CSASS

Presents:

The 68th International Conference on Analytical Sciences and Spectroscopy

ICASS 2026

June 17-19, 2026

6136 University Avenue, Halifax, NS, B3H 4R2, Canada

Welcome to the 68th ICASS

The 68th ICASS Organizing Committee is pleased to welcome you to the Dalhousie University campus in Halifax, Nova Scotia. The Dalhousie Student Union Building will serve as our home for science and socializing from June 17–19, 2026. We hope you have the opportunity to enjoy the sights, sounds, smells, and, of course, the people of Canada's East Coast. Nova Scotia is Canada's Ocean Playground and has something to offer to everyone.

With your help, we have assembled an outstanding scientific program. With nearly 200 presentations distributed across 10 sessions, you will undoubtedly have some difficult choices to make about which sessions to attend and learn from. Wednesday morning will feature four award presentations, two of which are sponsored by PerkinElmer and Burgener Research. Between four and six parallel sessions will run throughout the mornings and afternoons for the remainder of the conference. Posters will be presented Wednesday evening at 5:00 pm and will remain available for viewing throughout the week.

We are indebted to our many sponsors for their generous support of the conference, including daily refreshment breaks, meals, and social events. **ESI** kicks things off by sponsoring the Wednesday morning coffee break and lunch. We also gratefully acknowledge support from **CEM Corporation**, **Anton Paar**, **Bruker**, **Daedalus Innovations LLC**, and several entities at **Dalhousie University**, including the Department of Chemistry, Faculty of Science, Office of Research Services, and Trace Analysis Research Centre.

On Thursday afternoon, we will conclude the scientific program a bit early. The first bus to Peggy's Cove departs at 4:30 pm. Don't worry if you miss that one — a second bus follows shortly behind, and a third bus (departing at approximately 5:30 pm) will bypass the lighthouse and head directly to the beach. Our lobster dinner awaits at the Shore Club in Hubbards, Nova Scotia, where we will also present the student poster prizes sponsored by the Royal Society of Chemistry.

To maximize networking opportunities and minimize travel, all meals are included with full registration, beginning with hot breakfast on Wednesday and continuing through the Friday afternoon coffee break. We hope you find something within this program that inspires you — scientifically, professionally, or culturally — and that you enjoy the hospitality of Atlantic Canada throughout your stay.

Enjoy the conference!

Alan Doucette
Conference chair

68th ICASS organizing committee:

68th ICASS Conference Chair: Alan Doucette (Dalhousie University, Halifax, NS, Canada)

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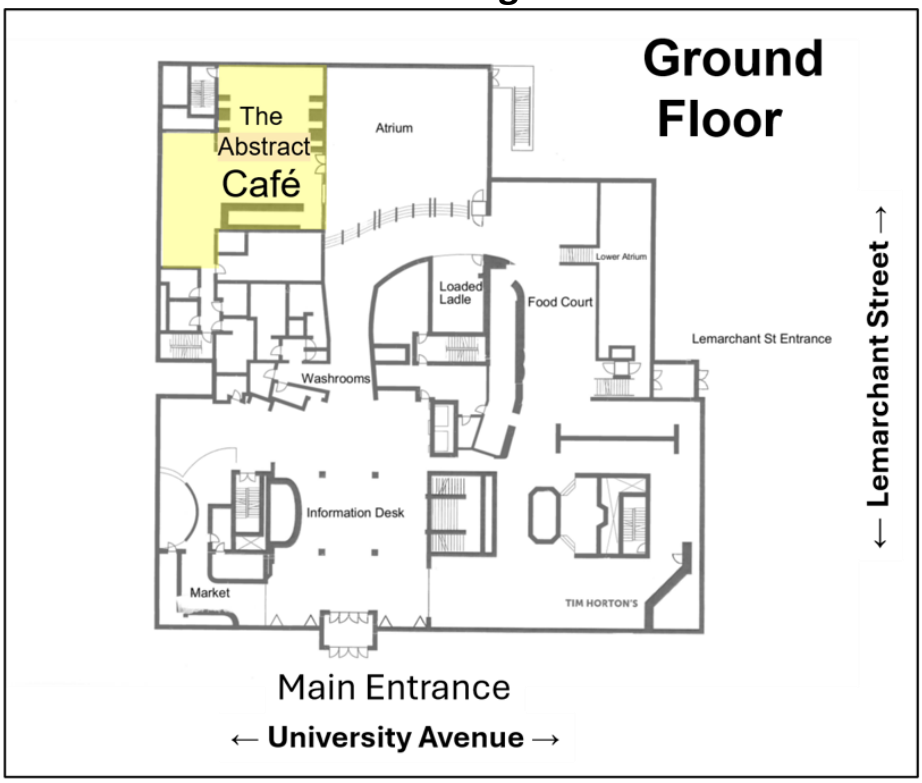
Program at a Glance:

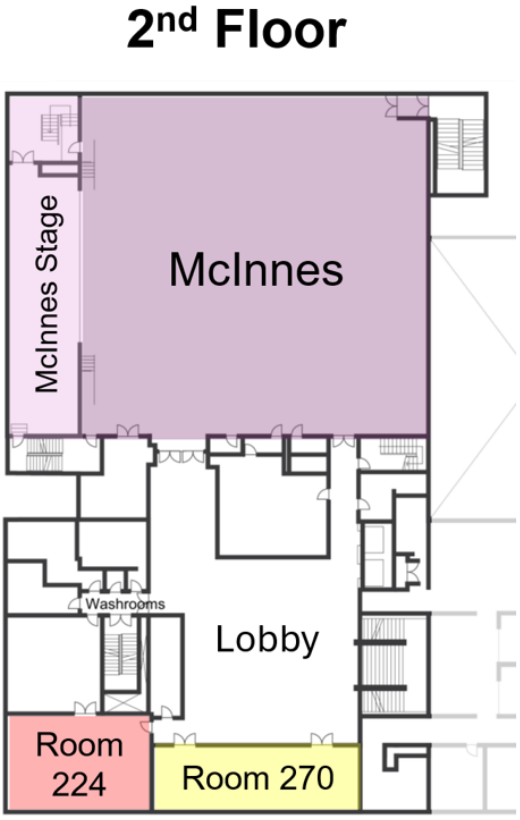
Time	Wednesday June 17, 2026	Thursday June 18, 2026	Friday June 19, 2026
7:40 - 8:30 am	Breakfast *(McInnes)*	Breakfast *(McInnes)*	Breakfast *(McInnes)*
8:40 - 10:00 am	Award Presentations I: Gerhard Herzberg Award; Undergraduate Student Award. *(McInnes*)	MS, Sep & Spec *(McInnes)* Agri & Food Safety *(302)* Electrochemistry *(307)* Speciation *(303)* Environmental *(224)*	MS, Sep & Spec *(McInnes)* Forensics & Archeology *(307)* NMR *(302)* Speciation *(303)* Environmental *(224)*
10:00 - 10:40 am	Coffee Break *(Lobby)*	Coffee Break *(Lobby)*	Coffee Break *(Lobby)*
10:40 - 12:00 pm	Award Presentations II: PerkinElmer Analytical Science & Spectroscopy Award; Burgener Research Graduate Award. *(McInnes*) [a]	MS, Sep & Spec *(McInnes)* Diagnostics & Therapeutics *(Café)* Electrochemistry *(307)* Speciation *(303)* Environmental *(224)*	MS, Sep & Spec *(McInnes)* Electrochemistry *(307)* NMR *(302)* Speciation *(303)* Environmental *(224)*
12:00 - 1:10 pm	**Exhibitions Open *(room 270)*** Lunch *(McInnes)*	Lunch *(McInnes)*	Lunch *(McInnes)* AGM (Café)
1:20 - 3:00 pm	MS, Sep & Spec *(McInnes)* Agriculture & Food Safety *(302)* Electrochemistry *(307)* Nanoparticles & Cells *(224)*	MS, Sep & Spec *(McInnes)* Diagnostics & Therapeutics *(Café)* Forensics & Archeology *(307)* Nano, Sensors & Spec *(303)* NMR *(302)* Nanoparticles & Cells *(224)*	MS, Sep & Spec *(McInnes)* Nano, Sensors & Spec *(303)* NMR *(302)*
3:00 - 3:40 pm	Coffee Break *(Lobby)*	Coffee Break *(Lobby)*	Coffee Break *(Lobby)*
3:40 - 5:00 pm (4:40 Thursday)	MS, Sep & Spec *(McInnes)* Agriculture & Food Safety *(302)* Electrochemistry *(307)* Nanoparticles & Cells *(224)*	MS, Sep & Spec *(McInnes)* Diagnostics & Therapeutics *(Café)* Forensics & Archeology *(307)* Nano, Sensors & Spec *(303)* NMR *(302)* Nanoparticles & Cells *(224)*	MS, Sep & Spec *(McInnes)* Electrochemistry *(307)* Nano, Sensors & Spec *(303)* NMR *(302)*
5:00 - 6:00 pm	Poster Presentations *(270)*	**1st bus departs for Peggy's Cove (4:30 pm)** [b] **Last bus to beach (5:30 pm)** [b] **(travel time)**	End of 68th ICASS
6:30 - 8:30 pm	Dinner *(McInnes)* *6:30 pm*	**Lobster Dinner *(Shore Club, Hubbards NS) 7:00 pm***	
8:30 - 9:00 pm		Buses Return to Halifax [b]	

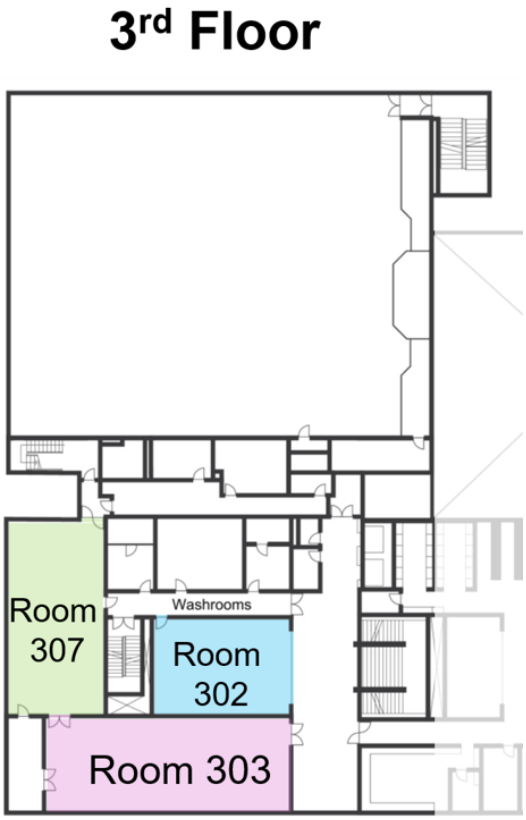
[a] *Room numbers are indicated in brackets*

