10:00 Session Chair - Larry Leonardi

11:20 End of Session

PT5 WCC-Room 7**Computational Chemistry in Chemical Education (Joint with CE) (joint with CE3)**

Organizer(s) - James Xidos
Chair(s) - James Xidos

10:00 Joint with Chemical Education Division - See CE3

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

PT7 WCC-Room 9**Electrochemical Energy Storage and Conversion (Joint with MS and MT) (joint with MT2)**

Organizer(s) - Colin Cameron
Chair(s) - Colin Cameron

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

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

PT8 WCC-Room 12**Laboratory X-Ray and Neutron Diffraction for Materials Chemistry (Joint with MT) (joint with MT3)**

Organizer(s) - Lachlan Cranswick and James Britten
Chair(s) - James Britten

08:00 Joint with Materials Chemistry Division - See MT3

09:40 Coffee Break

10:00 Session Chair - Lachlan Cranswick

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

PT9 WCC-Room 8**Microscopy and Biophysical Chemistry (Joint with AN) (joint with AN8)**

Organizer(s) - Matthew Paige and David McMillen
Chair(s) - Matthew Paige

08:00 Joint with Analytical Chemistry Division - See AN8

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

PT11 Delta-C**Post-Modern Electrochemistry (Joint with AN) (joint with AN10)**

Organizer(s) - Sylvie Morin, Ian Burgess and Alexandre Brolo
Chair(s) - Dan Bizzotto and Antonella Badia

08:20 Joint with Analytical Chemistry Division - See AN10

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

PT12 Delta-A**Solid-State NMR Spectroscopy in Inorganic Materials (Joint with IN) (joint with IN6)**

Organizer(s) - Scott Kroeker and Robert Schurko
Chair(s) - Robert Schurko

08:20 Joint with Inorganic Chemistry Division - See IN6

11:20 End of Session

REMINDER

11:25 Montreal Medal Lecture presented by Joseph Hubert in WCC-Room 3

Tuesday PM**Analytical Chemistry****AN8 WCC-Room 8****Microscopy and Biophysical Chemistry (Joint with PT) (joint with PT9)**

Organizer(s) - Matthew Paige and David McMillen
Chair(s) - David McMillen

13:40 0759 *Structural and Compositional Mapping of a Phase-Separated Langmuir-Blodgett Monolayer by Atomic Force Microscopy* Qaqish S. E., Paige M.F.

14:00 0760 *Polarized Total Internal Reflection Fluorescence Microscopy: Applications to the Study of Membrane Proteins and Domain Dynamics* Yip C.M.

14:40 0761 *Developments in Surface Plasmon Resonance Imaging of Biomolecule Arrays* [§]McDermott M.T., Shang H., Grant C., Zhang G.

15:00 Coffee Break

15:20 0762 *Ways Cells Differ from Beakers* [§]McMillen D.R., Bagh S., Dong C.G., Iafolla M.A.J., Jakobowski L., Mazumder M., Movva A.

16:00 0763 *Near Field Microscopy Studies of Membrane Protein Partitioning Between Lipid Rafts and Caveolae* Johnston L.J., Lu Z., Abulrob A., Stanimirovic D.

16:20 0764 *New Windows into Cells and Tissues: Space-Time Image Cross-Correlation and Nonlinear Multimodal Imaging* [§]Wiseman P.W., Kolin D.K., Beisle J., Brown C.

17:00 End of Session

AN10 Delta-C**Post-Modern Electrochemistry (Joint with PT) (joint with PT11)**

Organizer(s) - Sylvie Morin, Ian Burgess and Alexandre Brolo
Chair(s) - Mario Morin and Sharon Roscoe

13:40 0765 *Electrochemistry in Synthetic and Biological Nanopores* [§]White H.S.

14:20 0766 *Formation of Metal Particles at Surface Modified by Reduction of Diazonium Cations* Vila N., Toupin M., [§]Bélanger D.

14:40 0767 *Electrochemistry of Porphyrin Coated Gold Particles on Glassy Carbon* Médard C., Mezour A., Mauzeroll J., Morin M.

15:00 Coffee Break

15:20 0768 *Electrochemical and PMIRRAS Studies of Cholera Toxin Binding at a Model Biomembrane Surface* [§]Brosseau C.L., Roscoe S.G., [§]Lipkowski J.

15:40 0769 *Determination of Reorganization Energies of Fc-Peptide Monolayers* Orłowski G.A., [§]Kraatz H.-B.

16:00 0770 *Electric-Field Driven Surface Aggregation of a Model Zwitterionic Surfactant* [§]Chen M.H., Xu S.M., Cholewa E., Szymanski G., [§]Lipkowski J.

16:20 0771 *In Situ Surface Spectroscopy at Nanostructured Interfaces* [§]Brolo A.G., Anema J.R., Mocock C.M., Hager G., Cooper M.D.

16:40 End of Session

ANP WCC-2E-2H**Posters**

Organizer(s) - Douglas Goltz
Chair(s) - Douglas Goltz

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

0943 *Spectrophotometric Determination of Inorganic Polysulphides as Acid Volatile Sulphides in Water* Simpson C., [§]Kariuki S.

0772 *Detection and Separation of Organophosphates on Titania* Zhou T., [§]Lucy C.A.

0773 *Effects of Relative Humidity on O₃-Initiated Reaction of Hg⁰(g): Kinetic and Product Studies and Atmospheric Implications* [§]Snider G., Vahedpour M., Raofie F., Ariya P.A.

0774 *Extraction of Metal Ions from Aqueous Solutions Using Countercurrent Chromatography (CCC)* [§]Alex S., Biasotto F., Joyau T., Fournier J.

0775 *Quantitative Analysis of Hydroxylated Polybrominated Diphenyl Ethers by HPLC Tandem Mass Spectrometry* Zhang S., [§]Martin J.M.

0776 *Photodegradation of Azo Dye Incorporated Organonitro Complexes* Abd-El-Aziz A.S., Elmayergi B., Shipman P.O., Enns G., [§]Friesen K.J.

0777 *Automated Molecularly Imprinted Solid Phase Extraction in a Syringe Needle Packed with Polypyrrole-Encapsulated Carbon Nanotubes for Determination of Ochratoxin A in Red Wine* Wei Y., Qiu L.H., [§]Lai E.P.C.

0778 *Separation and Characterization of Branched Perfluoroalkyl Surfactants, Precursors and Mass Interferences in Human Serum and Standards by High Performance Liquid Chromatography/Tandem Mass Spectrometry* Benskin J.P., Bataineh M., [§]Martin J.W.

0779 *Determination of Common Anions and Oxalides in Environmental Samples: Selecting the Proper Mobile Phase and Column* Babcock C., Saini C.

0780 *Analysis of Cationic Surfactants in Formulated Products Using a New HPLC Column* Babcock C., [§]Liu X.

0781 *Effect of the Degree of Methylation of Trivalent Arsenic Compounds on the Stability of their Corresponding Glutathione Complexes* Percy A.J., Gailer J.

0782 *Lipase-Catalysis in Non-Standard HPLC Organic Solvents: A Versatile Method in Chiral Separation* [§]Ghanem A.

0783 *Enantioselective Gas Chromatographic Separation of Racemic N-Alkylated Barbiturates and Cyclopropane Derivatives: Application of C11-Chirasil-Dex as Chiral Stationary Phase in GC* [§]Ghanem A., Schurig V.

0784 *Selenium Levels and Speciation in the Prairie Waters* Hu X., Wang F., Hanson M.

0785 *Sawdust (Pinus Wallichiana) as a Cheap Adsorbent for the Removal of Cadmium from Aqueous Solutions* [§]Farooq A., Hasany S.M., Chaudhry M.M., Irfan N.

0786 *Computer Simulation of Different Modes of Affinity Capillary Electrophoresis Based on One Dynamic Complexation Model* Sun Y., Fang N., [§]Chen D.D.Y.

0787 *Floating-Gate Field-Effect Transistors with Broadly-Responsive Conducting Polymer Films as Volatile Organic Compound Sensors* English J.T., [§]Freund M.S., Cao K., Buchanan D.A.

0788 *Response Characteristics of a Novel Counter Current Micro-Flame Ionization Detector* Hayward T.C., Thurbide K.B.

0789 *Molecularly Imprinted Polymer Nanospheres for Capillary Electrophoresis Immunoassay of 17- β -Estradiol and Related Estrogenic Compounds* De Maleki Z., [§]Lai E.P.C., Dabek-Zlotorzynska E.

0790 *Improved Performance of an Acoustic Flame Detector for Chromatography* Mah C., [§]Thurbide K.B.

0791 *Improvements in Subcritical Water Chromatography* Fogwill M.O., Thurbide K.B.

0792 *Assessing Historical Documents Using Visible and Near IR Hyperspectral Imaging* [§]Goltz D.M., Cloutis E., Attas E.M., Young G., Begin P., Murphy M., Craig-Bullen C.

0793 *Assessment of Photographic Materials Using Spectroscopy* Horwood C., Cloutis E., Ridgen R., [§]Goltz D.M.

0794 *Method Intercomparison for the Analysis of ^{239/240} Pu in Human Urine* Li C., Larivière D., Elliot N., Evans D., Inn K., Pappas S., Smith J.

0795 *Protection of DNA Photodamage by Tryptophan* Oladepo S.A., [§]Loppnow G.R.

0796 *Covalently Bonded Protein Surfaces on PMMA: Characterization by X-Ray Photoelectron Spectroscopy and Atomic Force Microscopy* Nelson G.W., [§]Horton J.H.

0797 *Applications of Dual-View Imaging in Single-Molecule Fluorescence Microscopy* [†]Paige M.F., [‡]Lu Y.

0798 *Kinetics and FRET Measurements of Photosensitizers Verteporfin and Lemteterporfin Causing Singlet Oxygen Mediated Apoptosis in CV-1 Cells* [†]Kelly N.M., Campbell C., Fecica M., [‡]Cramb D.T.

0799 *Stability of 4-(Dimethylamino)pyridine Stabilized Gold Colloids in the Presence of Halide Ions and its Electrochemical Evaluation* [†]Vivek J.P., [‡]Burgess I.J.

0800 *Covalent Attachment of Glycolipid GMI to a Gold Surface Modified by an Aminothiols: First Stage for the Construction of a Tethered-Bilayer Lipid Membrane* [†]Kycia A., Lipkowski J., Merrill R.

0801 *Spectroscopic and Electrochemical Study of Pt-Based Nanoporous Materials* [†]Wang J., Asmussen R.M., Thomas D.F., Chen A.

0802 *Mechanism of Electron Transfer (ET) through α -Helical Peptides* [†]Mandal H.S., [‡]Kraatz H.-B.

0803 *Atomic Force Microscopy Study of the Mechanism of Cellulose Biodegradation* [†]Quirk A.L., Roscoe S.G., Clarke A., Dutcher J., [‡]Lipkowski J., McLachlan J., Vandenende C.

