CSASS présente/presents:

Spectr'Atom 2013

et/and

59th ICASS

International Conference on Analytical Sciences and Spectroscopy

Programme final

Final Program

June 25-28 juin, 2013
Grand Lodge Mont-Tremblant
Mont-Tremblant, Québec, Canada

Spectr'Atom 2013
Programme

(numéros de résumés entre parenthèses)

LUNDI 24 JUIN

19:30-22:00 Réception - *Borivage et bar Whisky*

22:00 Feux d'artifice au bord du lac Ouimet

MARDI 25 JUIN

7:00-8:50 Déjeuner (billet requis) - *Salon Laurentien (niveau lac)*

ETAT DE L'ART ET PERSPECTIVES DE LA SPECTROMÉTRIE ATOMIQUE

Salon Dubois (niveau lac)

Président: Hugues Paucot (Formations & Conseil UT2A)

08:50 Accueil par Hugues Paucot et Diane Beauchemin

09:00 (S11) L'ANALYSE ÉLÉMENTAIRE DANS LES VÉGÉTAUX: HISTOIRE, APPLICATIONS ET PERSPECTIVES. **Pierre Masson**, Mireille Barbaste. INRA – USRAVE, Centre de Recherches de Bordeaux, Domaine de la Grande-Ferrade, Villenave d'Ornon, France.

09:30 (S33) L'ABLATION LASER: OUTIL À TOUT FAIRE? **Christophe Pécheyran**[1], Ariane Donard[1], Fanny Claverie[1], Julien Malherbes[1], Sylvain Bérail[1], Fabien Pointurier[2]. [1]LCABIE-IPREM, Université de Pau et des Pays de l'Adour, Pau, France; [2]CEA, DAM-DIF, Bruyère le Chatel, France.

10:00 Pause-café, exposition et affiches – *Borivage et Bar Whisky*

10:30 (S35) LE PLASMA D'AZOTE, UNE NOUVELLE SOURCE « D'EXCITATION » EN SPECTROSCOPIE D'ÉMISSION? Thomas B. Jensen[1,2], **Jean-Pascal Bourgeois**[1], Jonathan J. Jodry[2]. [1]Ecole d'ingénieurs et d'architectes de Fribourg, Fribourg, Suisse, [2]Metalor Technologies SA, Neuchâtel, Suisse.

11:00 (S46) A-T-ON RÉUSSI À ÉLIMINER LE TALON D'ACHILLE DE LA SPECTROMÉTRIE ATOMIQUE À PLASMA? **Diane Beauchemin**, Queen's University, Department of Chemistry, Kingston, ON, Canada.

11:30 Table ronde

12:00 Dîner (billet requis) - *Salon Laurentien;* Exposition et session d'affiches - *Borivage et Bar Whisky*

APPLICATIONS ENVIRONNEMENTALES - *Salon Dubois (niveau lac)*

Organisateur et président: Denis Bérubé (Santé Canada)

13:40 (S38) RÉPARTITION SUBCELLULAIRE DE MÉTAUX NON ESSENTIELS (Cd, Ni) CHEZ DES ESPÈCES AQUATIQUES: COMPARAISONS ENTRE MÉTAUX ET ENTRE ESPÈCES. **Peter G.C. Campbell**, Claude Fortin et Landis Hare. Centre INRS Eau, Terre et Environnement, Québec, QC, Canada

14:10 (S10) ÉTUDE DE LA SPÉCIATION ET DU CYCLE DE L'ARSENIC DANS LES MICRO-ORGANISMES AQUATIQUES PAR HPLC-ICPMS ET XAS. **Guilhem Caumette**, Iris Koch, Kenneth J. Reimer. Environmental Sciences Group, Collège Militaire Royal du Canada, Kingston, ON, Canada.

14:30 (S03) GQLab: LOGICIEL DE GESTION DE LA QUALITE AU LABORATOIRE: DU MANAGEMENT DE LA QUALITE A LA VALIDATION DE METHODE. UN EXEMPLE: VALIDATION DE LA METHODE D'ANALYSE DE L'ARSENIC DANS LES VEGETAUX PAR ICP-MS. **Fabrice de Raemaeker**, Thierry Prunet, Karine Hakim, Patrice Soulé. INRA-USRAVE France.

14:50 Pause-café, exposition et affiches – *Borivage et Bar Whisky*

15:30 (S16) RAPPORT NICKEL/COBALT COMME TRACEUR DE POLLUTION ASSOCIÉ À LA MANUTENTION DU CONCENTRÉ DE MINERAI DE NICKEL. **Richard St-Louis**. Département de biologie, chimie et géographie, Université du Québec à Rimouski, Rimouski, QC, Canada.

15:50 (S42) SPÉCIATION CHIMIQUE DES MÉTAUX ASSOCIÉS À LA MATIÈRE PARTICULAIRE: APPROCHE SYSTÉMATIQUE EN UTILISANT LA SPECTROSCOPIE XAFS (X-RAY ABSORPTION FINE STRUCTURE). **Marc Lamoureux**. Saint Mary's University, Department of Chemistry, Halifax, NS, Canada.

16:10 (S24) FILTRATIONS SÉQUENTIELLES POUR VALIDER LA DÉTERMINATION DE FRACTIONS SOLUBLES PAR ICPMS. **Denis Bérubé** & Caetano Dorea. Health Canada, Environmental Health Centre, Ottawa, ON, Canada.

16:30-17:00 Table ronde

17:00-18:00 SESSION D'AFFICHES (auteurs présents) - *Bar Whisky*

Panneau # Présentation

1 (S02) EVALUATION DE LA MÉTHODE DES "PROFILS D'EXACTITUDE" POUR L'ACCRÉDITATION D'ANALYSES DES EAUX PAR ICP-MS. T. Debray, **F. Pilon**, K. Vielle. CEA, DAM, Le Ripault, F-37260, Monts, France.

2 (S08) ANALYSE RAPIDE DE U ET DE Th DANS DES ECHANTILLONS ENVIRONNEMENTAUX PAR UN COUPLAGE CHROMATOGRAPHIE LIQUIDE/ICP-MS. **A. Habibi**,[1] B. Boulet,[1] G. Cote,[2] D. Larivière[3]. [1]IRSN/PRP-ENV/STEME/LMRE, Orsay, France; [2]Chimie ParisTech, CNRS, UMR 7575, Laboratoire d'Electrochimie, Chimie aux Interfaces et Modélisation pour l'Energie,

Paris, France; [3]Laboratoire de radioécologie, Département de chimie, Université Laval, Québec, QC, Canada.

3 (S09) ANALYSES ELEMENTAIRES PAR XRF, ICP-AES ET ICP-MS DANS LE CADRE DE LA DETERMINATION DE COMPOSITION CHIMIQUE DES BETONS ACTIVES DE L'INDUSTRIE NUCLEAIRE. **A. Labet**, J.B. Bilcot, S. Pontremoli, S. Lancette, J. Comte. CEA, DEN/DEC/SA3C/LARC, Cadarache, France.

4 (S15) DÉTERMINATION EXPÉRIMENTALE ET THÉORIQUE DE LA PRISE D'ESSAI CRITIQUE POUR OBTENIR UNE INCERTITUDE SPÉCIFIÉE PENDANT L'ANALYSE D'UN ÉCHANTILLON VÉGÉTAL. **Thierry Prunet**, Pierre Masson, Patrice Soulé, Sarah Desalme, Fatima Bon, Dominique Orignac. INRA–USRAVE, Centre de Recherches de Bordeaux, Domaine de la Grande-Ferrade, Villenave d'Ornon, France.

5 (S21) DEVELOPPEMENT ET VALIDATION D'UNE METHODE DE CARACTERISATION PHYSICOCHIMIQUE MULTIDIMENSIONNELLE DE NANOPARTICULES DE TiO_2 DANS LES CREMES SOLAIRES PAR A4F-UV-MALLS-ICPMS. Mathieu MENTA, Christine GLEYZES, **Fabienne SEBY**, Véronique VACCHINA. Ultra Traces Analyses Aquitaine, Pau, France

6 (S19) DÉTERMINATION DE L'ANTIMOINE DANS LES VÉGÉTAUX PAR ICP-MS. **Thierry Dalix**, Pierre Masson, Jessica Mure d'Alexis, Guillaume Daugey, Thierry Prunet. INRA – USRAVE, Centre de Recherches de Bordeaux, Domaine de la Grande-Ferrade, Villenave d'Ornon, France.

7 (S45) INFLUENCE DE L'ÉTAPE DE PRÉPARATION D'ÉCHANTILLON SUR LA MOBILISATION COLLOÏDALE DE L'URANIUM DANS DES SOLS. Corinne Parat[1], Stéphanie Harguideguy[1], Gaëtane Lespes[1], Pierre Crançon[2], Fabien Pointurier[2], **Martine Potin-Gautier**[1]. [1]Université de Pau et des Pays de l'Adour/CNRS, Laboratoire de Chimie Analytique Bio-Inorganique et Environnement (LCABIE) / IPREM UMR CNRS 5254, Pau, France; [2]CEA-DAM, Arpajon, France

8 (S43) CONTRIBUTION COLLOÏDALE A LA MOBILISATION ET AU TRANSFERT VERS LES EAUX D'URANIUM APPAUVRI DANS UN SOL. S. Harguindeguy[1,2], P. Crançon[2], L. De Windt[3], F. Pointurier[2], **M. Potin Gautier**[1], G. Lespes[1]. [1]Université de Pau et des Pays de l'Adour/CNRS, Laboratoire de Chimie Analytique Bio-Inorganique et Environnement, IPREM-UMR 5254, Pau, France; [2]CEA, DAM, DIF, Arpajon France ; [3]Ecole des Mines de Paris/Mines-ParisTech, Centre de Géosciences, Fontainebleau, France.