[b] *Bus departures may vary to accommodate guests*

Dalhousie Student Union Building Floor Plan:







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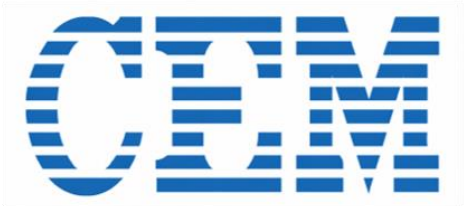

Exhibitors *(Room 270)*:

Exhibitor booths will be located along the perimeter of the Room 270, which also serves as the poster hall.

1	**Anton Paar** 2920 Rue de Miniac, Montreal, QC H4S 1N5, Canada Tel: 514-788-4862 www.anton-paar.com	5	**Agilent** 6705 Millcreek Drive, Unit 5, Missassauga, ON L5N 8B3, Canada Tel: 343-304-6251 www.agilent.com
2	**SCIEX / Phenomenex** 71 Four Valley Dr, Concord, ON L4K 4V8, Canada Tel: 905-660-9005 www.sciex.com	6	**CEM Corporation** 3100 Smith Farm Road, Matthews, NC 28104, USA Tel: 704-821-7015 www.cem.com
3	**ISOSPARK Analytical Solutions** 1601 Boul Saint-Régis, Dollard-des-Ormeaux, QC H9B 3H7 Canada Tel: 514-282-2181 www.isospark.com/	7	**Burgener Research Inc** 1690 Lakeshore Rd. W., Unit #2 Mississauga, ON L5J 1J5, Canada Tel: 905-823-3535 www.burgener.com
4	**Royal Society of Chemistry** Thomas Graham House, 290-292 Science Park Cambridge BB4 0WF UK Tel: 902-489-8055 www.rsc.org	8	**PerkinElmer Scientific Canada ULC** 501 Rowntree Dairy Rd, Unit #6, Laval, QC L4L 8H1, Canada Tel: 438-223-1445 www.perkinelmer.com
		9	**ZefScientific, Inc.** 3885 Industrial Blvd, Laval, QC H7L 4S3, Canada Tel: 514-685-1544 www.zefsci.com

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68th ICASS Information:

Registration
All attendees, speakers and exhibitors are requested to sign in and pick up their ID badge at the ICASS registration table, located in the Lobby of the 2nd Floor, Dalhousie Student Union Building. Registration will be open at 7:00 am, Wednesday, June 17th.

Parking on Dalhousie Campus
Very limited *free* street parking is available. Parking on campus, including the parking lot immediately behind the Student Union Building requires installation of the **HotSpot Parking** app onto your phone. You can create an account (email + password), add your vehicle and plate information, plus payment method before you arrive. Park only in designated HotSpot parking spaces, and use the app to enter your parking zone shown on nearby signs or QR codes. Enter your desired time and confirm payment.

Oral presentations
Projectors, and microphone are available in all meeting rooms. Session chairs can provide laptops for upload of your talk, or you may use your own computer. Unless otherwise indicated, presentations are 20 or 40 minutes in length, including the question period. Please respect the time provided.

Posters
Posters will be placed on poster boards in Room 270 using provided push pins. Please locate your abstract number and affix your poster by 10 am on Wednesday, June 17. The poster must be removed before the end of the conference. Students must attend their poster from 5:00 – 6:00 pm, June 17 to be eligible for poster prizes (three prizes, of $150, $200 and $250). Winners of poster prizes will be announced and received their prizes the following day during the lobster dinner banquet.

Attendance certificates
If you wish to receive an attendance certificate, please contact the 68th ICASS Chair, Alan Doucette at alan.doucette@dal.ca.

Exhibitors
Exhibitors may set up their booth in Room 270 (poster hall) the day prior to the conference opening, on June 16th between 11:00 am and 4:00 pm, or early the next day. Exhibition booths formally open at noon, Wednesday, June 17 and will close with lunch on Friday, June 19. Booths should be removed before 5 pm, June 19.

68th ICASS Information:

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Atlantic Shore Excursion & Dinner:

Who? Everyone! This is included with your registration fees, though you need to inform the conference director. If you haven't already done so, and wish to attend, please mention this as you pick up your badge.

What? Busses will transport you to your destination of choice. Bus 1 & 2 head to Peggy's Cove, while Bus 3 takes a more direct route, with pit stop at Queensland Beach. All buses will then take you to Hubbards Shore Club for our lobster dinner banquet.

When? Thursday, June 18th. First bus departs at 4:30 pm. Second bus soon thereafter (4:45). Final bus at 5:15pm.