0804 *Electronic Properties of Semiconducting Polymer-Based Hybrid Materials* [†]Pillai R.G., Zhao J.-H., Thomson D.J., Freund M.S.

0805 *Anomalous pH Dependent Electrochemistry of 4-Mercaptobenzoic Acid Self-Assembled Monolayers on Gold Electrodes* [†]Rosendahl S.M., [‡]Burgess I.J.

0806 *Calculations of Electron Transport through Substituted Benzenes* [†]Smeu M., Wolkow R.A., [‡]DiLabio G.A.

0807 *Corrosion Protection of Stainless Steel by Poly(anilineboronic acid) Coatings* [†]Sailer M., Deore B.A., [‡]Freund M.S.

0808 *Antibody-Linked Hydrogels as Ultrasonically-Active Biosensors* [†]Dion J.R., Burns D.H.

0809 *Detecting DNA Damage with Fluorescent Hairpin Probes on Microarray Slides* [†]Pinnock C.L., Loppnow G.R., Kundu L.M.

0810 *Evaluation of Antibody-Delivered Urease Therapy for Lung Cancer* [†]Bravo Grimaldo E., Fulton C., [‡]Jackson M., Chao H., Wong W., Tian B., DeLuca C., Zhang J., Mackenzie R.

0811 *Near-Infrared Spectral Imaging of Myocardial Infarction in vivo: Real-Time Discrimination of Viable and Necrotic Cardiac Tissue* [†]Manley D.M., Yang Y., Xiang B., Jilkina O., [‡]Kupriyanov V.V.

0812 *Detection of Glycoproteins Using Fluorescence Attenuation by Glycodendrimer-Coated Gold Nanoparticles* [†]Bogdan N., Roy R., [‡]Morin M.

0813 *His6-Tagged Proteins Bound to Thiol-NTA and Diazonium-NTA Monolayer Surfaces on Gold: Effects of Analyte Size, Monolayer Density, and Composition* [†]Smith A.D.E., Shang H., Zhang G., [‡]McDermott M.T.

0814 *MR Image Acquisition of Solids Using Modified Single Point Imaging Techniques* [†]Gruwel M.L.H., Latta P., Volotovskyy V.V., Sebastian R., Sramek M., Tomanek B.

0815 *Modeling of Wheat Drying Using Magnetic Resonance Imaging* [†]Ghosh P.K., Jayas D.S., Smith E.A., Gruwel M.L.H., White N.D.G., Zhilkin P.A.

0816 *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., Juurlink B.H., Kulyk W., [‡]Gough K.M.

0817 *Morphological Effects on the Binding between IgG and Gold Labeled Anti-IgG in a Diffraction Based-Biosensor* [†]Valiani J.J., [‡]Paige M.F.

0818 *Application of Capillary Electrophoresis with Novel Dynamic Coatings and On-Column Stacking to the Sensitive Determination of Isomeric Benzoic Acids in Atmospheric Aerosols and Vehicular Emissions* [†]Dabek-Zlotorzynska E., Piechowski M.

0819 *Characterization of Immobilized Trypsin and Chymotrypsin Prepared by Cross-Linking with Glutaraldehyde* [†]Nguyen Q.V., Gan S.-M., [‡]Waldron K.C.

0820 *Flow-Counterbalanced Capillary Electrophoresis Using Multiple Capillaries* [†]Holliday A.E., Zha W., Chen D.D.Y.

19:00 End of Session

Biological and Medicinal Chemistry

BM3 **WCC-Room 11**

Enzyme Structure-Function

Organizer(s) - John Honek
Chair(s) - John Honek

13:40 0821 *IMP Dehydrogenase and the Dynamics of Drug Selectivity* [†]Hedstrom L., Yang W.

14:20 0822 *Inhibition of the Thiamin Diphosphate-Dependent Enzyme MenD, a Proposed Target for Anti-Tubercular Agents* [†]Palmer D.R.J., Fang M., Ho K., McNeil M.

14:40 0823 *Mutational Analysis of the Active Site Flap of Mandelate Racemase* [†]Bearne S.L., Bourque J.R.

15:00 Coffee Break

15:20 0824 *Control of Nitric Oxide Synthase Activity by Calmodulin and a Caged Inhibitor* [†]Guillemette J.G., Spratt D.E., Montgomery H.J., Newman E., Perdicakis B., Jervis E.J.

16:00 0825 *On the Substrate Specificity of Nucleotidyltransferases* [†]Jakeman D.L., Timmons S.C., Knowles S.A., Mosher R.H.

16:20 0826 *A Detailed Evaluation of the Efficacy of Filter/Filter and Filter/Edited Experiments in Multi-Dimensional, Multi-Nuclear NMR Spectroscopy* [†]McKay R.T., Spryapoulos L., Robertson I., Sykes B.D.

16:40 0827 *Insights into the Substrate Specificity, Inhibition, and Metal Requirement of the Anthrax Lethal Factor* [†]Carbone R.A., Dabous J.R., Courchesne K., [‡]Siemann S.

17:00 End of Session

Chemical Education

CE3 **WCC-Room 7**

Computational Chemistry in Chemical Education (Joint with PT) (joint with PT5)

Organizer(s) - James Xidos
Chair(s) - James Xidos

13:40 0828 *The Abacus Project* [†]Thachuk M.

14:20 0829 *Quantum Chemical Calculation and Interpretation of NMR Parameters for Undergraduates* [†]Bryce D.L., Wasylishen R.E.

14:40 0830 *Analyzing and Interpreting NMR Spin-Spin Coupling Constants Based on Molecular Orbital Calculations* [†]Autschbach J.

15:00 Coffee Break

15:20 0831 *Conformational Analysis of Biphenyls and 1,4-Dihydropyridines* [†]Skonieczny S., Staikova M., Dicks A.P.

15:40 0832 *Electronegativity, Hardness, and the Density-Functional Theory Perspective on Chemical Reaction Phenomena* [†]Ayers P.W.

16:00 0833 *Enhancing the Undergraduate Curriculum through Research Collaborations in a Computational Chemistry Lab* [†]Wetmore S.D.

16:20 Round Table Discussion

Moderator - James Xidos

17:00 End of Session

CEP **WCC-2E-2H**

Posters

Organizer(s) - François Gauvin
Chair(s) - François Gauvin

From 17:00 until 19:00

0834 *A Hands-On Experiment for Children: Mass, Volume, and an Introduction to Crystal Structure* [†]Holliday A.E., Donald L.J.

0835 *Let's Talk Science Partnership Program* [†]Wiegert T.

0836 *Making Science Accessible to Manitoba Youth: The Access Program for Women in Science and Engineering (WISE)* [†]Garces S.

0837 *Creating A BC-Integrated Laboratory Network: The Williams Lake Experience* [†]Lettinga M., Brewer S.E., Cinel B., Cancilla D., Albon S.

19:00 End of Session

Environment

EN6 **WCC-Room 6**

Lake Winnipeg: Chemical and Biological Issues

Organizer(s) - Lyle Lockhart and Gregg Tomy
Chair(s) - Gregg Tomy and Lyle Lockhart

13:40 0838 *Tales Written in Timber: Insights into the Lake Winnipeg Watershed from Tree Rings* [†]St. George S.

14:20 0839 *Isomers of Dechlorane Plus® in Lake Winnipeg and Lake Ontario Food Webs* [†]Tomy G.T., Pleskach K., Ismail N., Helm P.A., Sverko E., Zaruk D., Marvin C.H.

14:40 0840 *Bioaccumulation and Trophic Transfer of some Brominated Flame Retardants in a Lake Winnipeg Food Web* [†]Pleskach K., Halderson T., Danell R.W., Stern G., Gewurtz S., Alaei M., Marvin C., Whittle M., [‡]Tomy G.T.

15:00 Coffee Break

15:20 0841 *Dissolved Oxygen Status of Lake Winnipeg: Insight from Stable Isotope ($\delta^{18}O$) Analyses* [†]Wassenaar L.I.

16:00 0842 *Perfluorinated Alkyl Acids in Biota from Lake Winnipeg* [†]Tomy G.T., Pleskach K., Hare J.H., Kollar S.

16:20 0843 *The Impact of Climate on Lake Winnipeg Water Quality* [†]Stanton M., Hesslein R., McCullough G., Hendzel L.

16:40 0844 *Is Watershed Phosphorus the Sole Factor behind Lake Winnipeg N-Fixing Algal Bloom Proliferation?* [†]Salki A.G., Hann B., Watkinson D., Kling H.

17:00 End of Session

ENP **WCC-2E-2H**

Posters

Organizer(s) - Ken Friesen
Chair(s) - Ken Friesen

From 17:00 until 19:00

0845 *Temporal Variations of Tropospheric Mercury in Churchill* [†]Armstrong D., Steffen A., Stern G., [‡]Wang F.

0846 *Enantiomeric Composition of Chiral Pharmaceuticals in Surface Waters and Wastewaters* [†]MacLeod S.L., Nikolai L.N., Sudhir P., [‡]Wong C.S.

0847 *Chlorinated Diphenyl Ethers in Sediments, Biota, and the Water Column from Coastal British Columbia, Canada* [†]Rayne S., Ikonomou M.G., Garrett C.

0848 *Use of Chiral Signatures to Distinguish Contaminant Sources near a Hazardous Waste Incinerator in Swan Hills, Alberta* [†]Asher B.J., [‡]Wong C.S.

0849 *Enantiomer Fractions of Chiral Superhydrophobic PCBs in Estuarine Sediment and Biota* [†]Ross M.S., Chow E.A., Ejsmont M.B., Maruya K.A., [‡]Wong C.S.

0850 *Strong or Weak Interstate Coupling in the Radiationless Decay of the Higher Excited States of Substituted Metalloporphyrins? Do C-H Vibrations Act as Accepting Modes?* [†]Liu X., Steer R.P.

0851 *The Effect of Solvent Properties and Vibrational Excitation of Magnesium Tetraphenylporphine in the S₂ State on the Spectral and Photophysical Properties MgTPP in the S₁ State.* [†]Kowalska D., Steer R.P.

0852 *Supramolecular Host Properties of Three Fluorescent Cage Compounds* [†]Wagner B.D., Boland P.G.

0853 *Investigation of Filament Aging and H₂-Etching Effect in the Process of the Hot Wire CVD with Silacyclobutane as a Source Gas* [†]Tong L., Shi Y.

0854 *Microwave and Ab Initio Studies of Nitrous Oxide Solvated with Hydrogen Molecules* [†]Landry J.N., [‡]Jager W.

0855 *High Accuracy Near-Infrared Spectroscopy of Carbon Dioxide for Atmospheric Applications* [†]Predoi-Cross A., Vasudevan A.U., Liu W., Schofield I., McKellar A.R.W., Neil W.S., Hurtmans D.

0856 *Methane Speed-Dependent Line Mixing Profiles* [†]Predoi-Cross A., Vasudevan A.U., Heung H., Devi V.M., Brown L.R.