9 (S22) DETERMINATION OF BIO-ACCCESSIBILITY OF TRACE ELEMENTS IN AIRBORNE PARTICULATE MATTER WITH THE ON-LINE LEACHING METHOD USING INDUCTIVELY-COUPLED PLASMA MASS SPECTROMETRY. **Mark Soberman** and Diane Beauchemin. Queen`s University, Department of Chemistry, Kingston, ON, Canada.

19:30-22:00 Souper-grillade sur la terrasse du toit (billet requis) (*4e étage*)

MERCREDI 26 JUIN

7:00-9:00 Déjeuner (billet requis) - *Salon Laurentien (niveau lac)*

ANALYSE ET CARACTÉRISATION DES NANOMATÉRIAUX ET NANOPARTICULES PAR ICP-MS EN MODE STANDARD ET PARTICULE UNIQUE - *Salon Dubois (niveau lac)*

Organisateurs et co-présidents: Chady Stephan (PerkinElmer) et Kevin Wilkinson (Université de Montréal)

09:00 (S28) SIMPLE PARTICULE ICP-MS UNE TECHNIQUE RÉVOLUTIONNAIRE POUR L'ANALYSE DE NANOPARTICULES. **Chady Stephan**, PerkinElmer, Woodbridge, ON, Canada.

09:30 (S18) APPLICATION DE L'ICP-MS EN MODE PARTICULE UNIQUE À L'ANALYSE DE NANOPARTICULES DE MÉTAUX DANS UNE EAU DE SURFACE. **Madjid Hadioui**, Vladimir Merdzan et Kevin Wilkinson. Département de Chimie, Université de Montréal, Montréal, QC, Canada

09:50 (S23) UTILISATION DE COUPLAGES DE DIFFERENTS SYSTEMES SEPARATIFS (LC, GC, EC et A4F) AVEC L'ICP MS POUR LA CARACTERISATION DES FORMES CHIMIQUES DE METAUX ET DE NANOPARTICULES DANS DES ECHANTILLONS INDUSTRIELS. **F. Séby**[1], V. Vacchina[1], J. Dumont[1], M. Menta[1], Castro Georgi J.[2] et C. Gleyzes[1]. [1]Ultra-Traces Analyses Aquitaine (UT2A), Pau (France), [2]IPREM (LCABIE), UMR CNRS/UPPA 5254, Pau (France).

10:10 Pause-café, exposition et affiches – *Borivage et Bar Whisky*

10:50 (S04) DÉVELOPEMENT DE MÉTHODES ICPMS EN LIGNE POUR ÉTUDIER LES INTERACTIONS ENTRE LES MILIEUX AQUEUX ET LA MATIÈRE PARTICULAIRE DE DIMENSION VARIABLE. **Denis Bérubé**, Mary-Luyza Avramescu et Anca-Maria Tugulea. Health Canada, Environmental Health Centre, Ottawa, ON, Canada.

11:10 (S36) ANALYSE DE NANOPARTICULES METALLIQUES DANS LES MATRICES BIOLOGIQUES PAR SP-ICP-MS. **Ciprian Mihai Cirtiu**[1] et Stephan Chady[2]. [1]Institut National de Santé Publique du Québec, QC, Canada; [2]PerkinElmer, ON, Canada

11:30 Table ronde

12:00 Dîner (billet requis) et exposition (session d'affiches d'étudiants de la 59e ICASS) - *Salon Laurentien, Borivage (Bar Whisky)*

DIVERSITÉ D'USAGES - *Salon Dubois (niveau lac)*

Président: Jean-Pascal Bourgeois (Ecole d'ingénieurs et d'architectes de Fribourg)

14:00 (S29) SPECIATION D'ELEMENTS TRACE DANS DES MATRICES SOLIDES PAR ETV-ICP/AES et ETV-ICP/MS. **Jérôme Frayret**[1], Clara Berthet[1], Martine Potin-Gautier[1], Fabienne Seby[2]. [1]Laboratoire de Chimie Analytique Bio-Inorganique et Environnement (LCABIE) / IPREM UMR CNRS 5254, Pau, France; [2]Ultra-Traces Analyses Aquitaine (UT2A), Pau, France

14:20 (S31) APPORT DE L'ICP MS DANS L'ANALYSE DE METALLOMEDICAMENTS ANTICANCEREUX LORS DU TRAITEMENT DE RECIDIVES DU CANCER DU COLON. **Brice Bouyssiere**[1], Carine Arnaudguilhem[1], Juliusz Bianga[1], Sandra Mounicou[1], Joanna Szpunar[1], Ryszard Lobinski[1], François Quenet[2], Amina Bouslimani[2], Nicole Bec[2], Christian Larroque[2]. [1]LCABIE-IPREM UMR 5254, Hélioparc, Pau, France; [2]IRCM/INSERM U896, ICM Val d'Aurelle, Montpellier, France.

14 :40 (S26) ANALYSE DE L'OR – COMPARAISON ENTRE LES MÉTHODES SPECTROSCOPIQUES ET PYROMÉTALLURGIQUES OU CHIMIQUES. **Jonathan J. Jodry**. Metalor Technologies SA, Suisse.

15:00 Pause-café, exposition et affiches – *Borivage et Bar Whisky*

LES SOLUTIONS PROPOSEES PAR LES CONSTRUCTEURS

Président: Marc Lamoureux (Université St.Mary's)

15:40 (S20) MISE EN SOLUTION D'ÉCHANTILLONS PAR FUSION AUTOMATISÉE - PRINCIPES ET INSTRUMENTATION POUR L'ANALYSE PAR ICP-OES. **Mélanie Bédard**. Corporation Scientifique Claisse®.

16:00 (S41) TECHNOLOGIE DE MICRO-ONDE AVEC CUVE À RÉACTION UNIQUE. **Steven Payne**. ATS Scientific.

16:20 (S44) ANALYSE DU PLOMB EN TRACE DANS L'EAU POTABLE SUITE À L'OPTIMISATION DU COUPLAGE NÉBULISEUR ULTRASONIQUE ET ICP-AES. **Marcellin Fotsing**. Ecole Polytechnique de Montréal, Québec, Canada

16:40 (S37) L'ÉVOLUTION DES TECHNIQUES DE SPECTROSCOPIE ATOMIQUE. **Chady Stephan**, PerkinElmer, Woodbridge, Ontario, Canada.

19:30-22:00 Souper magique (billet requis) avec le champion canadien de magie Eric Leclerc - *Salon Laurentien (niveau lac)*

JEUDI 27 JUIN

7:00-9:00 Déjeuner (billet requis) - *Salon Laurentien (niveau lac)*

SPECTROMÉTRIE LASER-PLASMA - *Salon Dubois (niveau lac)*

Organisateur et président: François Doucet (Conseil National de Recherche du Canada)

09:00 (S32) ANALYSE QUANTITATIVE PAR SPECTROSCOPIE DE PLASMA INDUIT PAR LASER (LIBS): DE L'ANALYSE SPECTRALE A L'ANALYSE DE TRACES. Yuan Liu, Cheonha Jeon, Martin Richardson, **Matthieu Baudelet**. Townes Laser Institute, CREOL – The College of Optics and Photonics, University of Central Florida, Orlando, FL, USA.

09:30 (S05) ANALYSE DE SPECTRES LIBS PAR RESEAUX DE NEURONES ARTIFICIELS POUR LA CLASSIFICATION ET LA QUANTIFICATION D'ECHANTILLONS DE SOLS SUR SITE. **J. El Haddad**, L. Canioni et B. Bousquet. Univ. Bordeaux et CNRS, LOMA, UMR 5798, Talence, France.

09:50 (S34) LIBS (LASER-INDUCED BREAKSOWN SPECTROSCOPY) RÉSONANT APPLIQUÉ À L'ANALYSE DES TRACES DANS LES ALLIAGES MÉTALLIQUES. **F. Vidal**[1], C. Gouguel[1], K. Rifai[1], M. Chaker[1], S. Laville[2] et M. Sabsabi[2], [1]INRS-Énergie, Matériaux et Télécommunications, Varennes, QC, Canada; [2]Conseil National de Recherches du Canada, Boucherville, QC, Canada

10:10 Pause-café, exposition et affiches – *Le Borivage et Bar Whisky*

10:50 (S39) LA SPECTROMÉTRIE LASER-PLASMA POUR L'IDENTIFICATION DES DIFFÉRENTS COMPOSÉS D'URANIUM DANS LE PROCÉDÉ DE RAFFINAGE DU MINERAI. **François R. Doucet**,[1] Paul Bouchard,[1] Mohamad Sabsabi,[1] and Rick Kosierb[2]. [1]Conseil National de Recherche Canada, Énergie, Mines and Environnement, Boucherville, QC, Canada; [2]Commision Canadienne de Sûreté Nucléaire, Directorate of Security and Safeguards, Ottawa, ON, Canada

11:10 (S40) POTENTIEL ACCRU DU LASER À FIBRE POUR L'ANALYSE QUANTITATIVE DES ÉLÉMENTS D'ALLIAGES DANS L'ACIER. **Lütfü Ç. Özcan**, François R. Doucet, Paul Bouchard, Aïssa Harhira and Mohamad Sabsabi. Conseil National de Recherche Canada, Énergie, Mine et Environnement, Boucherville, QC, Canada

11:30 Table ronde

12:00 Dîner (billet requis) et exposition (session d'affiches des non-étudiants de la 59e ICASS) – *Salon Laurentien et Le Borivage (Bar Whisky)*

MESURES ISOTOPIQUES ENVIRONNEMENTALES ET APPLICATIONS NUCLÉAIRES - *Salon Dubois (niveau lac)*

Organisateur et président: Dominic Larivière (Université Laval)

13:40 (S01) ANALYSE DES ACTINIDES DANS LES URINES: LES ATOUTS DE L'ICP-MS. **C. Bouvier-Capely**, A. Legrand, A. Manoury, F. Rebière**.** Institut de Radioprotection et de Sûreté Nucléaire (IRSN), PRP-HOM/SDI/LRC, Fontenay-aux-Roses, France.