Where? Buses will be just outside the Dalhousie Student Union Building. Buses will also return you to Dalhousie Campus, or Lord Nelson Hotel, following our dinner.

Why? Nova Scotia has so much to offer! We wanted to give you a small taste of the Atlantic shore.

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Program Schedule:

- The program is ordered into half-day blocks (AM/PM), by symposium.
- Sponsorship for various refreshment breaks, lunch, dinner, and individual symposia are acknowledged below.
- A seperate abstract booklet is also provided on the ICASS website.

Wednesday, June 17 (Morning)

07:40 Hot Buffet Breakfast (provided) Location: **McInnes**

Award symposium

Chair(s): **Alan Doucette** Location: **McInnes**

08:40 Conference Opening. **Alan Doucette**.

08:50 Remittance of Gerhard Hezberg Award Presentation. **Kelly Leblanc**,

08:55 (**T71001**) *2026 GERHARD HERZBERG AWARD LECTURE:* SEEING IS REALLY BELIEVING: THE REMARKABLE POWER OF NATIVE ELECTROSPRAY IONIZATION MASS SPECTROMETRY WHEN PROBING METALATION OF HUMAN METALLOTHIONEINS. **Martin J. Stillman**, Department of Chemistry, The University of Western Ontario, London, Ontario, Canada.

09:35 Remittance of Undergraduate Student Travel Award. **Kelly Leblanc**.

09:40 (**T71004**) *2026 UNDERGRADUATE STUDENT TRAVEL AWARD LECTURE:* INVESTIGATING CANCER THROUGH THE LENS OF TRYPTOPHAN METABOLISM. **Kara Loudon**; Maria Penagos Gonzalez; Michael Saley; Sabine Kuss, Laboratory for Bioanalytics and Electrochemical Sensing, University of Manitoba, Department of Chemistry, 144 Dysart Road, Winnipeg, MB R3T 2N2, Canada.

10:00 REFRESHMENT BREAK **Sponsored by ESI.**

10:40 Remittance of 2026 PerkinElmer Analytical Sciences and Spectroscopy Award. **Sandeep Kumar**.

10:45 (**T72005**) *2026 PERKINELMER ANALYTICAL SCIENCES AND SPECTROSCOPY AWARD LECTURE:* ACOUSTIC EJECTION MASS SPECTROMETRY FOR HIGH THROUGHPUT DRUG DISCOVERY. **Chang Liu**, SCIEX, 71 Four Valley Drive, Concord, ON, Canada L4K 4V8.

11:25 Remittance of Burgener Research Graduate Student Award. **John Burgener**.

11:30 (**T72007**) *2026 BURGENER RESEARCH GRADUATE STUDENT TRAVEL AWARD LECTURE*: ELECTROCHEMICAL CONVERSION OF SUBSTITUTED PHENOLS. **Tyra Lewis** [1]; Dr. Sanela Martic [2,3], [1] Materials Science; [2] Environmental and Life Sciences; [3] Department of Forensic Science, Trent University, Peterborough, ON Canada.

12:00 Exhibition Opens with Hot Lunch (provided) **Sponsored by ESI.** Location: **McInnes**

Wednesday, June 17 (Afternoon)

Analytical and Bioanalytical Applications of Mass Spectrometry, Separations, and Spectroscopy

Chair(s): **Alan Doucette; Tobias Karakach** Location: **McInnes**

13:20 (**T730111**) GLUTARALDEHYDE-CROSSLINKED ENZYMES FOR DIGESTION OF DRIED PROTEINS. **Karen Waldron**; Marie-Pier Ouellet, Université de Montréal, Campus MIL, 1375 av. Thérèse-Lavoie-Roux, Montréal QC H2V 0B3, Canada.

14:00 (**T730113**) SIMPLE ON THE SURFACE: SINGLE-STEP FABRICATION OF MOLECULARLY IMPRINTED POLYMERS THIN-FILMS FOR SAMPLING AND DIRECT INTERFACE TO MASS SPECTROMETRY. **Christina Bottaro**; Reza Akhoondi; Ali Azizi; Evan Langille; Temitope Nwachukwu; Omid Qanati, Sophia Parent; Fereshteh Shahhoseini, Memorial University of Newfoundland, Department of Chemistry, 45 Arctic Avenue, St. John's, NL A1C 5S7, Canada.

14:20 (**T730114**) MICRO-TECHNOLOGIES FOR EXTRACELLULAR VESICLE ISOLATION AND ANALYSIS. Roshan Tosh Aggarwal; Lian Miller; Isabella Walker; **Huiyan Li**, College of Engineering, University of Guelph, 50 Stone Rd E, Guelph, ON N1G 2W1, Canada.