0857 *High Resolution Rovibrational Spectra of Five-Membered Rings with Heteroatoms: New Results from the Canadian Light Source* [†]van Wijngaarden J.A., Tokaryk D.W.

0858 *Detecting the Gas-Phase Reaction Products from NH₃/SiH₄ in a Hot Wire Chemical Vapor Deposition Reactor by Laser-Induced Electron Impact Ionization Mass Spectrometry* [†]Eustergerling B.D., Heden M., [‡]Shi Y.J.

0859 *The Canadian Arctic Validation of ACE Campaign Project: Measurements of Ozone over the Arctic in Spring 2004, 2005, 2006 and 2007* [†]Walker K.A., Strong K., The Canadian Arctic Validation of ACE Ca

19:00 End of Session

Inorganic Chemistry

IN1 **WCC-Room 3**

Concepts and Models in Bioinorganic Chemistry

Organizer(s) - Heinz-Bernhard Kraatz and Pierre Kennepohl
Chair(s) - Heinz-Bernhard Kraatz

13:40 0860 *Understanding Metal-Ion Control of S-Nitrosothiol Stability and Reactivity* [†]English A.M., Timerghazin Q.K., Peslherbe G.H.

14:20 0861 *Properties of the Copper Complexes of the β -Amyloid Peptide of Alzheimer's Disease: Ab Initio and Molecular Dynamics Studies* [†]Raffa D.F., Rickard G.A., [‡]Rauk A.

14:40 0862 *Investigation of Cysteine and Methionine Oxidation Using X-Ray Absorption Spectroscopy* [†]Karunakaran A., [‡]Kennepohl P.

15:00 Coffee Break

15:20 0863 *Metal Binding in Metallothioneins* [†]Stillman M.J.

16:00 0864 *Biosynthesis of the [NiFe]-Hydrogenase Enzymes: The Nickel Insertion Step* Zamble D.B.

16:40 0865 *Structural Studies of the Ni Trafficking Proteins: HypA and Nur* Kennedy D.C., [†]Maroney M.J.

17:00 End of Session

IN2 WCC-Room 4

Main Group Compounds in Catalysis, Materials Research and Biochemistry

Organizer(s) - Lothar Stahl and Paul Ragogna
Chair(s) - Jens Müller

13:40 0866 *Dithienophospholes - Valuable Building Blocks for Organic Electronics* Dienes Y., Durben S., [†]Baumgartner T.

14:00 0867 *A New Class of Organometallic Probes for Correlated In Vitro and In Vivo Imaging* Armstrong A.F., Besanger T.R., [†]Valliant J.F.

14:20 0868 *Ternary Nitrides for Hydrogen Storage: Li-B-N, Li-Al-N and Li-Ga-N Systems* Langmi H.W., McGrady G.S.

14:40 0869 *Metallacyclophanes Bridged by Heavier Group 13 Elements: Electrochemistry of [1.1]Metallacyclophanes and Initial Studies on Ring-Opening Polymerization of Strained [1]Metallacyclophanes* Schachner J.A., Lund C.L., Orłowski G.A., Kraatz H.-B., [†]Müller J.

15:00 Coffee Break

15:20 Alcan Award Lecture presented by Suning Wang

Introduction of Suning Wang by Robert Morris

15:20 0870 *Three-Coordinate Organoboron: Impact of Molecular Geometry on Donor-Acceptor Charge Transfer Emission and Applications* [†]Wang S., Bai D.R., Liu X.Y., Sun Y., Ross N., Zhao S.B., McCormick T.M., Jia W.L., Cui Y., Martić S.

16:00 0871 *Group 15 Boraamidates: Solution Behavior and Redox Reactions of the 1:2 Complexes, LiM[PhB(NBu)₂]₂ (M = As, Sb, Bi)* Konu J., Chivers T.

16:20 0872 *Highly Fluorescent BN-Analogues of Phenanthrene* Jaska C.A., Bosdet M.J.D., Parvez M., [†]Piers W.E.

16:40 0873 *Synthesis, Spin Communication, and Coordination Chemistry of a Robust Tridentate Diradical Ligand* Anderson K.J., [†]Hicks R.G., Gilroy J.B., McDonald R., Ferguson M.J., Patrick B.O.

17:00 End of Session

IN5 WCC-Room 9

Solid-State Chemistry for Energy Conversion (Joint with MT) (joint with MT7)

Organizer(s) - John Greedan
Chair(s) - Matthew Rosseinsky and Allan Jacobson

13:40 0874 *Oxides with Colossal Dielectric Constants: CaCu₃Ti₄O₁₂ and Related Phases* [†]Subramanian M.A.

14:20 0875 *BiAlO₃: A High-T_c Ferroelectric, and a Performance-Enhancing Additive to Dielectric LaAlO₃* [†]Zylberg J., [†]Ye Z.-G., Belik A.A., Takayama-Muromachi E.

14:40 0876 *Synthesis and Characterization of a Re-Entrant Relaxor Solid Solution* Lei C., [†]Ye Z.-G.

15:00 Coffee Break

15:20 0877 *New Ambient Pressure Bismuth Transition Metal Oxide Phases* Bridges C.A., Hughes H., Allix M.M.B., Kuang X., Claridge J.B., [†]Rosseinsky M.J.

15:40 0878 *Crystal and Magnetic Structures of Perovskite Oxyfluorides, PbFeO₂F and PbFe_{0.5}Ti_{0.5}O_{2.5}F_{0.5}, Synthesized at High Pressure* Greedan J.E., Katsumata T., Takase A., Inaguma Y., Barbier J., Cranswick L.M.D., Bieringer M.

16:00 0879 *Synthesis and Characterization of Oxynitrides, Oxyfluorides and Nitride Oxyfluorides for Use as Photocatalysts, Pigments and Transparent Conductors* [†]Woodward P.M., Seibel H.A., Kim Y.I., Dolgos M.R.

16:40 0880 *Oxides for Catalytic Water Splitting* [†]Bieringer M.

17:00 End of Session

Macromolecular Science and Engineering

MS5 Delta-A

Polymers for Nanoscience and Nanotechnology (Joint with MT) (joint with MT6)

Organizer(s) - Wai Kin Chan and Yue Zhao
Chair(s) - Alex Adronov

13:40 0881 *Cyclic and Toroidal Polymers Prepared Using "Click" Chemistry* [†]Grayson S.M., Laurent B.A., Eberle J.

14:20 0882 *Enhanced Fluorescence Emission and its Photochromic Switching in Polymer Films: Realization of High Performance Optical Memory* [†]Park S.Y.

15:00 Coffee Break

Chair - Alex Adronov

15:20 0883 *Polyesterkaolinite Intercalated Nanocomposites* Elboki T.A., Detellier C.

15:40 0884 *Poly(salphenyleneethynylene)s: Soluble, Conjugated Metallopolymers* Leung A.C.W., [†]MacLachlan M.J.

16:00 0885 *Integration of Self-Assembled Nanoscale Metallic Interconnects with Semiconductors* McClure S., [†]Buriak J.M.

16:20 End of Session

Materials Chemistry Division

MT1 WCC-Room 10

Applications of Synchrotron Analysis of Materials (Joint with PT) (joint with PT2)

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

13:40 0886 *Synchrotron Infrared Spectromicroscopy in the Study of Microstructured Organic Materials, Biopolymers and Composites* Quaroni L.

14:20 0887 *X-Ray Linear Dichroism in Biominerals* [†]Gilbert P.U.P.A.

15:00 Coffee Break

15:20 0888 *Progress in X-Ray Microprobe Analysis of Inhomogeneous Materials: Meteorites and Minerals* Cavell R.G., Cavell P.A., Gordon R.A.

15:40 0889 *Shining Light onto Photonic Materials: Soft X-Ray Studies of Electroactive Organic Complexes* [†]Blyth R.I.R.

16:20 0890 *Molecular Ordering in a SmA_b Studied by Scanning Transmission X-Ray Microscopy (STXM)* [†]Hegmann T., Kaznatcheev K.

16:40 End of Session

MT4 Delta-B

Nanoparticles and Quantum Dots: Synthesis, Characterisation and Applications

Organizer(s) - Frank van Veggel
Chair(s) - Frank van Veggel

13:40 0891 *Synthesis and Spectroscopy of Lanthanide-Doped Nanoparticles* Boyer J.-C., [†]Capobianco J.A.

14:20 0892 *Synthesis, Coating, and Characterization of Upconversion Nanophosphors for Photodynamic Therapy* [†]Shan J., Qin X., [†]Ju Y.

14:40 0893 *Synthesis and Crystal Structure of Lanthanide Fluoride Nanoparticles* Dong C., [†]van Veggel F.C.J.M.

15:00 Coffee Break

15:20 0894 *Block Copolymer-Coated Quantum Dots: Self-Assembly of Nanoscale Building Blocks on Multiple Length Scales* Moffitt M.G., Guo Y., Wang C.-W., Cheyne R.B., Yusuf H., Schabas G., Sinton D.

16:00 0895 *Multinuclear Solid-State NMR Spectroscopy of Doped Lanthanum Fluoride Nanoparticles* [†]Schurko R.W., Lo A.Y.H., Sudarsan V., Sivakumar S., van Veggel F.C.J.M.

16:40 0896 *Interactions between Metallic Nanoparticles and Blood* Gao Y., Ritchie B., [†]Buriak J.M.

17:00 End of Session

MT6 Delta-A

Polymers for Nanoscience and Nanotechnology (Joint with MS) (joint with MS5)

Organizer(s) - Wai Kin Chan and Yue Zhao
Chair(s) - Alex Adronov

13:40 Joint with Macromolecular Science and Engineering Division - See MS5

16:20 End of Session

MT7 WCC-Room 9

Solid-State Chemistry for Energy Conversion (Joint with IN) (joint with IN5)

Organizer(s) - John Greedan
Chair(s) - Matthew Rosseinsky and Allan Jacobson

13:40 Joint with Inorganic Chemistry Division - See IN5

17:00 End of Session

Organic Chemistry

OR3 WCC-Room 15

Carbohydrates in Medicine and Drug Discovery

Organizer(s) - Frank Schweizer
Chair(s) - Frank Schweizer

13:40 0897 *Rare and Branched Sugars - Diverse Families of Nutraceuticals with Scaffold Potential* [†]Fleet G.W.J.

14:20 0898 *Isolation and Characterization of Biologically Active Polysaccharides from Green Seaweeds* Reyes Suárez E., Zhang L., Kralovec J.A., Kai F.B., Bugden S., Ewart H.S., Barrow C.J., [†]Grindley T.B.

14:40 0899 *Stereoselective Synthesis of Polyhydroxylated Quinolizidines, Indolines and Oxindoles from C-Glycosides* Zou W.

15:00 Coffee Break

15:20 0900 *Biosynthesis, Structure and Function of Ebola Virus Glycoproteins* Feldmann H.