14:10 (S07) ANALYSES DES ACTINIDES DANS LES URINES PAR COUPLAGE ENTRE DES COLONNES CALIX[6]ARENES ET UN SPECTROMETRE DE MASSE A PLASMA INDUCTIF. **S. Baghdadi**[1,2], C. Bouvier-Capely[1], G. Cote[2], F. Rebière[1]. [1]IRSN/Pôle RadioProtection, Service de Dosimétrie Interne, Fontenay-aux-Roses, France. [2]UMR 7575 ENSCP-CNRS LECIME, Paris, France.

14:30 (S12) DOSAGE PAR ICP-MS DE L'URANIUM, DU THORIUM ET DES TERRES RARES À L'ÉTAT DE TRACE DANS LES EAUX DE SURFACE DU QUÉBEC. **Steeve Roberge**. Centre d'expertise en analyse environnementale du Québec, QC, Canada.

14:50 Pause-café, exposition et affiches – *Le Borivage et Bar Whisky*

15:30 (S25) UTILISATION DU RAPPORT ISOTOPIQUE POUR LA DATATION DES MATIÈRES NUCLÉAIRES: EXEMPLE DU RADIOCHRONOMÈTRE COBALT-60/NICKEL-60. **Jean-François Mercier**[1], Michael Cooke[1], Sonia Johnson[1], Stephen Kiser[1], Slobodan Jovanovic[2], Nadereh St-Amant[2], Raphael Galea[3], Kimberly Moore[3], Patrick Saull[3], David G Kelly[4], Kathy Nielsen[4], Pavel Samuleev[4], Dominic Larivière[5]. [1]Santé Canada; [2]Commission canadienne de sûreté nucléaire; [3]Conseil national de recherches Canada; [4]Collège militaire royal du Canada; [5]Université Laval, QC, Canada.

15:50 (S30) DÉTECTION DU BÉRYLLIUM DANS DES TISSUS HUMAIN PAR ICP-MS ÉQUIPÉ DE LA DILUTION D'AÉROSOL. **Dominic Larivière**[1], Sergei Tolmachev[2]. [1]Laboratoire de Radioécologie, Département de chimie, Université Laval, Québec, QC, Canada; [2]U.S. Transuranium and Uranium Registries, Washington State University, Richland, WA 99354, USA.

16:10 (S27) LA SPECTROMÉTRIE DE MASSE EN TANDEM ASSOCIÉE À UN PLASMA D'ARGON INDUCTIF (ICP-MS-MS): ÉVALUATION DU POTENTIEL D'ÉLIMINATION DES INTERFÉRENCES POLYATOMIQUES DANS LES MATRICES BIOLOGIQUES. **Pierre Dumas**,[1] Ciprian-Mihai Cirtiu,[1] Amir Liba.[2] [1]Institut national de santé publique du Québec, QC, Canada; [2]Agilent technologies, Inc., Wilmington, DE USA.

16:30-17:00 Table ronde

19:30-22:00 Banquet (billet requis) – *Salon Laurentien (niveau lac)*

VENDREDI 28 JUIN

7:00-9:00 Déjeuner (billet requis) - Salon Laurentien

TRAÇAGE D'ISOTOPES DE MÉTAUX À TRAVERS L'INTERFACE GÉOSPHÈRE-BIOSPHÈRE - *Salon Dubois (niveau lac)*

Organisateur et président: Kurt Kyser (Queen's University)

9:00 (S17) MECANISMES ET BILANS DE L'ALTERATION DES MINERAUX DANS LES SOLS: LES ISOTOPES DU BORE. **Voinot A.**[1], Lemarchand D.[2], Turpault M-P.[3]. [1]Queen's Facility for Isotope Research, Queen's University, Kingston, Ontario; [2]LHyGeS/CNRS, Université de Strasbourg, France; [3]Biogéochimie des Ecosystèmes Forestiers, INRA Nancy, France.

9:30 (S06) VARIATION DE L'ISOTOPIE DU FER ET DE L'OXYGENE DANS LA FORMATION DE FER RUBANEE FRERE FM, AUSTRALIE DE L'OUEST. **E. Ricard**[1], U. Raye[1], E. Hiatt[2], P. K. Pufahl[3], K. Kyser[1]. [1]Queen's University, Geological Sciences and Geological Engineering, Kingston, ON K7L3N6 Canada; [2]Department of Geology, University of Wisconsin – Oshkosh, Oshkosh, Wisconsin, 54901, USA; [3]Department of Earth and Environmental Science, Acadia University, Wolfville, Nova Scotia, B4P 2R6, Canada.

9:50 (S13) TRACAGE DE LA MIGRATION D'ELEMENTS A PROXIMITE DE LA SURFACE: ISOTOPES DU PLOMB ET ELEMENTS EN TRACE AU-DESSUS DU GISEMENT D'URANIUM DE CIGAR LAKE, BASSIN D' ATHABASCA. **P. Alexandre**[1], K. Kyser[1], L. Lahusen[2], G. Drever[2]. [1]Queen's University, Department of Geology, [2]Uravan Minerals.

10:10 Pause-café – *Bar Whisky*

10:50 (S14) UTILISATION DES ISOTOPES DU PLOMB DANS DES CAROTTES DE CONIFERES COMME OUTIL D'EXPLORATION MINIERE DE L'URANIUM. Evelyne Leduc, **Kurt Kyser**. Queen's Facility for Isotope Research, Queen's Université, Kingston, ON, Canada.

11:10 Table ronde

11:40 Clôture de Spectr'Atom 2013 par Hugues Paucot et Diane Beauchemin

Le congrès 59e ICASS se poursuit jusqu'à 17:00.

59th ICASS

Program

WEDNESDAY, JUNE 26, MORNING

7:00-8:40 Breakfast (ticket required) – *Laurentien (lake level – use stairs from lobby)*

New developments and applications in optical and atomic mass spectrometry I – *Grand Lodge (main level)*
Organiser and Chair: Nimal De Silva

08:40 (I025) FIELD-FLOW FRACTIONATION WITH ATOMIC AND MASS SPECTROMETRY. Atitaya Siripinyanond, Department of Chemistry, Mahidol University, Bangkok 10400, Thailand, and **Ramon M. Barnes**, University Research Institute for Analytical Chemistry, Hadley, MA, USA

09:20 (I075) HIGH SENSITIVITY QUADRUPOLE ICPMS IN MICROANALYSIS APPLICATIONS. **Andrew Toms**[1] Meike Hamester[2], René Chemnitzer[2], Peio Riss[3]. [1] Bruker Ltd , Milton, ON, Canada; [2] Bruker Daltonik GmbH, Farenheitstr. Bremen, Germany; [3]Bruker Daltonique, Marne La Vallée, France.

09:40 (I052) APPLICATIONS IN ANALYTICAL CHEMISTRY OF SAMPLES PREPARED BY FUSION ON AUTOMATED FLUXER FOR ICP-OES ANALYSIS. **Mélanie Bédard**[1], Janice Pitre[1] and Aaron Hineman[2]. [1]Corporation Scientifique Claisse®; [2]Perkin Elmer Canada.

10:00 Refreshment break, exhibition and student posters – *Borivage & Whisky Bar*

10:40 (I102) ASSESSMENT OF SILICONE IN RADIOPHARMACEUTICAL FORMULATIONS VIA ICP SPECTROMETRY FOR HUMAN PET IMAGING. **Tayebeh Hadizad**[1], Nimal De Silva[3], Keegan Flowers[1], Jean Da Silva[1,2]. [1]University of Ottawa Heart Institute, Cardiac PET Center; [2]University of Ottawa, Department of Cellular and Molecular Medicine; [3]University of Ottawa, Department of Earth Sciences.

11:00 (I010) THE CONTROL OF SPECTRAL INTERFERENCES IN QUADRUPOLE ICP-MS. **Pamela Wee**, Agilent Technologies Canada Inc.

11:40 (I045) HYPHENATING ION CHROMATOGRAPHY WITH ICP-MS TO OPEN NEW FRONTIERS IN TRACE ELEMENT SPECIATION. **Fergus Keenan**. Thermo Fisher Scientific.

12:00 Lunch (ticket required) – *Laurentien (lake level – use stairs from lobby)*

7:00-8:40 Breakfast (ticket required) – *Laurentien (lake level – use stairs from lobby)*

Analytical and spectroscopic techniques in electrochemistry I – *Villa Bellevue (main level)*
Organizers and co-Chairs: Gregory Jerkiewicz and Têko Napporn

08:40 (I056) IN SITU INFRARED SPECTROSCOPY ANALYSIS OF PRODUCT DISTRIBUTION FOR THE ELECTROCHEMICAL VALORISATION OF GLYCEROL. **Stève Baranton**, Mario Simoes, Christophe Coutanceau. Université de Poitiers, Poitiers, France.