14:40 (**T730115**) DISCOVERY OF HIDDEN N-DIMETHYLAMINE PRECURSORS. Tingting Zhao [1]; Menglan Gao [1,2]; Xiaobin Liao [2]; **Xing-Fang Li** [1], [1] Division of Analytical and Environmental Toxicology, University of Alberta; [2] Huaqiao University, Xiaomen, China.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Department of Chemistry.**

15:40 (**T740116**) SCALABLE AND COST-EFFECTIVE ABSOLUTE QUANTIFICATION OF THE HUMAN PROTEOME USING SYSQUAN. **Christoph H. Borchers** [1,2,3,4]; Timon Geib [1], Elodie Logerot [1]; Peter Kubiniok [5]; Victor Spicer [6]; Stoyan Stoychev [7]; Robert Popp [8]; René P. Zahedi [6,9,10,11]; Dorte B. Bekker-Jensen [7]; and Nicolai Bache [7], [1] Segal Cancer Proteomics Centre, Jewish General Hospital, Montreal, QC, Canada ; [2] Gerald Bronfman Department of Oncology, Jewish General Hospital, Montreal, QC, Canada; [3] Division of Experimental Medicine, McGill University Montreal, QC, Canada; [4] Department of Pathology, McGill University, Montreal, QC, Canada; [5] Quantivum Inc, Montreal, QC, Canada; [6] Manitoba Centre for Proteomics and Systems Biology, Winnipeg, MB, Canada; [7] Evosep Biosystems, Odense,

Denmark; [8] MRM Proteomics, Inc, Montreal, QC, Canada; [9] Department of Internal Medicine, University of Manitoba, Winnipeg, MB, Canada; [10] Department of Biochemistry and Medical Genetics, University of Manitoba, Winnipeg, MB, Canada; [11] Paul Albrechtsen Research Institute, CancerCare Manitoba, Winnipeg, MB, Canada.

16:20 (**T740118**) AMPLIFIED FLUORESCENCE DETECTION OF PROTEINS IN LIVE CELLS USING TARGET-INITIATED DNAZYME MOTORS. **Huyan Xiao**; Jeffrey Tao; Hanyong Peng; X. Chris Le; Hongquan Zhang, Division of Analytical & Environmental Toxicology, Department of Laboratory Medicine & Pathology, University of Alberta, Edmonton, Alberta, T6G 2G3, Canada.

16:40 (**T740119**) PROTEOME-WIDE SEROLOGY FOR VIRAL DIAGNOSTICS AND THE DISCOVERY OF HIGH-AFFINITY HUMAN ANTIBODIES. **Andrei Drabovich**; Zoe Turner; Yasmine Rais; Weize Tang, Department of Laboratory Medicine & Pathology, University of Alberta.

Agricultural and Food Safety

Chair(s): **Nausheen Sadiq** Location: **Room 302**

13:20 (**T730411**) CHALLENGES AND SOLUTIONS FOR TRACE ELEMENT DETERMINATION IN HIGH-FAT FOOD MATRICES. **Bob Lockerman**; Jessica Giles; Alicia Stell; Layla Abu-Al-Halaweh; Lanie Griffin Hough, CEM Corporation, 3100 Smith Farm Road, Matthews, NC 28104, USA.

13:40 (**T730412**) PAIRING MICROBIAL ANALYSIS WITH CHEMICAL QUANTIFICATION: THE PERFECT WINE PAIRING?. Lauren L. Grant; **Clarissa S. Sit,** Saint Mary's University, Department of Chemistry, 923 Robie Street, Halifax, NS B3H 3C3, Canada.

14:00 (**T730413**) QUANTIFYING LEAD IN TATTOO INKS. **Adelaide Treibley**; Alison Holliday, Moravian University, Department of Chemistry, 1200 Main Street, Bethlehem, PA, 18018, USA.

14:20 (**T730414**) ELEMENTAL ANALYSIS OF FOOD AND DRINKING WATER USING NEXION 1100 ICP-MS SYSTEM. **Sandeep Kumar**; Aaron Hineman, Perkin Elmer Scientific Canada ULC 501 Rowntree Dairy Rd. Woodbridge, ON, L4L8H1, Canada.

14:40 (**T730415**) ARSENIC AND NUTRITIONAL ELEMENTS IN GARDEN VEGETABLES IN YELLOWKNIFE, NORTHWEST TERRITORIES. **Iris Koch** [1]; Andre Castillo [2]; Diane Beauchemin [2], [1] Royal Military College of Canada, Department of Chemistry and Chemical Engineering, 12 Verité Ave, 17000 Station Forces, Kingston, ON K7K 7B4, Canada; [2] Queen's University, Department of Chemistry, 90 Bader Lane, Kingston, ON K7L 3N6, Canada. Mike Palmer, North Slave Research Centre, Aurora Research Institute, Aurora College, Yellowknife, NWT, CA X1A 2R3.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Department of Chemistry.**

15:40 (**T740416**) THESE CANS ARE FULL OF CARP! ACCELERATED AGING AND METAL MIGRATION IN CANNED SEAFOOD. **Elaine Lamoureux**[1]; Rachida Chekri [2]; Nathalie Marchond [2]; Clément Mazurais [2]; Petru Jitaru [2]; and Nausheen Sadiq [1], [1] Mount Royal University, Department of Chemistry, 4825 Mount Royal Gate SW, Calgary, AB T3E 6K6, Canada; [2] ANSES, Laboratory for Food Safety, Trace elements and nanomaterials unit, 14 rue Pierre et Marie Curie, 94700 Maisons-Alfort, France.