16:00 0901 *C-Linked Antifreeze Glycoprotein Analogues: Designing Novel Cryoprotectants* [†]Ben R.N.

16:40 0902 *Synthetic and Biochemical Investigations Related to Cell Wall Polysaccharides from Mycobacterium tuberculosis* [†]Lowary T.L.

17:20 0903 *Design, Synthesis and Bioactivity of Novel Aminoglycoside Derivatives* [†]Schweizer F., Bera S.

17:40 0904 *Engineering Central Carbon Metabolism in E. coli to Enhance Phenylalanine Production* [†]Yakandawala N., Romeo T., Friesen A.D., [†]Madhyastha S.

18:00 End of Session

OR4 WCC-Room 1

Green Chemistry for Chemical Synthesis

Organizer(s) - C.J. Li and Robert Singer
Chair(s) - Robert Singer

13:40 0905 *Recent Progress in Green Lewis Acid Catalysis for Organic Synthesis* [†]Ollevier T.

14:20 0906 *Towards the Use of P450 Enzymes CYP3A4 and CYP2D6 as Biocatalysts* [†]Auclair K.

15:00 Coffee Break

15:20 0907 *A Green Chemistry Approach to Asymmetric Catalysis: Solvent-Free and Tandem Reactions* [†]Walsh P.J., Li H., Salvi L., Jeon S.J.

16:00 0908 *Metal Chelates from a New Class of Task Specific Ionic Liquids* [†]Singer R.D., Harjani J.R.

16:20 0909 *Exploring New Chemical Reactivity for Synthetic Efficiency* Li C.-J.

17:00 End of Session

OR6 WCC-Room 2

Metal-Catalyzed Organic Synthesis

Organizer(s) - Andrew Wee and Laurel Schafer
Chair(s) - Glenn Sammis

13:40 0910 *Enantioselective C-H Functionalization: Applications in Organic Synthesis* Davies H.M.L.

14:20 0911 *Catalytic Enantioselective Preparation of α -Substituted Allylboronates and a Practical Solution to their Stereocontrolled Addition to Aldehydes* Carosi L., [†]Hall D.G.

14:40 0912 *From Room Temperature Reactivity to the Synthesis of Amino Alcohols and Chiral N-Heterocycles: Developing a More Powerful Hydroamination Precatalyst* Bexrud J.A., [†]Schafer L.L.

15:00 Coffee Break

15:20 0913 *Synthesis of Partially Fluorinated Aromatics via Selective C-F Activation* [†]Love J.A., Wang T., Alfonso B.

16:00 0914 *Catalytic Asymmetric Synthesis of Helicenes via Chiral Olefin Metathesis Catalysts* Grandbois A., [†]Collins S.K.

16:20 0915 *Transition Metal-Catalyzed Cyclometallation of 1,5-Bisallenenes* [†]Ma S.

17:00 End of Session

OR11 WCC-Room 12

General - Modern Synthetic Methods

Organizer(s) - Bryan Hill
Chair(s) - Bryan Hill

13:40 0916 *A Non-Racemic Synthesis of trans-Epoxyde Containing Insect Sex Pheromones* Britton R.A., Kang B., Gilchrest T., Chan A.

14:00 0917 *The Total Synthesis of (+/-)-Decursivine and both Antipodes of Balasubramide* Leduc A.B., [†]Kerr M.A.

14:20 0918 *Cobalt-Mediated [5+2] Cycloaddition Reaction: An Efficient Entry to Seven-Membered Ring Products with Unique Hapticity* Yijoki K.E.O., [†]Stryker J.M.

14:40 0919 *Dibenzocycloheptenes via Intramolecular Nicholas Reactions: Formal Synthesis of Allocolchicine NSC 51046* [§]Green J.R., Djurdjevic S.

15:00 Coffee Break

15:20 Chair - Pascal Dubé

15:20 0920 *Stereoselective Synthesis of Isofebrifugine and (-)-Sedacryptine from a Common Bicyclic δ -Lactam Lactone* **Wee A.G.H.**, Fan G.-J.

15:40 0921 *Tandem Nazarov Cyclization/ [4+3]-Cycloadditions: An Efficient Entry into Keto-Bridged Cyclooctenes* **Rieder C.J.**, West F.G.

16:00 0922 *Total Synthesis of Eustifolines A-D and Glycomaurrol via a Divergent Diels-Alder Strategy* **Lebold T.P.**, [§]Kerr M.A.

16:20 0923 *Total Synthesis of (-)-Conocarpan and Revision of Absolute Configuration of Natural (+)-Conocarpan* **Stoffman E.J.L.**, [§]Clive D.L.J.

16:40 0924 *An Enantiodivergent Approach to Pillaromycinone* **Hill B.**, [§]Rodrigo R., Qu Y., Jordan R.

17:00 End of Session

Physical, Theoretical & Computational

PT2 WCC-Room 10

Applications of Synchrotron Analysis of Materials (Joint with MT) (joint with MT1)

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

13:40 Joint with Materials Chemistry Division - See MT1

16:40 End of Session

PT3 WCC-Room 13

Biocomputational Chemistry

Organizer(s) - Chérif Matta
Chair(s) - Stacey Wetmore

13:40 0925 *Structure and Properties of DNA and Proteins: Stabilization Energies of DNA Base Pairs and Amino Acid Pairs* **Hobza P.**

14:20 0926 *Computational Modeling of Nucleobase-Amino Acid Interactions Utilized by DNA Alkylation Repair Enzymes* **Rutledge L.R.**, [§]Wetmore S.D.

14:40 0927 *Dual space analysis of outer valence response to amino-imino proton transfer in Adenine tautomers* **Saha S.**, Wang F., Brunger M. J.

15:00 Coffee Break

15:20 0928 *Partitioning of Small Molecules in Lipid Bilayers* [§]Tieleman D.P., Bennett W.F.D., MacCallum J.L.

15:40 0929 *Computer-Aided Prediction of Bioresponse for Combinatorial Libraries of Biodegradable Polymers* **Gubskaya A.V.**, Kholodovich V., Knight D., [§]Kohn J., Welsh W.J.

16:00 0930 *Examining the Infrared Spectra of Biomolecules: A DFT Study of Peptides and Lipids* **Tzadu L.**, Welshman T.L., Gough K.M.

16:20 0931 *Computational Study of the Deamination Reaction of Cytosine with (H₂O)_n/OH (n=1, 2)* **Almatarneh M.**, Flinn C., Poirier R.A.

16:40 0932 *Proton-Transfer and Electron-Transfer Dissociations of Cu(II) Complexes of Amino Acids* **Orlova G.**

17:00 End of Session

PT5 WCC-Room 7

Computational Chemistry in Chemical Education (Joint with CE) (joint with CE3)

Organizer(s) - James Xidos
Chair(s) - James Xidos

13:40 Joint with Chemical Education Division - See CE3

17:00 End of Session

PT9 WCC-Room 8

Microscopy and Biophysical Chemistry (Joint with AN) (joint with AN8)

Organizer(s) - Matthew Paige and David McMillen
Chair(s) - David McMillen

13:40 Joint with Analytical Chemistry Division - See AN8

17:00 End of Session

PT11 Delta-C

Post-Modern Electrochemistry (Joint with AN) (joint with AN10)

Organizer(s) - Sylvie Morin, Ian Burgess and Alexandre Brolo
Chair(s) - Mario Morin and Sharon Roscoe

13:40 Joint with Analytical Chemistry Division - See AN10

16:40 End of Session

Undergraduate Student Poster Competition

UPCAN WCC-2E-2H

Analytical Chemistry

Organizer(s) - Michael Eze
Chair(s) - Michael Eze

From 17:00 until 19:00

0933 *In situ UV Spectroscopic Study of the Photoelectrochemical Oxidation of Nitrophenols* **Asmussen R.M.**, Chen A.

0934 *The Separation of Glycopeptides from Peptides in Bovine α 1-Acid Using Various Stationary Phases* **Bennett M.**, Snovida S.I., [§]Perreault H., Lattova E.

0935 *Gas Phase Determination of Arrhenius Parameters* [§]Klassen J.S., Kitova E.N., **Ko K.** PAPER WITHDRAWN

0936 *Determination of Molecular Dimensions of a Glutamic Acid Based Dendrimer by Atomic Force Microscopy* **Leontowich A.F.G.**, Qaqish S., Appoh F., Kraatz H.-B., Scott R.W.J., [§]Paige M.F.

0937 *Retention and Behavior of N-, S-, O- Petroleum Compounds Using High Temperature Normal Phase HPLC* **Liang C.**, Paproski R.E., [§]Lucy C.A.

0938 *Oxidative DNA Damage: Novel Detection with Molecular Beacons* **Mah A.**, Loppnow G.R.

0939 *Investigation of L-Cysteine Adsorbed onto Gold Surfaces by Surface Enhanced Raman Spectroscopy (SERS)* **Mocock C.M.**, Brolo A.G.

0940 *Arsenic Speciation in Typha latifolia Using HPLC-ICPMS* [§]Le X.C., [§]Lu X., **Nguyen N.**

0941 *The Design of a Visual Basic Application for the Assisted Assignment of Released Glycans in MALDI Spectra* **Rak-Banville J.M.**, Snovida S.I., [§]Perreault H.

0942 *Tryptic Digestions in Organic-Aqueous Solutions: An Optimized Solvent System for Proteome Digestion and Analysis by Mass Spectrometry* **Simms G.A.**, Doucette A.A.

19:00 End of Session

UPCBM WCC-2E-2H

Biochemistry

Organizer(s) - Michael Eze
Chair(s) - Michael Eze

From 17:00 until 19:00

0944 *Chemical Studies on Agaricus bisporus* **Coudiere E.**, [§]Ata A.

0945 *Phytochemical studies on Pagiantha dichotoma* **Hawranik D.**, [§]Ata A.

0946 *New Bioactive Steroidal Alkaloids from Buxus hyrcana* **Iverson C.**, [§]Ata A., Meshkatsadat M.H.

0947 *Identification of in vivo Protein-Protein Interactions Required for Bacterial Siderophore Biosynthesis* **Kolokythas S.**, [§]Pawelek P.D.

0948 *Phytochemical and Structural Studies on the Chemical Constituent of the Bark of Vitex pinnata* **Negasi Y.Y.**, Udenigwe C.C., [§]Ata A., Samarasekera R.

0949 *Analytical Method Development for Detecting Biodegradation of Perfluorooctane Sulfonate (PFOS)* [§]Brewer S.E., VanHamme J., Tomlinson S.

19:00 End of Session

UPCIN WCC-2E-2H

Inorganic Chemistry

Organizer(s) - Michael Eze
Chair(s) - Michael Eze

From 17:00 until 19:00

0950 *N-Heterocyclic Carbene Stabilized Group 14 Atoms* **Bomben P.G.**, [§]Macdonald C.L.B.

0951 *Novel Rhodium Complexes Containing Arylspiroborate Esters as Catalyst Precursors for the Borylation of Vinylarenes* **Burford R.J.**, Geier M.J., Vogels C.M., Decken A., [§]Westcott S.A.