09:20 (I048) DNA SWITCHES AS POWERFUL ANALYTICAL TOOLS: DE NOVO ELECTRONIC SENSORS FOR BIOMARKER PROTEINS. **Hua-Zhong Yu**, Department of Chemistry, Simon Fraser University, Burnaby, BC, Canada

10:00 Refreshment break, exhibition and student posters – *Borivage & Whisky Bar*

10:40 (I059) DEVELOPMENT OF POLARIZATION MODULATION INFRARED REFLECTION ABSORPTION SPECTROSCOPY (PM IRRAS) AS A METHOD FOR DETECTION OF PERSISTENT CHEMICAL WARFARE AGENTS. Keegan A. Ezekiel[1], **Vlad Zamlynny[1]**, Michael W.P. Petryk[2]. [1]Chemistry Department, Acadia University, Wolfville, NS, Canada; [2]Defense Research and Development Canada Suffield, Medicine Hat, AB, Canada.

11:20 (I014) SURFACE OXIDE GROWTH AND DISSOLUTION ON PLATINUM POLYCRYSTALLINE ELECTRODE IN AQUEOUS CF_3SO_3H. **Yoshihisa Furuya[a,b],** Gregory Jerkiewicz[a], Christine Cousins[a], Diane Beauchemin[a], Tetsuya Mashio[b], Atsushi Ohma[b], Kev Adjemian[c] . [a] Queen's University, Department of Chemistry; [b] Nissan Research Center, NISSAN MOTOR CO.,LTD; [c] Nissan Technical Center North America.

11:40 (I031) REACTIVITY OF GLUCOSE ON SUPPORTED Au AND Pd BASED NANOMATERIALS IN ALKALINE MEDIUM. **T.W. Napporn**, C. Morais, K. Servat, K.B. Kokoh, Université de Poitiers, Poitiers, France.

12:00 Lunch (ticket required) – *Laurentien (lake level – use stairs from lobby)*

WEDNESDAY, JUNE 26, AFTERNOON

New developments and applications in optical and atomic mass spectrometry II – *Grand Lodge (main level)*
Organiser: Nimal De Silva
Chair: Ramon Barnes

13:40 (I011) APPLICATION OF ELECTROTHERMAL VAPORIZATION-INDUCTIVELY COUPLED PLASMA-MASS SPECTROMETRY TO UNDERSTANDING DIFFERENCES IN CADMIUM, MERCURY, LEAD AND ZINC TRANSPORT IN CIGARETTE SMOKE. **Pappas RS**[1], Fresquez M[2], Watson CH[1]. [1]U.S. Centers for Disease Control and Prevention, Atlanta, GA, USA; [2]Battelle Technical On-Site Professional Services, Atlanta, GA, USA.

14:20 (I015) MASS SPECTROMETRY OF ACTINIDES IN ENVIRONMENTAL SAMPLES. **R.J. Cornett[1],** X-L. Zhao[2], D. Lariviere[3], R.D. Evans[4], W.E. Kieser[2] and A.E. Litherland[2]. [1]Department of Earth Sciences, University of Ottawa; [2]Department of Physics, University of Ottawa; [3]Department of Chemistry, Laval University; [4]Environmental and Resource Studies, Trent University.

14:40 (I002) MONITORING THE BEHAVIOUR OF AQUEOUS MEDIA COMPONENTS OF VARIOUS SIZES BY FRACTIONATION USING ON-LINE ICPMS. **Denis Bérubé**, Mary-Luyza Avramescu and Anca-Maria Tugulea. Health Canada, Environmental Health Centre, Ottawa, ON, Canada.

15:00 Coffee break, exhibition and posters

15:40 (I101) ULTRA-FAST ICP-OES DETERMINATIONS OF BASE METALS IN GEOCHEMICAL SAMPLES USING NEXT GENERATION SAMPLE INTRODUCTION TECHNOLOGY. John Cauduro and **Wayne Blonski**. Agilent Technologies, Inc.

16:00 (I089) DETERMINATION OF MERCURY IN ENVIRONMENTAL WATERS USING THE BRUKER AURORA M90 IN HIGH SENSITIVITY MODE**.** [1] **Peio Riss**, [2] Lionel Lumet, [1]Bruker Daltonique, CHAMPS SUR MARNE, France, [2]LEAV, La Roche sur Yon, France

16:20 (I112) WHAT'S NEW IN NEBULIZERS - A BRIEF UPDATE ON ICP & ICP/MS NEBULIZERS. **John Burgener**, Burgener Research Inc., Mississauga, ON, Canada

16:40 (I106) EXPANSION OF THE CAPABILITIES OF INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION AND MASS SPECTROMETRIES USING MIXED-GAS PLASMAS. **Yoseif Makonnen** and Diane Beauchemin, Queen`s University, Department of Chemistry, Kingston, ON, Canada.

17:00-18:00 Student poster session (authors present) - *Whisky Bar*

19:30-22:00 Magical dinner with Canadian magic champion Eric Leclerc (ticket required) - *Laurentien (lake level – use stairs from lobby)*

Analytical and spectroscopic techniques in electrochemistry II – *Villa Bellevue 1-2-5 (main level)*

Organizers and co-Chairs: Gregory Jerkiewicz and Têko Napporn

13:40 (I018) COUPLING ELECTROCHEMISTRY AND INDUCTIVELY COUPLED PLASMA – MASS SPECTROSCOPY: INVESTIGATION OF NOBLE METAL CORROSION. **Serhiy Cherevko**, Angel A. Topalov, Anna K. Schuppert, Aleksandar R. Zeradjanin, Karl J. J. Mayrhofer. Department of Interface Chemistry and Surface Engineering, Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf, Germany.

14:20 (I007) NANOMATERIAL BASED ELECTROCHEMICAL BIOSENSORS FOR MEDICAL DIAGNOSIS. **Aicheng Chen**, Sanghamitra Chatterjee, Asieh Ahmadalinezhad and Badal Shah**.** Department of Chemistry, Lakehead University, Thunder Bay, ON, Canada.

15:00 Coffee break, exhibition and posters – *Borivage & Whisky Bar*

15:40 (I017) PROBING AND HARNESSING THE REDOX-INDUCED REORGANIZATION OF SELF-ASSEMBLED FERROCENYLALKANETHIOLATE MONOLAYERS. **Antonella Badia**, Ching-I Chen, Lana Norman, and Eric Dionne. Department of Chemistry, Université de Montréal, Montréal, QC, Canada.

16:20 (I004) QUANTITATIVE SNIFTIRS AT PMIRRAS STUDIES OF THIN FILMS AT THE ELECTRIFIED METAL-SOLUTION INTERFACE. **Jacek Lipkowski.** Department of Chemistry, University of Guelph, ON, Canada.

17:00-18:00 Student poster session (authors present) – *Whisky Bar*

19:30-22:00 Magical dinner with Canadian magic champion Eric Leclerc (ticket required) - *Laurentien (lake level – use stairs from lobby)*

Nanomaterial analysis - *Villa Bellevue 3-4-6 (main level)*
Organizers and co-Chairs: Chady Stephan and Kevin Wilkinson

14:00 (I003) STRATEGIES ABOUT THE BIODISTRIBUTION OF INORGANIC NANOPARTICLES BY INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY (ICPMS). **Petra Krystek.** Institute for Environmental Studies (IVM), VU University, Amsterdam, The Netherlands.

14:40 (I001) IS SINGLE PARTICLE-ICP-MS "THE" METROLOGY TOOL FOR ENGINEERED NANOPARTICLES IN ENVIRONMENTAL MATRICES? **Chady Stephan.** PerkinElmer Inc, Woodbridge, ON, Canada.

15:00 Coffee break, exhibition and student posters – *Borivage & Whisky Bar*.

15:40 (I094) THE TOXICITY OF METAL NANOPARTICLES AND THE ROLE OF WATER CHEMISTRY AND ORGANIC LIGANDS. **B. Dubey**[1], L.R. Pokhrel[2], T.U. Silva[2]. [1]Environmental Engineering, School of Engineering, University of Guelph, Guelph, ON, Canada; [2]Department of Environmental Health, College of Public Health, East Tennessee State University, Johnson City, Tennessee, USA.

16:20 (I081) MULTI-METHOD DETERMINATION OF NANOPARTICLE SIZES, Caroline Peyrot and **Kevin J. Wilkinson**, Department of Chemistry, University of Montreal, Montreal, QC, H3C 3J7.

17:00-18:00 Student poster session (authors present) - *Whisky Bar*

19:30-22:00 Magical dinner with Canadian magic champion Eric Leclerc (ticket required) - *Laurentien (lake level – use stairs from lobby)*

Student poster session (17:00-18:00) - *Whisky Bar*

Board # **Poster**

1 (I066) CHEMICAL ECOLOGY OF THE DEFENSIVE SECRETION OF A GROUND BEETLE. **Travis M. Mattingly**[1], **Alec A. Toro**[1], Neil J. Holliday[2], and Alison E. Holliday[1]. [1]Department of Chemistry & Biochemistry, Swarthmore College, Swarthmore, PA USA 19081; [2]Department of Entomology, University of Manitoba, Winnipeg, MB R3T 2N2.