16:00 (**T740417**) FROM DISCOVERY TO APPLICATION: ADVANCING SEAFOOD SAFETY THROUGH CIGUATOXIN RESEARCH. **Elizabeth M. Mudge** [1]; Christopher O. Miles [1,2]; Alison Robertson [3]; Pearse McCarron [1], [1] National Research Council of Canada, Biotoxin Metrology, Metrology Research Centre, 1411 Oxford St, Halifax, NS, B3H 2Z1, Canada; [2] Norwegian Veterinary Institute, Ås, Norway; [3] School of Marine & Environmental Sciences, University of South Alabama, Mobile, AL, USA.

16:20 (**T740418**) EVALUATING THE BIOACCESSIBILITY OF TRACE METALS IN A PLANT BASED ALTERNATIVE PROTEIN SOURCE, CANOLA MEAL, USING ONLINE LEACHING METHOD COUPLED TO INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY. Yangyang Wang; Qiqi Zhang; **Diane Beauchemin**, Queen's University, Department of Chemistry, 90 Bader Lane, Kingston, ON K7L 3N6, Canada.

Analytical Applications of Electrochemical Interfaces and Surfaces

Chair(s): **Christa Brosseau; Dhésmond Lima** Location: **Room 307**

13:20 (**T730511**) AN ELECTROCHEMICAL MONITORING OF THROMBIN ACTIVITY USING AN ELECTROGENIC SUBSTRATE. **Anna Ignaszak**; Sina Ardalan, Brock University, Department of Chemistry, 1812 Sir Isaac Brock Way, St. Catharines, ON L2S 3A1, Canada.

13:40 (**T730512**) LEVERAGING MASS TRANSPORT IN SCANNING ELECTROCHEMICAL CELL MICROSCOPY FOR QUANTITATIVE ELECTROANALYSIS. **Joshua C. Byers**; Samaneh Salek, Département de Chimie, Université du Québec à Montréal Montréal, Québec, Canada.

14:00 (**T730513**) RECENT DEVELOPMENTS IN TOOLS FOR HIGH-TEMPERATURE AQUEOUS ELECTROCHEMISTRY. **Muna Abdulaziz** [1]; Kostyantyn Pichugin [2]; Travis Whistle [1]; Tetyana Maksyuta [2]; German Sciaini [2]; Liliana Trevani [1], [1] Faculty of Science, Ontario Tech University, 2000 Simcoe St North, Oshawa, Ontario, L1G 0C5, Canada; [2] Department of Chemistry, University of Waterloo, 200 University Ave West, Waterloo, Ontario,N2L 3G1, Canada.

14:20 (**T730514**) TRACKING CARBOPLATIN CHEMORESISTANCE IN OVARIAN CANCER BY SCANNING ELECTROCHEMICAL MICROSCOPY. **Mengzhen Lyu** [1]; Roy Daou [1]; Katherine Bazin [1]; Dao Trinh [2]; Michael A. Saley [1]; Dhésmon Lima [1,3]; Mark W. Nachtigal [4]; Sabine Kuss [1], [1] Laboratory for Bioanalytics and Electrochemical Sensing, Department of Chemistry, Faculty of Science, University of Manitoba, 144 Dysart Road, Winnipeg, Manitoba, Canada, [2] Laboratoire des Sciences, de l'Ingénieur pour l'Environnement (LaSIE) UMR CNRS 7356, Université de La Rochelle, Pôle Sciences et Technologie, Avenue Michel Crépeau, Cedex 1, La Rochelle, France, [3]

Department of Chemistry and Physics, Mount Saint Vincent University, 166 Bedford Highway, Halifax, NS, Canada, [4] Department of Biochemistry and Medical Genetics, Rady Faculty of Health Sciences, University of Manitoba, 745 Bannatyne Avenue, Winnipeg, Manitoba, Canada.

14:40 (**T730515**) SURFACE-CONFINED METAL-ORGANIC ELECTROCHROMIC MATERIALS. **Marjan Saedi**; Salma Jadali; E. Bradley Easton, Olena V. Zenkina, Ontario Tech. University.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Department of Chemistry.**

Analytical Applications of Electrochemical Interfaces and Surfaces

Chair(s): **Christa Brosseau; Dhésmond Lima**

15:40 (**T740516**) ELECTROFYING BIOFILMS - PROBING TRANSPORT AND REACTIVITY BY SCANNING GEL ELECTROCHEMICAL MICROSCOPY. **Sabine Kuss** [1]; M. L. Yusuf [1]; M. Saley1, L. Liu [2], [1] Department of Chemistry, University of Manitoba, Winnipeg, Canada; [2] CNRS, Université de Lorraine, Nancy, France

16:00 (**T740517**) EFFECT OF SURFACE OXIDATION ON SIMULATED SURFACE-ENHANCED RAMAN SPECTROSCOPY WITH SILVER NANOPARTICLES. **Scott G. Harroun**, Department of Chemistry and Biochemistry, University of Windsor, Windsor, Ontario, Canada.

16:20 (**T740518**) CREATING ADVANCED ANALYTICAL TOOLS USING ELECTROCHEMISTRY, SURFACE CHEMISTRY, AND 3D PRINTING. **Zhe She**, Department of Chemistry, Queen's University, 90 Bader Lane, Kingston, ON, Canada K7L 3N6.