0952 *Heavy Atom Radicals as Conductive and Magnetic Materials* **Cvrkalj K.**, Leitch A.A., Oakley R.T.

0953 *Synthesis and Characterization of a Zwitterionic Amido Ligand and its Transition Metal Complexes* **Doster M.E.**, [§]Johnson S.A.

0954 *Metallo dielectric Particle and Composite Templates* **Hartlen K.**, Kitaev V.

0955 *Lactide Polymerization Catalyst Development: Synthesis and Characterization* **Ireland B.J.**, [§]Hayes P.G.

0956 *Structure and Properties of a new Barium Copper Selenide-Telluride* **Kuropatwa B.**, Assoud A., [§]Kleinke H.

0957 *Synthesis and Characterisation of Oligothiophenes with Thiocyanato Substituents* **Morgan I.S.**, [§]MacKinnon C.D., Hudolin M.L., Chen A., Jenkins H.A.

0958 *Synthesis of Amino Acid Conjugates of 1,1-Dimethylferrocene* **Prokopchuk D.E.**, [§]Kraatz H.-B.

0959 *Using Solid State ¹³C MAS-NMR to Answer Archeological Questions* **Rudiger A.T.**, [§]Clewett C.F.M., Alam T.M., Stone E.A.

0960 *Telechelic Poly(methylenephosphine)s: Starting Materials for New Amphiphilic Block Copolymers* **Wissenz J.M.**, Noonan K.J.T., Gates D.P.

0961 *Synthesis and Structures of 1,2,4,6-Thiaziazine Derivatives* **Yu X.(K.)**, [§]Boeré R.T., Roemmele T.L.

19:00 End of Session

UPCOR WCC-2E-2H

Organic Chemistry

Organizer(s) - Michael Eze
Chair(s) - Michael Eze

From 17:00 until 19:00

0962 *Donor-Acceptor Oligothiophenes with the Nitro Group as the Acceptor Moiety* **Andreychuk N.R.**, [§]MacKinnon C.D., Sinnemaki L.C., Johnson M.J., Sears W.A., Sears W.M., Robertson C.M.

0963 *Enzyme-Assisted Enantioselective Acetylation of 2,2-Dimethyl-3-aryl-1,3-propanediols* **Deveau M.**, Youssef D., Mukherjee C., [§]Jha A.

0964 *Aldehyde Cross Coupling Catalyzed by Nucleophilic Carbenes for Use in Activity-Based Protein Profiling* **Hoop K.A.**, McKay C., [§]Pezacki J.P.

0965 *Synthesis and Characterization of Bulky N-Substituted Pyrroles and their Polymers* **Johnson M.**, Burgess I.J., [§]Foley S.R.

0966 *Linear Free Energy Correlation Analysis of the Electronic Effects of the Substituents in the Sonogashira Coupling Reaction* **Kraft T.M.**, [§]Gottardo C., Zawada P.V., Hossain M.S., Muchall H.M.

0967 *Enzyme-Assisted Kinetic Resolution of Novel 2-Naphthol Mannich Bases* **MacLean E.**, Mukherjee C., [§]Jha A., Cameron S.

0968 *Synthesis of Sulphur Functionalized Bent-Core Liquid Crystalline Compounds* **Marx V.M.**, [§]Hegmann T.

0969 *Kinetic Study of Hydroxyfluorenes in the Excited State* **Messier T.**, Lukeman M.

0970 *Phototransformation of the Trifluoromethyl Group in Hydroxybiaryls* **Milligan M.**, Lukeman M.

0971 *Synthesis of New Quaterphenyl Molecules* **Reid M.S.**, Reed J.N.

0972 *The Application of Microreactor Technology to a Buchwald-Hartwig Amination* **Worfolk B.**, Moore E., Coggan J.A.

0973 *New Nitrophenyl Acetate Photocages* **Yorke M.J.**

19:00 End of Session

UPCPT WCC-2E-2H

Physical Chemistry

Organizer(s) - Michael Eze
Chair(s) - Michael Eze

From 17:00 until 19:00

0974 *X-Ray Photoelectron Emission Microscopy and Atomic Force Microscopy of a Phase Separated Langmuir Blodgett Film* **Christensen S.L.**, Qaqish S., Lanke U.D., [§]Urquhart S.G., [§]Paige M.F.

0975 *Adsorption of p-Arsanilic Acid on Model Geosorbents: ATR-FTIR Studies* **DePalma S.**, Cowen S., [§]Al-Abadleh H.

0976 *Computational Study of Reactions with Negative Activation Energies: Alkenes + O(¹P)* **Enfield A.L.**, [§]Mora-Diez N.

0977 *Computational Study of a Baeyer-Villiger Reaction* **Keller S.N.**, Mora-Diez N., Alvarez-Idaboy J.R.

0978 *Binding Interactions of the Universal Nucleobase Azole Carboxamide* **Przybylski J.L.**, Wetmore S.D.

19:00 End of Session

Wednesday AM

Analytical Chemistry

AN1 WCC-Room 12

Advances in Analytical and Environmental Chemistry (Joint with EN) (joint with EN1)

Organizer(s) - Stephen Duffy
Chair(s) - Stephen Duffy and Douglas Goltz08:40 0979 *The Investigation of Polychlorinated Biphenyl (PCB) Contaminated Sediments in Saglek Bay, Labrador* [§]Reimer K.J., [§]Sheldon T.A.

09:00 Maxxam Award Lecture presented by Ralph Sturgeon

Introduction of Ralph Sturgeon by Joseph Caruso

09:00 0980 *Reference Materials, Traceability and Uncertainty: New Challenges for the Analytical Community* Sturgeon R.

09:40 Coffee Break

10:00 0981 *Thermally Assisted Membrane Introduction Mass Spectrometry Using a Coaxially Heated Hollow Fibre Membrane Interface for the Analysis of Semi-Volatile Molecules* Creba A.S., Thompson A.J., Gill C.G., Krogh E.T.10:20 0982 *A Mechanism Kinetics Model for Chlorothalonil in Simcoe Soil* [§]Gamble D.S.10:40 0983 *Sample Preparation for the Determination of Halogenated Contaminants in Environmental Matrices Using Accelerated Solvent Extraction (ASE)* Babcock C., [§]Henderson S.E.11:00 0984 *Calibration and Field Deployment of a Passive Sampling Device for Pharmaceuticals in Surface Water* [§]MacLeod S.L., [§]Wong C.S.11:20 0985 *Solid Phase Microextraction of Macrolide, Trimethoprim and Sulfonamide Antibiotics in Wastewaters* McClure E.L., [§]Wong C.S.

11:40 End of Session

AN10 Delta-C

Post-Modern Electrochemistry (Joint with PT) (joint with PT11)

Organizer(s) - Sylvie Morin, Ian Burgess and Alexandre Brolo
Chair(s) - Peter Pickup and Ian Burgess08:20 0986 *On the Origin of Mesoscopic Inhomogeneity of Conducting Polymers* [§]Semeniknin O.A.08:40 0987 *Laser-Based Techniques for the Preparation of Metastable and Nanostructured Materials in Electrochemistry and Electrocatalysis* [§]Guay D.09:00 0988 *Voltammetry at Spatially Heterogeneous Electrodes* [§]Compton R.G., Ward Jones S.E., Wildgoose G.G., Davies T.J.

09:40 Coffee Break

10:00 0989 *The Use of Hot Microelectrodes and Faradaic Rectification Currents in Scanning Electrochemical Microscopy* [§]Baranski A.S., Boika A.10:20 0990 *Electrochemical Oxidation of CO Revisited Using Sum Frequency Generation and IR Absorption Spectroscopy* [§]Chou K.C.10:40 0991 *Nernst-Planck Analysis of Traveling Chemical Waves* [§]Leaist D.G.11:00 0992 *Electrocatalysts for Carbon Dioxide Reduction* [§]Pickup P.G., Begum A.11:20 0993 *Oscillations and Bistability During Electrolysis of Sulfide* [§]Chen A., Miller B., Yi Q., Koczur K.

11:40 End of Session

Biological and Medicinal Chemistry

BM7 WCC-Room 8

General

Organizer(s) - Athar Ata
Chair(s) - Jim Diakur08:00 0994 *Synthesis and Biological Evaluation of Stabilized Functionalized Derivatives of Prodigiosin* [§]Thompson A.08:40 0995 *Determination of Biogenic Amines in Foods and Alcoholic Beverages by Ion Chromatography* Babcock C., [§]DeBorba B.M.09:00 0996 *An Alternative Approach to the Direct Fluorination of Aromatic Amino Acids Using Elemental Fluorine: Synthesis of a New PET Tracer For Tumor Imaging* [§]Behnam Azad B., Famcombe T., Saab C., Schrobilgen G.J., [§]Chirakal R.V.

09:20 Coffee Break

10:00 0997 *How the Anthracycline Cardioprotective Drug Dexrazoxane Works in Cardiac and Tumor Cells* [§]Hasinoff B.B.10:40 0998 *Effect of Mating on Pheromone Biosynthesis in Female Tenebrio Molitor (Coleoptera: Tenebrionidae)* [§]Mangat J., [§]Vanderwel D.

11:00 End of Session

Chemical Education

CE1 WCC-Room 7

Chemistry Competitions - Regional, National and International

Organizer(s) - Gordon Bates
Chair(s) - Gordon Bates08:00 0999 *A Quarter Century of the National High School Chemistry Examination, NHSCE: Past, Present, and Future* [§]Abhyankar S.B.08:20 1000 *CHEM 13 NEWS and AVOGADRO Exams: A Historical Perspective* [§]Bissonnette C., Brubacher L.J.08:40 1001 *Thompson River's University Chemistry Contest* [§]Brewer S.E., Bickley D.G., Cinel B.09:00 1002 *Canadian Chemistry and Physics Olympiads* [§]Skonieczny S.09:20 1003 *Identifying and Training Top High School Students - The Ontario Chemistry Olympiad Program* [§]Dicks A.P.

09:40 Student Awards Reception and Student Chapters Presidents Meeting

11:00 Chemistry Competitions - Informal Discussion This time has been set aside for an open discussion regarding the various chemistry competitions. All interested are invited to attend.

11:40 End of Session

Environment

EN1 WCC-Room 12

Advances in Analytical and Environmental Chemistry (Joint with AN) (joint with AN1)

Organizer(s) - Stephen Duffy
Chair(s) - Stephen Duffy and Douglas Goltz

08:40 Joint with Analytical Chemistry Division - See AN1

09:00 Maxxam Award Lecture presented by Ralph Sturgeon

11:40 End of Session

EN2 WCC-Room 11

Applications of Spectroscopy: Remotely and in the Lab (Joint with PT) (joint with PT1)

Organizer(s) - Jennifer van Wijngaarden
Chair(s) - Jennifer van Wijngaarden08:00 1004 *Emission Infrared Spectroscopy Using a Planar Array Infrared Spectrometer* [§]Pellerin C., Pelletier I., Rabolt J.F., Chase D.B.08:40 1005 *Gas-Phase Chemistry in the Process of Hot-Wire Chemical Vapor Deposition of SiC and SiN_x Thin Films* [§]Shi Y.J., Li X.M., Eustergerling B.D., Tong L., Heden M.09:20 1006 *Low Temperature Phase Transitions in Langmuir-Blodgett Films: The Role of Ordered Water on Surfaces* [§]Leach G.W., Johansson T.P.