2 (I079) ON-LINE LEACHING WITH DETECTION BY INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY FOR THE DETERMINATION OF BIO-ACCESSIBLE ARSENIC IN ARABIC AREA RICE. **Randa Althobiti** & Diane Beauchemin. Queen's University, Department of Chemistry, Kingston, ON, Canada.

3 (I074) MULTI ELEMENTAL RISK ASSESSMENT IN VARIOUS TYPES OF RICE USING ON-LINE CONTINUOUS LEACHING AND ION EXCHANGE CHROMATOGRAPHY COUPLED TO ICP-MS FOR THE SPECIATION ANALYSIS OF BIO-ACCESSIBLE ELEMENTS. **Nausheen Sadiq** & Diane Beauchemin. Queen's University, Department of Chemistry, 90 Bader Lane, Kingston, ON, Canada.

4 (I080) SOLID SAMPLING ETV-ICP-OES TO STUDY THE DISTRIBUTION OF ELEMENTS IN SOIL SAMPLES SO AS TO ULTIMATELY LOCATE UNDERCOVER ORE DEPOSITS. **Farhad Kaveh** & Diane Beauchemin, Queen's University, Department of Chemistry, 90 Bader Lane, Kingston, ON, Canada.

5 (I082) THE ANALYSIS OF POTENTIALLY TOXIC ELEMENTS IN BREAD FOR RISK ASSESSMENT USING SIMPLE ON-LINE LEACHING WITH INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY. **Ram Lamsal** & Diane Beauchemin. Queen's University, Department of Chemistry, 90 Bader Lane, Kingston, ON, Canada.

6 (I050) STABLE STRONTIUM ISOTOPE FRACTIONATION IN CHEMICAL WEATHERING PROCESSES. **Hou-Chun Liu** and Chen-Feng You. Department of Earth Sciences, Earth Dynamic System Research Center, National Cheng Kung University, Tainan, Taiwan.

7 (I104) THE USE OF SOL-GELS AS SOLID CALIBRATION STANDARDS FOR FOR LASER ABLATION COUPLED TO INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY FOR THE ANALYSIS OF SAMPLES WITH ORGANIC MATRICES. **Nolan Horner** & Diane Beauchemin. Queen's University, Department of Chemistry, 90 Bader Lane, Kingston, ON, Canada.

8 (I110) POTENTIAL OF INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION SPECTROMETRY FOR THE ELEMENTAL ANALYSIS OF ORGANIC COMPOUNDS SUCH AS GLUCOSAMINE. **Tia Anderlini** and Diane Beauchemin. Queen's University, Department of Chemistry, Kingston, ON, Canada.

19:30-22:00 Magical dinner with Canadian magic champion Eric Leclerc (ticket required) - *Laurentien (lake level – use stairs from lobby)*

THURSDAY, JUNE 27, MORNING

7:00-8:40 Breakfast (ticket required) – *Laurentien (lake level – use stairs from lobby)*

Environmental applications – *Grand Lodge (main level)*
Organizer and Chair: Ewa Dabek-Zlotorzynska

08:40 (I009) USING ADVANCED SEPARATION AND MASS SPECTROMETRIC APPROACHES TO IDENTIFY AND QUANTIFY EMERGING FLAME RETARDANTS AND RELATED CONTAMINANTS IN COMPLEX ENVIRONMENTAL MATRICES. **Robert J. Letcher**. Organic Contaminants Research Laboratory, Ecotoxicology and Wildlife Health Division, Environment Canada, National Wildlife Research Centre, Carleton University, Ottawa, Canada

09:20 (I054) VALIDATION OF A NEW METHOD FOR TRACE ANALYSIS OF NANOMATERIALS IN WATER BY POLYMER GROWTH BEFORE CAPILLARY ELECTROPHORESIS. **Edward P.C. Lai**, Samar Alsudir and Zafar Iqbal. Department of Chemistry, Carleton University, Ottawa, Ontario, Canada.

09:40 (I013) LC-MS/MS METHOD DEVELOPMENT FOR THE DETERMINATION OF QUINONES IN ENVIRONMENTAL SAMPLES. **Andrzej Wnorowski** and Jean-Pierre Charland. Environment Canada, Ottawa

10:00 Refreshment break, exhibition and non-student posters - *Borivage and Whisky Bar*

10:40 (I005) CHEMICAL SPECIATION OF EMISSION FROM DIESEL VEHICLES EQUIPPED WITH UREA-SCR SYSTEMS. Mahmoud Yassine[1], **Ewa Dabek-Zlotorzynska**[1], Debbie Rosenblatt[2], Greg Rideout[2]; [1]Analysis and Air Quality Section, [2]Emissions Research and Measurement Section, Air Quality Research Division, Science and Technology Branch, Environment Canada, Ottawa, Canada.

11:00 (I067) SOURCE APPORTIONMENT OF PM2.5 IN HALIFAX, NOVA SCOTIA, CANADA DURING THE BORTAS PROJECT**. Mark D. Gibson**[1], Jeffrey Pierce[2], James Kuchta[1], Tom Duck[3], Jason Hopper[1], Stephen Beauchamp[4], David Waugh[4], Gavin King[1], Richard Leaitch[5], Tony J. Ward[6] and Paul Palmer[7]. [1]Dalhousie University, Department of Process Engineering and Applied Science, Halifax, Nova Scotia, Canada; [2]Department of Atmospheric Science Colorado State University, Colorado, US; [3]Dalhousie University, Department of Physics and Atmospheric Science, Halifax, Nova Scotia, Canada; [4]Environment Canada, Dartmouth, Nova Scotia, Canada; [5]Environment Canada, Toronto, Ontario, Canada; [6]Centre for Environmental Health Sciences, University of Montana; [7]School of GeoSciences, The University of Edinburgh, Edinburgh, UK.

11:40 (I029) MASS SPECTROMETRIC INVESTIGATION OF ASH TREE METABOLISM FOLLOWING EMERALD ASH BORER ATTACK. **Raymond E. March**[a,b], Naomi L. Stock[a], Michael C. Doran[a] and Taylor Scarr[c]. [a] Water Quality Centre, Trent University, Peterborough, ON; [b] Department of Chemistry, Trent University, Peterborough, ON; [c]Ministry of Natural Resources, Sault Ste. Marie, ON.

12:10 Lunch (ticket required) – *Laurentien (lake level – use stairs from foyer)*

7:00-9:00 Breakfast (ticket required) – *Laurentien (lake level – use stairs from lobby)*

Analytical and spectroscopic techniques in electrochemistry III– *Villa Bellevue 1-2-5 (main level)*
Organizers and co-Chairs: Gregory Jerkiewicz and Têko Napporn

08:40 (I020) INSTABILITY OF CARBON-SUPPORTED PT NANOPARTICLES IN MODEL PEMFC ENVIRONMENT: EFFECT OF INTERMEDIATE CHACTERIZATIONS, GAS ATMOSPHERE AND ELECTROLYTE. **Laetitia Dubau**,[a] L. Castanheira,[a] M. Chatenet,[a] Flávio R. Nikkuni,[b] Edson A. Ticianelli,[b] F. Maillard[a]. [a]LEPMI, UMR 5279 CNRS/Grenoble-INP/Université de Savoie/Université Joseph Fourier, Saint Martin d'Hères, France; [b]Instituto de Química de São Carlos, Universidade de São Paulo, São Carlos, SP, Brazil.

09:20 (I061) TRANSPARENT IODIDE-FREE REDOX ELECTROLYTES AND EFFICIENT NON-PT COUNTER ELECTRODE FOR DYE-SENSITIZED SOLAR CELLS. **Benoît Marsan**. Département de chimie, Université du Québec à Montréal, Montréal, QC, Canada.

10:00 Coffee break, exhibition and non-student posters - *Borivage & Whisky Bar*

10:40 (I043) ELECTROCHEMILUMINESCENCE SPECTROSCOPY. Kalen N. Swanick, Mahdi Hesari, Mark S. Workentin and **Zhifeng Ding**. The University of Western Ontario, Department of Chemistry, 1151 Richmond St., London, ON N6A 5B7, Canada.

11:20 (I040) DYNAMIC ELECTROCHEMICAL IMPEDANCE SPECTROSCOPY. **David A. Harrington.** Chemistry Department, University of Victoria, BC, Canada.

12:00 Lunch (ticket required) – *Laurentien (lake level – use stairs from lobby)*

7:00-9:00 Breakfast (ticket required) – *Laurentien (lake level – use stairs from lobby)*

Separations I - *Villa Bellevue 3-4-6 (main level)*
Organizers and co-Chairs: Alison Holliday and Karen Waldron

9:00 (I038) SEQUENCE-BASED SEPARATION OF SINGLE-STRANDED DNA USING PHOSPHATE COMPOUNDS IN CAPILLARY ELECTROPHORESIS. **Linda B. McGown** and Xueru Zhang, Department of Chemistry and Chemical Biology, Rensselaer Polytechnic Institute, Troy, NY, USA.

9:40 (I022) BINDING-INDUCED DNA ASSEMBLY AND ITS APPLICATIONS TO PROTEIN DETECTION. **Hongquan Zhang**, Feng Li, Chuan Wang, Brittany Dever, Xukun Li, Xing-Fang Li, X. Chris Le. Department of Laboratory Medicine and Pathology, University of Alberta, Edmonton, AB, Canada.

10:00 Refreshment break, exhibition and student posters – *Borivage & Whisky Bar*.