16:40 (**T740519**) COMBINING MICROFLUIDIC BIOELECTROCHEMISTRY WITH MODELING FOR A DIGITAL TWIN OF ELECTROACTIVE BIOFILMS: VISUALIZING HIDDEN METABOLIC STATES. **Jiao Zhao**; Mir Pouyan Zarabadi; Laurence Yang; Jesse Greener, Département de chimie, Université Laval, 1045 avenue de la médecine, Québec G1V 0A6, Canada.

Nanoparticles, cells, and their analysis

Chair(s): **Ciprian Mihai-Cirtiu** Location: **Room 224**

13:40 (**T731013**) INFRARED-HEATED SAMPLE INTRODUCTION SYSTEM TO ENHANCE TRANSPORT EFFICIENCY FOR YEAST CELL ANALYSIS BY SINGLE CELL INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY. **Diane Beauchemin**; Zichao Zhou; Mirah J. Burgene; John Burgener. Queen's University, Department of Chemistry, Kingston, ON K7L 3N6, Canada.

14:20 (**T841018**) HIGH-THROUGHPUT METHOD FOR ELEMENTAL AND ISOTOPIC CHARACTERIZATION OF NANOPARTICLES VIA SINGLE PARTICLE-ICP-TOF-MS AND SINGLE PARTICLE-MC-ICPMS. **C. Derrick Quarles Jr** [1]; Benjamin T Manard

[2]; Hunter B Andrews [2]; Patrick Sullivan [1], [1] Elemental Scientific, Inc. Omaha, NE, USA; [2] Oak Ridge National Laboratory, Oak Ridge, TN, USA.

14:40 (**T731015**) COMPARISON OF CELLULAR IMMUNOLABELLING BETWEEN DEXTRAN-FUNCTIONALIZED QUANTUM DOTS (QDS), SUPRA-QD ASSEMBLIES, AND SUPER-QD ASSEMBLIES. **Kelly Rees**; Ghinwa H. Darwish; Agnes Szwarczewski; Jad Kaj, W. Russ Algar, Department of Chemistry, University of British Columbia, Vancouver, British Columbia, V6T 1Z1, Canada.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Department of Chemistry.**

15:40 (**T741016**) APPLICATION OF METAL NANOPARTICLES FOR HIGHLY SENSITIVE AND CONVENIENT ANALYSIS OF CELLS AND EXTRACELLULAR VESICLES. **Huiyan Li**; Rebecca Goodrum; Kara Cook, College of Engineering, University of Guelph, 50 Stone Rd E, Guelph, ON N1G 2W1, Canada.

16:20 (**T741018**) A MAGNETIC NANOPARTICLE BASED METAL ENHANCED FLUORESCENCE PLATFORM FOR QUANTIFYING EXTRACELLULAR VESICLES. **Isabella Walker**; Huiyan Li, College of Engineering, University of Guelph, 50 Stone Rd E, Guelph, ON N1G 2W1, Canada.

16:40 (**T741019**) FROM DELIVERY TO MEASUREMENT: INVESTIGATING THE INTRACELLULAR FATE OF QUANTUM DOT-BASED CONCENTRIC FRET PROBES FOR CELLULAR ANALYSIS. **Agnes Szwarczewski**; Jasmine Bernal Escalante; W. Russ Algar, University of British Columbia, Department of Chemistry, Vancouver, BC V6T 1Z1, Canada.

Wednesday, June 17 (Evening)

Posters

Analytical and Bioanalytical Applications of Mass Spectrometry, Separations, and Spectroscopy

17:00 (**P750128**) DETECTING AND QUANTIFYING TOXIC DEOXYNIVALENOL DERIVATIVES IN CEREAL GRAINS USING TANDEM MASS SPECTROEMTRY. **Radwa Asar** [1]; Maria Alejandra Oviedo-Ludena [2]; Lipu Wang [2]; Randy Kutcher [2]; and Anas El-Aneed [1], [1] College of Pharmacy and Nutrition, University of Saskatchewan, Saskatoon, SK, S7N 5E5, Canada; [2] Department of Plant Sciences, University of Saskatchewan, Saskatoon, SK S7N 5A8, Canada

17:00 (**P750126**) PROTEOMIC CHANGES DURING RESOLUBILIZATION OF ACETONE–SALT PRECIPITATED PROTEINS REVEALED BY LC–MS. **Ziheng Dang**; Chukwuemeka Edeh, Alan A. Doucette, Department of Chemistry, Dalhousie University, Halifax, NS B3H 4R2, Canada.

17:00 (**P750127**) INFORMATION-DEPENDENT ACQUISITION ENHANCED-PRODUCT ION SCAN ENABLES ELUCIDATION OF LIPIDOMIC SIGNATURE IN PLASMA OF PATIENTS WITH CEREBRAL SMALL VESSEL DISEASES (CSVD). **Esther Dazogbo** [1,2]; Thao Nguyen-Tran [1,2]; Eric Smith [3]; Steffany A. L. Bennett [1,2],

Neurolipidomics Lab, India Taylor Lipidomic Research Platform, and Department of Chemistry and Biomolecular Sciences, University of Ottawa, Ottawa, ON, Canada K1N 6N5 [1]; Ottawa Institute of Systems Biology, Department of Biochemistry, Microbiology and Immunology, University of Ottawa, Ottawa, ON, Canada K1H 8M5 [2]; Department of Clinical Neurosciences, University of Calgary, Calgary, AB, Canada [3].