09:40 Coffee Break

10:00 1007 *Exploring Chirality and Chiral Recognition on the Molecular Level Using Experimental Spectroscopic and Ab Initio Methods* [§]Xu Y.10:40 1008 *ATR-FTIR Spectroscopic Investigations of p-Arsanilic Acid Adsorption on Iron Oxide Nanoparticles* [§]Al-Abadleh H., DePalma S., Crasto G., Cowen S.11:00 1009 *Spectroscopy of Single Semiconductor Nanowires: Pushing the Limit of Raman Confocal Microscopy* [§]Lagugné-Labarthe F.11:20 1010 *Microwave Spectroscopic Studies of ortho-H₂ - HCCCN and para-H₂ - HCCCN Dimers: The First Step to Larger (H₂)_n - HCCCN Clusters* [§]Michaud J.M., Topic W.C., Jager W.

11:40 End of Session

EN4 WCC-Room 5

Emerging Environmental Contaminants: Occurrence, Fate and Effects

Organizer(s) - Charles Wong and Jonathan Martin
Chair(s) - Jonathan Martin and Charles Wong08:00 1011 *Seasonal Trends of Mercury Deposition in Tibetan Glaciers* [§]Loewen M.D., Kang S., Armstrong D., Zhang Q., Tomy G.T., Wang F.08:20 1012 *Mercury Speciation and Distribution in the Hudson Bay Marine Ecosystem* [§]Hare A.A., Pazerniuk M., Kuzyk Z., Wang F., Stern G., Armstrong D., Lean D., Macdonald R.08:40 1013 *Seasonal Trends of Atmospheric Chlorinated Pesticides in the Central Himalaya* [§]Loewen M.D., Sharma S., Fuchs C., Wang F., Wania F., Muir D.C.G., Tomy G.T.

REMINDER

09:00 Maxxam Award Lecture presented by Ralph Sturgeon in WCC-12

09:40 Coffee Break

10:00 1014 *Biovector Transport of Contaminants* [§]Blais J.M., Macdonald R.W., Mackay D., Webster E., Smol J.P.10:40 1015 *Enantiomer Analysis Reveals the Secrets of PCB Contamination in the Hudson River Estuary* [§]Asher B.J., Totten L.A., [§]Wong C.S.11:00 1016 *Fluorotelomer Based Substances: The Basis for Assessment Conclusions and the Regulatory Implications to Address PFCA Precursors from Fluorotelomer Sources* [§]White G.S., Gandia R., Hill M., Lewis M.A., Hammond G.S.11:20 1017 *Isomer-Specific Uptake, Tissue Distribution and Elimination of Perfluorinated Acids in Rats* [§]Benskin J.P., De Silva A.O., Mabury S.A., [§]Martin J.W.

11:40 End of Session

Inorganic Chemistry

IN1 WCC-Room 3

Concepts and Models in Bioinorganic Chemistry

Organizer(s) - Heinz-Bernhard Kraatz and Pierre Kennepohl
Chair(s) - Robert Morris08:00 1018 *Understanding Chemical Interactions Between Heavy Metals and Bio-Ligands* [§]Burford N., Groom K., Phillips H.A., Saunders C.D.L.08:40 1019 *The Immunoinorganic Chemistry of Cytotoxins and Adjuvants* [§]Bohle D.S., Bellemare M.-J., Olivier M.09:20 1020 *Synthesis and Characterization of Mercury-Alanine Complexes* [§]Saunders C.D.L., [§]Burford N., Wemer-Zwanziger U., McDonald R.

09:40 Coffee Break

10:00 1021 *Ultrahigh-Field Multimuclear Solid-State Magnetic Resonance Investigations of Bioinorganic Model Systems* [§]Bryce D.L., Adiga S., Aebi D., Chapman R.P., Lee P.K., Sward G.D., Zhang L.10:40 1022 *XAS as a Tool for the Characterization of Sulfur-Centered Free Radical Intermediates* [§]Martin-Diaconescu V., [§]Kennepohl P.11:00 1023 *Vanadium(III) Thiolate Complexes as Nitrogenase Models: Spectroscopic Investigation by High-Frequency and -Field EPR (HF-EPR)* [§]Telser J., Krzystek J., Ozarowski A., Chu W.-C., Wang Z.-C., Tsai Y.-F., [§]Hsu H.-F.11:20 1024 *Heme Proteins in Ionic Liquids* Taylor S.A., [§]Walsby C.J.

11:40 End of Session

IN2 WCC-Room 4

Main Group Compounds in Catalysis, Materials Research and Biochemistry

Organizer(s) - Lothar Stahl and Paul Ragogna
Chair(s) - Lothar Stahl08:00 1025 *Bond Activation across Late Transition Metal Nitrogen Bonds* [§]Gruetzmacher H.08:40 1026 *Design and Tuning of an "Inorganic" Ligand: 1,2-Diaza-3,5-diboroly Complexes of Transition Metals* Ly H.V., Forster T.D., Parvez M., McDonald R., Eisler D., [§]Roesler R.09:00 1027 *Electrochemical Studies of Hydrazidophosphines Used in Aqueous Catalysis* [§]Boeré R.T., Majoral J.-P., Soumia-Saquet A., Zablocka M.09:20 1028 *Frustrated Lewis Pairs in Catalysis: Transition Metal-Free Hydrogenation Chemistry Mediated by H₂-Activating Main-Group Complexes* [§]Chase P. A., Welch G.C., [§]Stephan D.W.

09:40 Coffee Break

10:00 1029 *A Highly Reactive Ruthenium-Phosphorus π -Bond: Probing Metal-Mediated P-C Bond Formation* [§]Rosenberg L., Derrah E.J., Pantazis D.A., McDonald R.

10:20 1030 Catalysts with Chiral Tridentate Supports in Lactide Polymerization [§]Mehrkhodavandi P., Douglas A., Labourdette G., Lagaditis P.

10:40 1031 Carbene Stabilization of a Transient Germylene. Synthesis of a Germanium Phosphine Mimic (R₃Ge:), Lewis Base Chemistry and Possible Precursor for Anionic Germanium Polymerization Rupal P.A., Jennings M.C., [§]Baines K.M.

11:00 1032 Novel Phosphonium Ionic Liquids with Unusual Functionalities Tindale J.J., Ragogna P.J.

11:20 1033 Mechanistic Investigation of Ligand Exchange in Guanidinate Ligand Systems Brazeau A.L., DiLabio G.A., [§]Barry S.T.

11:40 End of Session

IN3 WCC-Room 2

Mechanism and Design in Organometallic Catalysis

Organizer(s) - Peter Budzelaar, Jennifer Love and Deryn Fogg
Chair(s) - Peter Budzelaar

08:00 1034 Impact of Na- and K-C π-Interactions on the Structure and Binding of M₃(sol)_n(BINOLate)₃Ln Complexes [§]Walsh P.J., Wooten A.J., Carroll P.J.

08:20 1035 The Design of New Ancillary Ligands for the Construction of Mononuclear and Dinuclear Transition Metal Complexes: Synthesis, Structure, and Applications in Catalysis [§]Turculet L., MacInnis M., MacLean D., Hayes C.

08:40 1036 Net Donor Properties of Common 2e Ligands in Organometallic Complexes [§]Gusev D.G.

09:00 1037 Mechanistic Studies of the Asymmetric Hydroboration of Vinyl Arenes: A Remarkable Effect of Ligand, Substrate and Reagent [§]Crudden C.M., Edwards D.R., Hleba Y.B., Lata C.J.

09:40 Coffee Break

10:00 1038 Carbon-Hydrogen and Carbon-Heteroatom Cleavage Reactions at PNP-Supported Metal Centers [§]Ozerov O.V., Gatard S., Fan L., Zhu Y., Foxman B.M., Guo C., Musaev D.

10:40 1039 Group V and VI Metal Complexes Bearing N,N'-Disubstituted 1,8-Diaminonaphthalene Ligands Lavoie N., Korobkov I., Richeson D.S.

11:00 1040 Organometallic Single Electron Transfer Reactivity: Alkyl Halide Activation and Controlled Radical Polymerization with CpCr(Nacnac) Complexes [§]Smith K.M., Conway J.L., Tang L., Baisch U., Poli R.

11:20 End of Session

IN5 WCC-Room 9

Solid-State Chemistry for Energy Conversion (Joint with MT) (joint with MT7)

Organizer(s) - John Greedan
Chair(s) - John Greedan and Yurij Mozharivskiy

08:00 1041 Advanced Magnetocaloric Materials [§]Pecharsky V.K.

08:40 1042 Chemistry of the Ln₃X₄ Magnetocaloric Materials (Ln is a Lanthanide, X is a p-Element) [§]Mozharivskiy Y., Pecharsky V.K., Miller G.J.

09:00 1043 Thermoelectric Properties of New Materials Forming the Ir₃Ge₇ Type [§]Kleinke H.

09:40 Coffee Break

10:00 1044 Nanostructured Thermoelectrics for Thermal to Electrical Energy Conversion [§]Kanatzidis M.G., Hogan T., Sootsman J., Chung D.-Y., Poudeu F.P., Wu C.-I., Uher C., Kong H.-J.

10:40 1045 Structure of Cd_{12.7(1)Sb₁₀}, the Cadmium Analogue of the Thermoelectric Material "β-Zn₄Sb₃" Zelinska O.Ya., Bie H., [§]Mar A.

11:00 1046 Oxides as Potential Thermoelectrics [§]Maignan A., Hébert S., Pelloquin D., Caignaert V., Pralong V., Kobayashi W.

11:40 End of Session

Materials Chemistry Division

MT4 Delta-B

Nanoparticles and Quantum Dots: Synthesis, Characterisation and Applications

Organizer(s) - Frank van Veggel
Chair(s) - Frank van Veggel

08:00 1047 The Design and Optimization of Lanthanide Trifluoride Nanoparticles for MRI and CT Imaging Dong C., Ningman E., Prosser R.S., Stanisiz G.J., van Veggel F.C.J.M.

08:40 1048 Lanthanide Fluoride Nanocrystals Grown in the Presence of Inverse Micelles [§]Ritcey A.M., Lemyre J.-L.

09:20 1049 Light-Emitting Diodes Made from GaN:Mg Nanocrystals Tan M., Mahalingam V., van Veggel F.C.J.M.