10:40 (I053) APPLICATION OF CE-UV AND HPLC-MS TO QUANTIFYING PHOSPHOPEPTIDE EXTRACTION BY IMIDAZOLIUM-BASED SALTS AND IONIC LIQUIDS. **Karen C. Waldron**, Samantha H. Sanon and Andreea R. Schmitzer, Department of Chemistry, Université de Montréal, Montréal, QC, Canada.

11:00 (I044) APPLICATIONS OF SPME/RAMAN TOWARDS BETTER DETECTION OF ORGANIC ANALYTES IN AQUEOUS PHASES. **Ikechukwu Nwaneshiudu**, Daniel T. Schwartz Department of Chemical Engineering, University of Washington, Seattle, USA.

11:20 (I036) GLUTARALDEHYDE-IMMOBILIZED CHYMOTRYPSIN AND AN IMMOBILIZED ENZYME REACTOR FOR PEPTIDE MAPPING BY CAPILLARY ELECHTROPHORESIS. **Golfam Ghafourifar**, Antoine Fleitz and Karen C. Waldron, Department of Chemistry, Université de Montréal, Montréal, QC, Canada.

11:40 (I057) DIGITAL MICROFLUIDIC SAMPLE PREPARATION FOR MASS SPECTROMETRY. **Andrea E. Kirby** and Aaron R. Wheeler. Department of Chemistry, University of Toronto, Toronto, ON, Canada.

12:00 Lunch (ticket required) – *Laurentien (lake level – use stairs from lobby)*

THURSDAY, JUNE 27, AFTERNOON

Vendors showcase – *Grand Lodge (main level)*
Organizer: Diane Beauchemin
Chair: Petra Krystek

14:00 (I006) NOVEL FLAT PLATE PLASMA GENERATION TECHNOLOGY PROVIDING BETTER SHAPE, MORE STABLE AND MAINTENANCE FREE PLASMA. **Chady Stephan.** PerkinElmer Inc, 501 Rowntree Dairy Road, unit 6, Woodbridge, ON, L4L 8H1, Canada.

14:20 (I047) INTRODUCING THE ICAP 7000 ICP-OES. **Fergus Keenan**. Thermo Fisher Scientific.

14:40 (I046) SINGLE REACTION CHAMBER MICROWAVE TECHNOLOGY: TODAY'S OPTIMIZATION FOR TRACE METALS ANALYSIS. **Gilles Groulx**, ATS Scientific.

15:00 Refreshment break, exhibition and non-student posters – *Borivage & Whisky Bar*

15:40 (I107) THE AGILENT 8800: THE ONE AND ONLY TRIPLE QUADRUPOLE ICP-MS. **Pamela Wee**. Agilent Technologies Canada Inc.

16:00 (I108) INTRODUCING A LARGER SEQUENTIAL BASED MICROWAVE DIGESTION SYSTEM FOR REAL WORLD SAMPLES AND SAMPLE SIZES. Tina Restivo, Daniel Iversen, **Judith O'Donnell**. CEM Corporation.

16:20 (I105) FROM SAMPLE DILUTION TO MATRIX REMOVAL AND PURIFICATION: AUTOMATING SAMPLE PREPARATION FOR ICPOES, ICPMS AND MC-ICPMS. **M. Paul Field** and Patrick Sulivan. Elemental Scientific, Inc., Omaha, NE, USA.

16:40 End of session

17:00-18:00 Non-student poster session – *Whisky Bar*

19:30-22:00 Banquet (ticket required) - *Laurentien (lake level – use stairs from lobby)*

Analytical and spectroscopic techniques in electrochemistry IV– *Villa Bellevue 1-2-5 (main level)*

Organizers and co-Chairs: Gregory Jerkiewicz and Têko Napporn

13:40 (I021) SUBSTRATE EFFECT ON HYDROGEN INSERTION IN Pd NANOFILMS: COMPARATIVE STUDY ON Pt AND Au SINGLE CRYSTALS USING SURFACE X-RAY DIFFRACTION. **Eric Sibert**[1,*], Maurizio De Santis[2], Yvonne Soldo-Olivier[1]. [1]LEPMI, CNRS, Saint Martin d'Hères, France; [2]Institut Néel, CNRS, Grenoble, France.

14:20 (I033) PLATINUM ELECTRO-DISSOLUTION DURING SURFACE OXIDE FORMATION AND REDUCTION. **Gregory Jerkiewicz**[1], Liyan Xing[1], M. Akhtar Hossain[1], Mohammad Alsabet[1], Diane Beauchemin[1], Kev T. Adjemian[2]. [1]Department of Chemistry, Queen's University, Kingston, ON, Canada; [2]Nissan Technical Center North America, Farmington Hills, MI, USA.

14:40 (I034) DESIGN OF AN IMPROVED BEAD-SHAPED SINGLE CRYSTAL GROWTH SYSTEM. **Nakkiran Arulmozhi**, Gregory Jerkiewicz. Department of Chemistry, Queen's University, Kingston, ON, Canada.

15:00 Refreshment break, exhibition and non-student posters - *Borivage & Whisky Bar*

15:40 (I024) SPECTROELECTROCHEMISTRY OF MANGANESE DIOXIDE THIN FILM ELECTRODES IN PROTIC IONIC LIQUIDS. **Dominic Rochefort**[1], Carlos Castro[1] and Daniel Bélanger [2]. [1]Département de chimie, Université de Montréal; [2]Département de chimie, Université du Québec à Montréal, QC, Canada.

16:20 (I069) CHARACTERIZATION OF ORGANOSILANE-POLYANILINE HYBRID CORROSION CONTROL COATINGS USING ELECTROCHEMICAL IMPEDANCE AND RAMAN SPECTROSCOPIES. **Andrew J. Vreugdenhil**[1], Robert Akid[2]. [1]Department of Chemistry, Trent University, Peterborough, ON, Canada; [2]Corrosion and Protection Centre, School of Materials, University of Manchester, Manchester, UK.

17:00-18:00 Non-student poster session – *Whisky Bar*

19:30-22:00 Banquet (ticket required) - *Laurentien (lake level – use stairs from lobby)*

Separations II – *Villa Bellevue 3-4-6 (main level)*

Organizers and co-Chairs: Alison Holliday and Karen Waldron

14:00 (I109) APPLICATION OF CAPILLARY ELECTROPHORESIS FOR THE STUDY OF INTERACTION BETWEEN OMEGA-3 FATTY ACID, ALPHA-LINOLENIC ACID (ALA), AND EPIGALLOCATECHIN GALLATE (EGCG). **Kingsley K. Donkor**[1], Laiel Soliman[1], Rebecca Paliwoda[2]. [1]Department of Physical Sciences, Thompson Rivers University, Kamloops, BC, Canada; [2]Department of Chemistry, University of Alberta, Edmonton, AB, Canada

14:20 (I016) RAPID LC-MS/MS SCREENING METHOD FOR FORTY-THREE PHOSPHODIESTERASE TYPE 5 INHIBITORS AND SIX FLAVONE DRUGS IN COUNTERFEIT SAMPLES. **Philippe Lebel**; Karen C. Waldron; Alexandra Furtos. Université de Montréal, Montréal, QC, Canada.

14:40 (I072) INVESTIGATION OF POLYDOPAMINE GROWTH ON NANOMATERIALS IN WATER BY CAPILLARY ELECTROPHORESIS. **Zafar Iqbal** and Edward P.C. Lai. Department of Chemistry, Carleton University, Ottawa, ON, Canada.

15:00 Refreshment break, exhibition and non-student posters – *Borivage & Whisky Bar*

15:40 (I062) IDENTIFICATION OF BIOACTIVE POLYPHENOLS IN APPLE PEEL BY LC-MS. **Alexandra Furtos**[1], Marie-Claude Denis[1], Stéphanie Dudonné[3], Alain Montoudis[2], Carole Garofalo[2], Yves Desjardins[3], Edgard Delvin[2], Emile Levy[2,3]. [1]Department of Chemistry, [2]Research Centre, CHU Sainte-Justine, Université de Montréal, Montreal, QC, Canada; [3]Institute of Nutraceuticals and Functional foods (INAF), Université Laval, Quebec, QC, Canada.

16:20 (I049) NON-UNIFORM VELOCITY OF HOMOGENEOUS DNA IN A UNIFORM ELECTRIC FIELD. Michael U. Musheev, **Mirzo Kanoatov**, Sergey N. Krylov. Centre for Research on Biomolecular Interactions, York University, Toronto, ON, Canada.

16:40 (I064) INVESTIGATING THE CHIRALITY OF PROLINE CLUSTERS USING ION MOBILITY-MASS SPECTROMETRY. **A.E. Holliday**[1], N. Atlasevich[2], S.J. Valentine[2], and D.E. Clemmer[2]. [1]Department of Chemistry & Biochemistry Swarthmore College, Swarthmore, PA, USA; [2]Department of Chemistry, Indiana University, Bloomington, IN, USA.

17:00-18:00 Non-student poster session – *Whisky Bar*

19:30-22:00 Banquet (ticket required) - *Laurentien (lake level – use stairs from lobby)*

Non-student poster session (17:00-18:00) - *Whisky Bar*

Board # Poster

1 (I012) TRACE-LEVELSPECIATED ANALYSIS OF Cr(III) AND Cr(VI) USING LC-ICP-MS. **Jing Miao**, Juane Song, Zhi-xu Zhang, Yan Dong, Agilent Technologies (China), Inc**.**

2 (I026) LEAD ISOTOPE ANALYSIS: REMOVAL OF ^{204}Hg ISOBARIC INTERFERENCE FROM ^{204}Pb USING A QUADRUPOLE ICP-MS EQUIPPED WITH MS/MS TECHNOLOGY. **Glenn D. Woods**, Agilent Technologies (UK), Inc.