09:40 Coffee Break

10:00 1050 Linear and Nonlinear Optical Properties of Highly Ordered Polythiophene-Based Thin Films [§]Leach G.W., Mattu J., Johansson T.P.

10:20 1051 Electronic and Optical Effects of N-Functionalization in Polythiazole Systems Mason R.J., [§]MacLean B.J.

10:40 1052 Photophysical and Electrochemical Investigation of Self-Assembled Conjugated Oligofluorenes Perez S., Tsang D., Sylla A., [§]Skene W.G.

11:00 End of Session

MT7 WCC-Room 9

Solid-State Chemistry for Energy Conversion (Joint with IN) (joint with IN5)

Organizer(s) - John Greedan
Chair(s) - John Greedan and Yurij Mozharivskiy

08:00 Joint with Inorganic Chemistry Division - See IN5

11:40 End of Session

Organic Chemistry

OR2 WCC-Room 1

Bio-Organic Mechanisms

Organizer(s) - Derek Pratt

08:20 Merck Frosst Centre for Therapeutic Research Award Lecture presented by Jeffrey Keillor

Introduction of Jeffrey Keillor by John Vederas

08:20 1053 The Bioorganic Chemistry of Transpeptidase Enzymes: From Mechanistic Studies to Inhibition and Engineering [§]Keillor J.W.

09:00 1054 Towards the Catalytic Mechanism of Carbon-Phosphorus Lyase [§]Zechel D.L., Adams M., He S.-M., Luo Y., Hove-Jensen B., Jia Z.

09:20 Coffee Break

10:00 1055 Mechanistic Study of a Novel Photolytic Process for the Creation of Light Dependent DNAszymes and Application to Synthetic Chemistry Ting R., [§]Perrin D.M.

10:40 1056 The Interplay of π-Stacking and Hydrogen Bonding in Guanidinium Ion-Mediated Recognition Sarytcheva O.V., Koivisto B.D., McKie A.H., Wang X., Hof F.

11:00 R.U. Lemieux Award Lecture presented by R. Stan Brown

Introduction of R. Stan Brown by J. Peter Guthrie

11:00 1057 Dinuclear Zn²⁺ Catalysts as Biomimics of Biological RNA and DNA Phosphoryl Transfer Enzymes: A Reduced Polarity Medium Provides Spectacular Rate Enhancements [§]Brown R.S.

11:40 End of Session

OR3 WCC-Room 15

Carbohydrates in Medicine and Drug Discovery

Organizer(s) - Frank Schweizer
Chair(s) - Robert Ben

REMINDER

08:20 Merck Frosst Centre for Therapeutic Research Award Lecture presented by Jeffrey Keillor in WCC-Room 1

09:00 1058 Synthesis and Glycosidase Inhibitory Activities of Zwitterionic Glycosidase Inhibitors Pinto B.M.

09:40 1059 Synthesis of Higher Carbohydrates on Dioxanone Scaffold [§]Niewczas I.S., [§]Majewski M.

10:00 1060 Use of Carbohydrate-Based β-Keto Esters as C-Glycosyl Donors [§]Schweizer F., Mondal D.

10:20 1061 Synthesis of C-Glycoside Clusters via 1,3-Dipolar Cycloadditions [§]Marra A.

11:00 End of Session

REMINDER

11:00 R.U. Lemieux Award Lecture presented by R. Stan Brown in WCC-Room 1

OR11 WCC-Room 6

General - Modern Synthetic Methods

Organizer(s) - Bryan Hill
Chair(s) - Bryan Hill

REMINDER

08:20 Merck Frosst Centre for Therapeutic Research Award Lecture presented by Jeffrey Keillor in WCC-1

09:00 1062 A Powerful Method for the Preparation of Sulfur-Rich Macrocycles [§]Rys A.Z., Abu-Yousef I.A., Harpp D.N.

09:20 1063 Tandem Olefin Metathesis and Pd-Catalyzed Direct Arylation as a Route to Higher Helicenes [§]Côté J., [§]Collins S.K.

09:40 Coffee Break

10:00 1064 Towards the Development of New C-C Bond Forming Reactions: Applications of Fluorous Chiral Supports for Parallel Reaction Studies [§]Geary L.M., Hultin P.G.

10:20 1065 Simple, Stable and Versatile Boron-Silicon Double-Allylation Reagents for the Stereoselective Preparation of Skeletally Diverse Compounds [§]Peng F., [§]Hall D.G.

10:40 1066 Application of Mn(OAc)₃ Mediated Cyclizations to the Total Syntheses of Mersicarpine and Tronocarpine [§]Magolan J., [§]Kerr M.A.

11:00 End of Session

REMINDER

11:00 R.U. Lemieux Award Lecture presented by R. Stan Brown in WCC-Room 1

Physical, Theoretical & Computational

PT1 WCC-Room 11

Applications of Spectroscopy: Remotely and in the Lab (Joint with EN) (joint with EN2)

Organizer(s) - Jennifer van Wijngaarden
Chair(s) - Jennifer van Wijngaarden

08:00 Joint with Environmental Chemistry Division - See EN2

11:40 End of Session

PT3 WCC-Room 13

Biocomputational Chemistry

Organizer(s) - Chérif Matta
Chair(s) - Richard Bader

08:00 1067 A Theoretical Study of Electron Addition to the Disulfide Bond in Thioedoxin Rickard G.A., Berges J., Houee-Levin C., [§]Rauk A.

08:20 1068 Insight into the Catalytic Activity of Selenium-Containing Antioxidants [§]Boyd R.J., Pearson J.K.

09:00 1069 Calculation of Electrostatic Properties of Proteins from Ultra High Resolution X-Ray Diffraction Data: The MoPro Procedure [§]Lecomte C., Jelsch C., Guillot B., Fournier B., Lagoutte A., Pichon-Pesme S.

09:40 Coffee Break

10:00 1070 Quantum Mechanics Applied to Molecules of Medicinal Chemistry [§]Massa L.

10:40 1071 Quantum Chemical Topology: Polarization by Machine Learning [§]Popelier P.L.A., Handley C., Darley M., Wedge D.

11:20 1072 Theoretical Investigation of "S-Nitrosohemoglobin" Koch D.M., [§]Peslherbe G.H., [§]English A.M.

11:40 End of Session

PT11 Delta-C

Post-Modern Electrochemistry (Joint with AN) (joint with AN10)

Organizer(s) - Sylvie Morin, Ian Burgess and Alexandre Brolo
Chair(s) - Peter Pickup and Ian Burgess

08:20 Joint with Analytical Chemistry Division - See AN10

11:40 End of Session

Wednesday PM

Analytical Chemistry

AN1 WCC-Room 12

Advances in Analytical and Environmental Chemistry (Joint with EN) (joint with EN1)

Organizer(s) - Stephen Duffy
Chair(s) - Stephen Duffy and Douglas Goltz

13:00 1073 Synchrotron Radiation Analysis of Bromine in Human Teeth and Bone [§]Martin R.R., Naftel S., Nelson A.

13:20 1074 Microbial and Photolytic Degradation of Selected Pesticides in a Tropical Environment [§]Reid R.R., [§]Dasgupta T.P., Reese P.B.

13:40 1075 Studying Water Quality by Corrosion and Scaling Index with Changing the Method of Microorganisms Control in Cooling Towers [§]Bakhshi E., [§]Abniki F.

14:00 End of Session

Biological and Medicinal Chemistry

BM3

WCC-Room 8

Enzyme Structure-Function

Organizer(s) - John Honek
Chair(s) - Guy Guillemette and John Honek

13:00 1076 *Enzyme Evolution for New Function: Microbial Adaptation to Environmental Chemicals* [§]Wackett L.P.

13:40 1077 *Loop Dynamics: Coupling Substrate-Specificity to Function in Flavoproteins* [§]O'Neill M.A.

14:00 1078 *Enolpyruvyl Activation by Enolpyruvyl Shikimate 3-Phosphate Synthase* Clark M.E., Zhang F., Berti P.J.

14:20 1079 *Active Site Studies of Glyoxalase I in Escherichia coli and Pseudomonas aeruginosa* Sukdeo N., Su Z.D., [§]Honek J.F.

14:40 1080 *The First Structure of a Complete Multifunctional Biotin-Dependent Enzyme: The Pyruvate Carboxylase Tetramer to 2.0 Å Resolution* St-Maurice M., Reinhardt L., Cleland W.W., [§]Rayment I., Surinya K., Wallace J.

15:00 Coffee Break

15:20 1081 *How GTP Binds to the GTP-Specific Form of Succinyl-CoA Synthetase* [§]Fraser M.E., Hayakawa K., Hume M.S., Ryan D.G., Brownie E.R.

16:00 1082 *Investigative Studies of Thiostrepton-Resistance rRNA Methyltransferase and its Cognate Antibiotic Thiostrepton* Hang P.C., Daub E., [§]Honek J.F.

16:20 1083 *The Effects of Acquiring Extremely Rapid or Highly Resolved Non-Uniform Data Schemes on the Resultant Resolution, Signal-to-Noise, and Line Shape in Multi-Dimensional, Multi-Nuclear NMR Spectroscopy* McKay R.T.

16:40 End of Session

Chemical Education

CE4

WCC-Room 7

Fast Breaks and Flash Points: Chemistry Essentials for Society

Organizer(s) - Elena Smirnova
Chair(s) - Peter Mahaffy and Elena Smirnova

13:00 1084 *Social Software: Enhancement and Preservation of Conference Content* Lancaster L.I., Lynch B.M.

13:20 1085 *Tipping Points? Seeing and Understanding the Chemistry of our Atmosphere* Mahaffy P.G., Martin B., Mahaffy R., Martin A.

14:00 1086 *Integrating Green Chemistry in Undergraduate Chemical Education* Abhyankar S.B.

14:20 Discussion

15:00 Coffee Break

15:20 1087 *Are Cows More Trustworthy Than Chemists?* [§]Schwarz J.

16:00 1088 *Oleo-resins, Gems of Yesteryear* Laszlo P.PAPER WITHDRAWN

16:40 Discussion

17:00 End of Session

Environment

EN1

WCC-Room 12

Advances in Analytical and Environmental Chemistry (Joint with AN) (joint with AN1)

Organizer(s) - Stephen Duffy
Chair(s) - Stephen Duffy and Douglas Goltz

13:00 Joint with Analytical Chemistry Division - See AN1

14:00 End of Session

EN2

WCC-Room 11

Applications of Spectroscopy: Remotely and in the Lab (Joint with PT) (joint with PT1)

Organizer(s) - Jennifer van Wijngaarden
Chair(s) - Jennifer van Wijngaarden

13:00 1089 *Oxygen Spectral Lineshapes for Atmospheric Remote Sensing Studies* [§]Predoi-Cross A., Hambrook K., Schofield I., Povey C., Mellau G.C.h., Keller R., Hurtmans D.

13:40 1090 *"Remote" Spectroscopy: Spectroscopic Remote Sounding of the Earth's Atmosphere from Satellites, Balloons and the Ground* Walker K.A.

14:20 1091 *Photodissociation Dynamics of Atmospherically Relevant Molecules* Hopkins W.S., [§]Loock H.-P., Cronin B., Devine A.L., Nix M.G.D., Dixon R.N., Ashfold M.N.R.

14:40 1092 *Spectroscopic Studies of the Xe-NH₃ and Ne-Xe-NH₃ van der Waals Complexes* Wen Q., Jager W.

15:00 Coffee Break

15:20 1093 *Surface Effects in Icy Aerosols of Planetary Atmospheres* Firanescu G., Sigurbjornsson O., [§]Signorell R.

16:00 1094 *Nucleobase Ionizations and Thermal Stabilities Determined Spectrophotometrically under Hydrothermal Conditions* Balodis E.C., [§]Tremaine P.R., Trevani L.N.

16:20 1095 *The Saturna Island Study: Spectroscopic Analysis of Polluted Marine Air Masses* [§]McLaren R., Halla J., Majonis D., McCourt J.

16:40 1096 *Near-Infrared and Visible Spectroscopy of Trimethyl Phosphate and Triethyl Phosphate* [§]Petryk M.W.P., Marengo A.

17:00 End of Session

EN4

WCC-Room 5

Emerging Environmental Contaminants: Occurrence, Fate and Effects

Organizer(s) - Charles Wong and Jonathan Martin
Chair(s) - Jonathan Martin and Charles Wong

13:00 1097 *Liquid Chromatography Tandem Mass Spectrometry Characterization of Trace Nitrosamines in Drinking Water* Zhao Y.-Y., [§]Boyd J.M., Hruddy S.E., [§]Li X.-F.

13:20 1098 *Biodegradation Studies of Naphthenic Acids by Capillary HPLC/TOF-MS* Han X., Bataineh M., Scott A.C., Fedorak P.M., [§]Martin J.W.

13:40 1099 *Disinfection By-Product Formation Rates from Model Compounds, Pharmaceuticals and Personal Care Products Using Membrane Introduction Mass Spectrometry* Stechishin O.D.M., Gill C.G., [§]Krogh E.T.

14:00 1100 *Dechlorane Plus® Levels in Lower Great Lakes Sediments* [§]McCarthy B.E., Sverko E., Marvin C.H., Zaruk D., Hill B., Tomy G.T., Reiner E., Helm P.A.

14:20 1101 *Understanding the Mechanism of Stereoselective Metabolism of Persistent Organic Pollutants within Mammalian Organisms* Warner N.A., Martin J.W., [§]Wong C.S.

14:40 1102 *Temporal Trends of Legacy and Emerging POPs in a Dated Lake Ontario Sediment Core and Spatial Distribution in Nearshore Areas of the Great Lakes* Crozier P., Lega R., Kolic T., Macpherson K., Gewurtz S., Shen L., Helm P.A., Reiner E., Brindle I., Marvin C.

15:00 End of Session

Inorganic Chemistry

IN1

WCC-Room 3

Concepts and Models in Bioinorganic Chemistry

Organizer(s) - Heinz-Bernhard Kraatz and Pierre Kennepohl
Chair(s) - Pierre Kennepohl

13:00 1103 *Models of Iron Metalloprotein Active Sites* Morris R.H.

13:40 1104 *Investigations of the Spectroscopic Features and Reactivity of Metal Salen Radical Complexes* Storr T., Wasinger E.C., [§]Stack T.D.P., Pratt R.C.

14:00 1105 *Organometallic ^{99m}Tc-Carborane Complexes for Imaging Serotonin Receptors* Louie A.S., [§]Valliant J.F.

14:20 1106 *Reductive Oxygen Activation at Cu(I) or Oxidative Substrate Activation at Cu(II): Two Ways of Selective Catalytic Oxygenations with Molecular Oxygen* [§]Sundermeyer J., Sun H., Raab V., Harms K., Gaoutchenova E.

14:40 1107 *Amino Acid-Derived Chelates for Preparing Molecular Imaging and Therapy Agents* [§]Armstrong A.F., Louie A.S., Oakley N.A., Parker S., [§]Valliant J.F.

15:00 Coffee Break

15:20 1108 *Metal-DNA Interactions: Biological and Nanoscience Applications* Yang H., Slim M., Kietlyka R., Lecours L., [§]Sleiman H.F.

16:00 1109 *Bioorganometallic Approach for the Electrochemical Detection of Proteins Based on Ferrocene-Peptide Conjugates* Mahmoud K.A., [§]Kraatz H.-B.

16:20 1110 *One-Pot Syntheses and Radiolabeling of Biodegradable Coordinating Polymers* Saatchi K., Häfeli U.O.

16:40 1111 *Controlling The Secondary Structure of Peptides Using Ferrocene as a Molecular Scaffold* [§]Chowdhury S., [§]Kraatz H.-B.

17:00 End of Session

IN2

WCC-Room 4

Main Group Compounds in Catalysis, Materials Research and Biochemistry

Organizer(s) - Lothar Stahl and Paul Ragogna
Chair(s) - Kathryn Preuss

13:00 1112 *Methylation of Phosphinophosphonium Species to Access Cyclic Di- and Tri-phosphinophosphonium Salts* Riegel S.D., Burford N., Lumsden M., Decken A.

13:20 1113 *Heteropolymetallic Complexes of Tetraimidophosphates* Robertson S.D., Chivers T.

13:40 1114 *Coordination Complexes of Formazans as Precursors to Metallaverdazyls* Gilroy J.B., Otieno P.O., Ferguson M.J., McDonald R., Hicks R.G.

14:00 1115 *Gas Phase Spectroscopic Studies of Benzo-2,1,3-Chalcogenadiazoles* Vargas-Baca I., Cozzolino A.F.

14:20 End of Session

IN5

WCC-Room 9

Solid-State Chemistry for Energy Conversion (Joint with MT) (joint with MT7)

Organizer(s) - John Greedan
Chair(s) - Patrick Woodward and Mario Bieringer

13:00 1116 *Rapid Oxygen Ion Diffusion and Surface Exchange Kinetics in Oxides with Perovskite Related Structure and Ordered A Cations* [§]Jacobson A.J., [§]Mims C.A.

13:40 1117 *Oxygen Activation Rates on Perovskite Oxide Surfaces* [§]Mims C.A., Jacobson A.J.

14:20 1118 *Chemistry of Oxides in Reducing Atmospheres: Conductivity with Oxide and Hydride Ions* Rosseinsky M.J., Bridges C.A., Allix M.M.B., Kuang X., Bowman A., Claridge J.B.

15:00 Coffee Break

15:20 1119 *Conductive Spinels for High Temperature Applications* Martin B.E.N., [§]Petric A.

15:40 1120 *Anisotropic Diffraction Line Broadening During Charge/Discharge of a Lithium Battery Cathode Material: Are Stacking Faults Really To Blame?* [§]Whitfield P.S., Le Page Y., Davidson I.J.

16:00 1121 *^{6,7}Li 2D Exchange NMR to Study Lithium Ion Dynamics in Phosphates and Fluorophosphates for Cathode Materials* Cahill L.S., Goward G.R., Nazar L.F., Iriyama Y.

16:20 1122 *Magnetic Properties of Some Cation-Ordered Rock Salt Oxides* Derakhshan S., Greedan J.E.

16:40 1123 *Synthesis, Structure and Unexpected Magnetic Properties of La₂Re₂O₁₀* Cuthbert H.L., Greedan J.E., Vargas-Baca I., Swainson I.P.

17:00 End of Session

Materials Chemistry Division

MT7

WCC-Room 9

Solid-State Chemistry for Energy Conversion (Joint with IN) (joint with IN5)

Organizer(s) - John Greedan
Chair(s) - Patrick Woodward and Mario Bieringer

13:00 Joint with Analytical Chemistry Division - See IN5

17:00 End of Session

Organic Chemistry

OR6

WCC-Room 2

Metal-Catalyzed Organic Synthesis

Organizer(s) - Andrew Wee and Laurel Schafer
Chair(s) - Laurel Schafer

13:00 1124 *New Classes of Highly Active Non-Metalocene Catalysts for Intramolecular Alkene Hydroamination. Applications to the Synthesis of Naturally Occurring Ring Systems* Kim J.Y., Yang J., Sundahl B., [§]Livinghouse T.

13:40 1125 *The Stevens Rearrangement of Azetidinium Ylides: One-Step Formation of Functionalized Pyrrolidines* Bott T.M., West F.G.

14:00 1126 *Diversity-Oriented Synthesis of Polycyclic Heterocycles* Kudale A.A., [§]Bodwell G.J.

14:20 1127 *New Methods for the Synthesis of Fluorinated Molecules Using Transition Metal Catalysis* Paquin J.-F.

15:00 End of Session

Physical, Theoretical & Computational

PT1

WCC-Room 11

Applications of Spectroscopy: Remotely and in the Lab (Joint with EN) (joint with EN2)

Organizer(s) - Jennifer van Wijngaarden
Chair(s) - Jennifer van Wijngaarden

13:00 Joint with Environmental Chemistry Division - See EN2

17:00 End of Session

PT3

WCC-Room 13

Biocomputational Chemistry

Organizer(s) - Chérif Matta

Chair(s) - Hugo Bohorquez

13:00 1128 *Predictive Cheminformatics: Towards Fulfilling the Promise of Virtual Screening* [§]Breneman C.M., Sukumar N., Bennett K., Embrechts M.

13:40 1129 *Computational Chemistry in the Development of Potential Antidementia Inhibitors of Butyrylcholinesterase* [§]Darvesh S., McDonald R.S., **Darvesh K.V.**, Mataija D., Conrad S., Gomez G., Walsh R., Martin E.V.

14:00 1130 *Computational Assessment of Flexibility in Proteins* [§]Gordon H.L.

14:20 1131 *Identifying Protein Binding Mechanisms with Monte Carlo Simulations* **Cassolato P.**, [§]Gordon H.

14:40 1132 *Molecular Determinants of Thiol pK_a Values in Biologically Important Thiols* Shen B., **Koch D.M.**, Bazin C., Peslherbe G.H., [§]English A.M.

15:00 Coffee Break

15:20 1133 *An Ab Initio Study of the S_N2 Reaction of Methyl-Substituted Triazenes* Doucet K.G., Enright T.G., **Pye C.C.**

15:40 1134 *Simulation and Modeling Studies of Floppy Carbohydrates: The Challenge of Furanosides* [§]Castillo N., Roy P.-N., Lowary T.L.

16:00 1135 *Molecular Dynamics Studies of the Intermolecular Interactions of Charged Protein-Ligand Complexes in the Gas Phase* [§]Seo M., Kitova E.N., Klassen J.S., Roy P.-N.

16:20 1136 *Double Proton Transfer Reactions of Gas Phase Ammonium and Alkylammonium Nitrates* [§]Alavi S., Taghikhani M. PAPER WITHDRAWN

16:40 End of Session