3 (I027) STRUCTURAL TRAJECTORIES OF BIMETALLIC Pt3Co/C NANOCRYSTALLITES IN PEMFC ENVIRONMENT. Miguel Lopez-Haro,[a] Julien Durst,[b] **Laetitia Dubau**,[b] Marian Chatenet,[b] Pascale Bayle-Guillemaud,[a] Laure Guétaz,[c] Frédéric Maillard [b]. [a]CEA-INAC/UJF-Grenoble 1 UMR-E, SP2M, LEMMA, Minatec, 38054 Grenoble , France; [b]LEPMI, UMR 5279 CNRS/Grenoble-INP/Université de Savoie/Université Joseph Fourier, 1130 rue de la piscine, BP75, 38402 Saint Martin d'Hères Cedex, France; [c]CEA-LITEN, DTH, Laboratoire des Composants PEM, 17 rue des Martyrs, 38054 Grenoble, France.

4 (I028) EFFECT OF STORAGE TEMPERATURE AND PACKAGING TYPE ON THE TRACE METAL ANALYSIS OF WINE. **Jenny Nelson**[a], Helene Hopfer[b], and Susan E. Ebeler[b, a] Agilent Technologies, [b] University of California, Davis.

5 (I019) TRIPLE QUADRUPOLE ICP-MS/MS: ILLUMINATING THE CHALLENGES IN CLINICAL ANALYSES. **Amir Liba**, Agilent Technologies (UK), Inc. and Pierre Dumas, INSPQ, Quebec, Canada.

6 (I032) ORGANIC SOLVENT ANALYSIS USING A MS/MS CAPABLE INDUCTIVELY COUPLED PLASMA-MASS SPECTROMETER. **Glenn D. Woods**, Agilent Technologies (UK), Inc.

7 (I063) ON-SITE ANALYSIS OF WETLAND SURFACE WATER SAMPLES BY TOTAL REFLEXION X-RAY FLUORESCENCE SPECTROMETRY. **Pelchat, P**., Gammon, P., Vaive, J., McCurdy, M., Dunbar, A., Bryson, S., and Khan, B. Natural Resources Canada / Geological Survey of Canada.

8 (I070) DETERMINATION OF TRACE ELEMENTS IN TOY SAMPLES. [1]**Peio Riss**, [2]Lionel Lumet. [1]Bruker Daltonique, Champs sur Marne, France; [2]LEAV, La Roche sur Yon, France.

9 (I068) CERTIFICATION OF NRC CRMs TORT-3, LOBSTER HEPATOPANCREAS AND PACS-3, MARINE SEDIMENT USING ICP-AES. **Indu Pihillagawa Gedara** and Scott Willie. National Research Council of Canada, Ottawa, Ontario, Canada K1A 0R6.

10 (I091) PRODUCTION OF UNIFORMLY ^{13}C LABELLED FATTY ACIDS FOR USE AS METABOLIC TRACERS AND STANDARDS. **Catherine Fraser**, Joe Lam, Mai Phuong Le and Anthony Windust. Measurement Science and Standards, National Research Council Canada, 1200 Montreal Rd., Ottawa, ON, K1A 0R6.

11 (I058) CHEMICAL ANALYSIS IN THE FIELD BY X-RAY FLUORESCENCE SPECTROSCOPY: AN EXAMPLE FROM THE LAC DASSERAT STUDY. **Alain Grenier**, Rick McNeil, Sam Alpay. Geological Survey of Canada, Earth Sciences Sector, Natural Resources Canada, Ottawa.

12 (I099) STUDY OF FATE, MOBILITY AND TOXICITY OF TRACE METALS AFTER INTERACTION WITH ENGINEERED NANOPARTICLES AND NATURAL ORGANIC MATTER**. Tahir Yapici**, Mohammed K. Khaled, Bashir H. Warsama. Analytical Core Lab, ACL, King Abdullah University Science and Technology, KAUST, Saudi Arabia.

13 (I008) AUTOMATIC BASELINE RECOGNITION FOR FAST CORRECTION USING CONTINUOUS WAVELET TRANSFORM. **Carlo G. Bertinetto**, Tapani Vuorinen. Department of Forest Products Technology, School of Chemical Technology, Aalto University, Finland.

19:30-22:00 Banquet (ticket required) - *Laurentien (lake level – use stairs from lobby)*

FRIDAY, JUNE 28, MORNING

7:00-9:00 Breakfast (ticket required) – *Laurentien (lake level – use stairs from lobby)*

New developments and applications in optical and atomic mass spectrometry III – *Grand Lodge (main level)*
Organizer: Nimal De Silva
Chair: R.S. Pappas

8:40 (I098) HIGH PERFORMANCE ELEMENTAL ANALYSIS BY ICP SPECTROMETRY. **V. Karanassios**, A. Abdul, S. Kai. M. Lai, Department of Chemistry, University of Waterloo, Waterloo, ON, Canada

9:20 (I111) ELECTROTHERMAL VAPORISATION COUPLED TO INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION SPECTROMETRY AS A FORENSIC TOOL. Lily Huang and **Diane Beauchemin**, Queen's University, Department of Chemistry, Kingston, ON, Canada.

10:00 (I060) DETERMINATION OF Fe, Nb AND RARE EARTH ELEMENTS IN REE BEARING MINERALS USING MICROWAVE-ASSISTED ACID DIGESTION AND INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION SPECTROSCOPY. **Ruiping Wang**, Katherine Young, Yvonne Boucher and Ceferino Soriano. CanmetMining, Natural Resources Canada, Ottawa, ON, Canada

10:20 Refreshment break - *Whisky Bar*

11:00 (I103) IMPROVEMENT OF THE CAPABILITIES OF ETV-ICP-OES BY COUPLING ETV TO NEBULISATION/PRE-EVAPORATION FOR ICP-OES. **Farhad Kaveh** and Diane Beauchemin, Queen`s University, Department of Chemistry, Kingston, ON, Canada.

11:20 (I100) RECENT DEVELOPMEMNTS IN MICROPLASMA-ON-A-CHIP SPECTROMETRY, B. Spain, S. Huang, O. Nguon, M. Gauthier and **V. Karanassios.** Department of Chemistry, University of Waterloo, Waterloo, ON, Canada

11:40 (I065) QUANTITATIVE LA-ICP-MS ELEMENTAL MAPPING OF PYRITE AND ITS APPLICATIONS IN MINERAL DEPOSITS RESEARCH. **Jian-Feng Gao**, Simon E. Jackson, Zhaoping Yang. Geological Survey of Canada.

12:00 Lunch (ticket required) – *Laurentien (lake level – use stairs from lobby)*

7:00-9:00 Breakfast (ticket required) – *Laurentien (lake level – use stairs from lobby)*

Analytical and spectroscopic techniques in electrochemistry V– *Villa Bellevue 1-2-5 (main level)*
Organizers and co-Chairs: Gregory Jerkiewicz and Têko Napporn

08:40 (I030) CATALYTIC ELECTROOXIDATION OF VOLATILE ORGANIC COMPOUNDS BY OXYGEN-ION CONDUCTING CERAMICS IN OXYGEN-FREE GAS ENVIRONMENT. **Elena A. Baranova**[1], Rima J. Isaifan[1], Spyridon Ntais[1], Martin Couillard[2]. [1]Department of Chemical and Biological Engineering, Center for Catalysis Research and Innovation, University of Ottawa, Ottawa ON, Canada; [2]National Research Council Canada, Ottawa, ON, Canada.

09:20 (I023) X-RAY PHOTOELECTRON SPECTROSCOPY STUDIES OF AD-ATOMS MODIFIED HIGHLY POROUS AND X-ray X-ray PREFERENTIALLY {100} ORIENTED Pt THIN FILMS. **Daniel Guay.** INRS-Énergie, Matériaux, Télécommunications, Varennes, QC Canada.

10:00 Coffee break, exhibition and posters (Le Borivage and Whisky Bar)

10:40 (I041) ELECTROCHEMILUMINESCENCE OF IRIDIUM-CONTAINING ROMP POLYMERS FOR BIOASSAY APPLICATIONS. **Janine Mauzeroll**,[1] Ushula Mengesha Tefashe,[1] Kimberly L. Metera,[2] Hanadi F. Sleiman[2]. [1]Laboratory for Electrochemical Reactive Imaging and Detection of Biological Systems, Department of Chemistry, McGill University, Montreal, QC, Canada; [2]Department of Chemistry, McGill University, Montreal, QC, Canada.

11:20 (I035) EFFECT OF THE ROUGHNESS FACTOR ON THE RESPONSE OF ELECTROCHEMICAL QUARTZ-CRYSTAL NANOBALANCE. **Jutae Kim**, Gregory Jerkiewicz. Department of Chemistry, Queen's University, Kingston, ON, Canada.

11:40 (I037) POLARIZATION CURVES FOR POLYCRYSTALLINE PLATINUM IN 0.5 M AQUEOUS H_2SO_4 SOLUTION. **Sadaf Tahmasebi**, M. Akhtar Hossain, Gregory Jerkiewicz. Department of Chemistry, Queen's University, Kingston, ON, Canada.

12:00 Lunch (ticket required) – *Laurentien (lake level – use stairs from lobby)*

7:00-9:00 Breakfast (ticket required) – *Laurentien (lake level – use stairs from lobby)*

Speciation/Metallomics - *Villa Bellevue 3-4-6 (main level)*
Organizer and Chair: Zoltan Mester

9:00 (I088) SELECTIVITY AND SPECIFICITY OF SMALL MOLECULE METAL IMAGING DYES FOR THE DETECTION OF Zn^{2+} AND Ca^{2+} IONS IN CELLS. Julio Landero Figueroa[1], Kavitha Subramanian[2], George Deepe[2], and **Joseph Caruso**[1], [1]Departments of Chemistry and [2]Genetics, Microbiology and Biochemistry, University of Cincinnati, USA.

9:40 (I093) DEVELOPMENTS IN ISOTOPE DILUTION METHODS FOR ANALYTICAL CHEMISTRY. **Juris Meija**, Enea Pagliano, Zoltán Mester. National Research Council Canada, Measurement Science and Standards.

10:00 (I086) TRIETHYLOXONIUM DERIVATIZATION CHEMISTRY FOR THE DETERMINATION OF NITRITE AND NITRATE IN SEAWATER BY ISOTOPE DILUTION HEADSPACE GC/MS. **Enea Pagliano**, Juris Meija, Ralph E. Sturgeon, and Zoltan Mester. National Research Council Canada.

10:20 Refreshment break - *Whisky Bar*

11:00 (I090) DETERMINATION OF ARSENOBETAINE BY SPECIES SPECIFIC ISOTOPE DILUTION LC-LTQ-ORBITRAP-MS AND STANDARD ADDITION LC-ICP-MS. Lu Yang[1], Jianfu Ding[1], Paulette Maxwell[1], Margaret McCooeye[1], Anthony Windust[1], Laurent Ouerdane[1], Sezgin Bakirdere[1, 2], Scott Willie[1] and **Zoltán Mester**[1]. [1]National Research Council Canada, Ottawa, ON, Canada. [2]Middle East Technical University, Department of Chemistry, Ankara, Turkey.

11:20 (I078) FATE AND TRANSFORMATION OF ARSENIC IN THE ENVIRONMENT. **G. Caumette**, I. Koch, K.J. Reimer. Environmental Sciences Group, Royal Military College, Kingston, Ontario, Canada.

11:40 (I092) QUANTITATION OF PROTEINS AND PEPTIDES BY ISOTOPE DILUTION HPLC-ICPMS. Rui Liu[1, 2, 3], Yi Lv[2], Xiandeng Hou[2], Margaret McCooeye[1], **Lu Yang**[1] and Zoltan Mester[1]. [1]Chemical Metrology, National Research Council Canada Ottawa, Canada; [2]College of Chemistry, Sichuan University, Chengdu, Sichuan, 610064, China; [3]College of Materials and Chemistry & Chemical Engineering, Chengdu University of Technology, Chengdu, Sichuan, 610059, China.

12:00 Lunch (ticket required) – *Laurentien (lake level – use stairs from lobby)*

FRIDAY, JUNE 28, AFTERNOON

New developments and applications in optical and atomic mass spectrometry IV – *Grand Lodge (main level)*
Organizer: Nimal De Silva
Co-Chairs: Vassili Karanassios and Ralph Sturgeon

13:40 (I077) GLOW DISCHARGE MASS SPECTROMETRY AND ITS APPLICATION TO DETERMINATION OF PURITY TO SUPPORT GLOBAL TRACEABILITY OF CHEMICAL MEASUREMENTS. **R.E. Sturgeon**, B. Methven and S.N. Willie Measurement Science and Standards, National Research Council Canada, Ottawa, Canada.

14:20 (I097) LASER INDUCED BREAKDOWN SPECTROSCOPY PROGRESS FOR REAL TIME ANALYSIS.**M. Sabsabi**, F.R. Doucet, P. Bouchard, A. Moreau, L. Ozcan and A. Harhira; National Research Council Canada (NRC), Boucherville, QC, Canada

15:00 Coffee break

15:40 (I096) PHOTO- AND THERMO-CHEMICAL VAPOR GENERATION OF MERCURY. **Ralph E. Sturgeon**[1] and V. Luong [2 1] Measurement Science and Standards, National Research Council Canada, Ottawa, ON, Canada,; [2] Information Technology and Security Services, National Research Council Canada, Ottawa, ON, Canada

16:00 (I055) INTRODUCING A REVOLUTIONARY NEW ELEMENTAL ANALYSIS TECHNIQUE; THE MICROWAVE PLASMA ATOMIC EMISSION SPECTROMETER-MP-AES. **Wayne J. Blonski**. Agilent Technologies

16:20 (I051) A PURCHASER'S PERSPECTIVE ON THE PERFORMANCE AND MERITS OF THE AGILENT 4100 MICROWAVE PLASMA SPECTROMETER. **Judith Lesniak**, Swastika Laboratories Ltd.

16:40 (I095) LARGE DYNAMIC RANGE OF INSTRUMENT-CALIBRATION AND ITS POTENTIAL DANGERS. **Nimal De Silva**, Ping Zhang, Smita Mohanti, Ian D. Clark and Keiko Hattori; Department of Earth Sciences, Marion Building, University of Ottawa, Ottawa, ON, Canada K1N 6N5

17:00 End of the 59th ICASS

Microscale characterization methods for microfluidics, MEMS and materials science – *Villa Bellevue 1-2-5 (main level)*

Organizer and Chair: Jesse Greener (Université Laval)

14:00 (I042) TOWARDS AUTOMATED ELECTROCHEMICAL ELISA ON A CHIP. **Darius G. Rackus**, Alexandre Zaragoza, Alya Bhimji, Ryan Marchildon, Michael D.M. Dryden, Mahla Poudineh, Mohtashim Shamsi, Shana O. Kelley, Aaron Wheeler. Department of Chemistry, University of Toronto.

14:20 (I083) A COMPACT, SPATIALLY ENCODED FLOW CYTOMETRY APPARATUS FOR THE DETECTION OF FLUORESCENT PARTICLES. **Félix-Antoine Lavoie**, David Béliveau-Viel, Denis Boudreau. Département de chimie, Université Laval, Québec, Canada.

14:40 (I084) A SIMPLE APPROACH TO THE FABRICATION OF MICROLENS ARRAYS WITH VARIABLE FOCAL LENGTHS AND OTHER MICRO FEATURES IN MICROFLUIDIC CHANNELS. Bob Young[1], Nahid Babaei Aznaveh[2], **Jesse Greener**[2]. [1]FlowJEM Inc.; [2]Université Laval, Département de Chimie.

15:00 (I087) INTEGRATION OF SERS ACTIVE SURFACE IN MICROFLUIDIC REACTORS FOR RAMAN SPECTRAL IMAGING OF ADSORBED SPECIES. **François Paquet-Mercier** and Jesse Greener. Département de chimie, Université Laval, Québec, Canada.

15:20 End of session

Stable Isotopes by MC-ICPMS - *Villa Bellevue 3-4-6 (main level)*
Organizer and Chair: Lu Yang (National Research Council of Canada)

14:00 (I039) DETERMINATION OF METAL(LOID)S ISOTOPIC SIGNATURES AND FRACTIONATION PATHWAYS IN THE ENVIRONMENT: FROM THE MOLECULE TO THE LANDSCAPE. **David Amouroux**, Sylvain Berail, Emmanuel Tessier, Zoyne Pedrero, Vincent Perrot, Julien Barre, Caiyan Feng, Maria Jimenez Moreno. LCABIE-IPREM, UMR 5254 CNRS-UPPA, Pau, France.

14:30 (I073) EXPERIMENTAL INVESTIGATION OF ENVIRONMENTAL PROCESSES RESULTING IN FRACTIONATION OF MERCURY ISOTOPES. **H. Hintelmann**[1], W. Zheng[1,2], D. Stathopoulos[1] , M. Strok[1] and J. Chen[1,3]. [1]Water Quality Centre/Department of Chemistry, Trent University, Peterborough, Ontario, Canada; [2]Earth Sciences Center, University of Toronto, Toronto, Ontario, Canada; [3]Institute of Geochemistry, Chinese Academy of Sciences, Guiyang, GuiZhou, China.

15:00 Refreshment break, exhibition and non-student poster session – *Borivage and Foyer*

15:40 (I071) APPLICATION OF LA-MC-ICP-MS TO IN SITU DETERMINATION OF COPPER ISOTOPE RATIOS. **Simon E. Jackson**, Jean-François Montreuil and Isabelle Girard. Geological Survey of Canada.

16:10 (I085) PRECISE DETERMINATION OF B ISOTOPIC COMPOSITIONS IN LOW CONCENTRATION NATURAL SAMPLES USING MC-ICPMS. **Chen-Feng You** and Chuan-Hsiung Chung. Department of Earth Sciences, National Cheng Kung University.

16:40 (I076) A PRELIMINARY STUDY ON IN-SITU HF ISOTOPE ANALYSIS USING UP-193NM EXCIMER LASER ABLATION SYSTEM COUPLED TO AN ISOPROBE MC-ICP-MS. **Zhaoping Yang**[1,2], Alexander Iriondo[3], John C. Lassiter[2]. [1]Geological Survey of Canada; [2]Department of Geological Sciences, The University of Texas at Austin, USA; [3]Centro de Geociencias, Universidad Nacional Autónoma de México, Mexico.

17:00 End of the 59th ICASS