17:00 (**P750123**) METHOD-DEPENDENT DISCREPANCIES IN HYDROXYCHLOROQUINE BINDING TO SERUM ALBUMINS: A MULTIMODAL SPECTROSCOPIC AND COMPUTATIONAL STUDY. **Amirreza Gholami** [1,4]; Gholamreza Dehghan [1]; Sohrab Ahmadi-Kandjani [2,3]; Samaneh Rashtbari [1]; Alan A. Doucette [4], [1] Laboratory of Biochemistry and Molecular Biology, Department of Biology, Faculty of Natural Sciences, University of Tabriz, Tabriz 5166616471, Iran; [2] Faculty of Physics, University of Tabriz, Tabriz 51663-165, Iran; [3] Research Institute for Applied Physics and Astronomy (RIAPA), University of Tabriz, Tabriz 51663-165, Iran; [4] Department of Chemistry, Dalhousie University, 6243 Alumni Crescent, Halifax, Nova Scotia, B3H 4R2, Canada.

17:00 (**P750120**) THE CIRCULATING LIPIDOME ASSOCIATES WITH WHITE MATTER DAMAGE IN VASCULAR COGNITIVE IMPAIRMENT (VCI) AND IMMUNOGLOBULIN G INDEX IN MULTIPLE SCLEROSIS. **Zahra Kanaan** [1,2]; Thao Nguyen-Tran [1]; Miroslava Cuperlovic-Culf [3]; Eric Smith [4]; Guila Fadda [2]; Steffany AL Bennett [1,2], [1] Neurolipidomics Lab, India Taylor Lipidomic Research Platform, Ottawa Institute of Systems Biology, Department of Chemistry and Biomolecular Sciences and Department of Biochemistry, Microbiology and Immunology, University of Ottawa; [2] Neuroscience, Ottawa Hospital Research Institute, The Ottawa Hospital and Department of Cellular and Molecular Medicine, University of Ottawa; [3] Digital Technologies Research Centre, National Research Council of Canada, Canada, Ottawa, ON; [4] Department of Clinical Neurosciences, University of Calgary, Calgary, Alberta, Canada.

17:00 (**P750124**) INVESTIGATING THE IMPACT OF SDS ON LC - MS DETECTION OF TRACE LEVEL PROTEINS. **Coumba Habi Kanoute**; Alan A. Doucette, Department of Chemistry, Dalhousie University, Halifax, NS B3H 4R2, Canada.

17:00 (**P750125**) TIME-RESOLVED ANALYSIS OF TRYPSIN DIGESTION KINETICS USING LC-UV. **Kassandra Lok**, Adam Lynch, Alan Doucette, Department of Chemistry, Dalhousie University, Halifax, NS, B3H 4R2.

17:00 (**P750121**) INVESTIGATING AMINO ACID CONTRIBUTIONS TO IN-SOURCE FRAGMENTATION IN ELECTROSPRAY IONIZATION MASS SPECTROMETRY. **Adam Lynch**; Alan Doucette; Carlie Charron, Department of Chemistry, Dalhousie University, Halifax, NS, B3H 4R2.

17:00 (**P750142**) PATHWAY STRENGTH: AN ALGORITHM THAT COMPUTES THE BIDIRECTIONAL STRENGTH OF METABOLIC PATHWAYS FROM STEADY STATE LIPIDOMIC MEASUREMENTS AND UTILIZATION AS A LIPID METABOLIC INDEX TO ASSESS NOVEL TRANSGLYCOSIDEASE FUNCTION IN GBA1-PD PATIENTS. Steffany A.L. Bennett [1]; **Zach Miller** [1]; Miroslava Cuperlovic-Culf [2]; Thao Nguyen-Tran [1], [1] Neurolipidomics Lab, India Taylor Lipidomic Research Platform, Ottawa Institute of Systems Biology, Department of Chemistry and Biomolecular Sciences and Department of Biochemistry, Microbiology and Immunology, University of Ottawa; [2]

Digital Technologies Research Centre, National Research Council of Canada, Canada, Ottawa, ON.

17:00 (**P750122**) DIFFERENTIATION BETWEEN CITRULLINATION AND DEAMIDATION USING PEPTIDE RETENTION PROPERTIES IN 2D LC-MS/MS. **Alexandre Prefontaine**; Rene Zahedi; Oleg Krokhin, University of Manitoba, Department of Biochemistry and Medical Genetics, 745 Bannatyne Avenue, Winnipeg, MB R3E 3P4, Canada; University of Manitoba, Department of Internal Medicine, 820 Sherbrook Street, Winnipeg, MB R3A 1R9.

Forensic and Archeological Analysis

17:00 (**P750328**) NON-DESTRUCTIVE MULTI-ELEMENT CHARACTERIZATION OF POLYMER MATERIALS FOR FORENSIC APPLICATIONS BY A LIQUID MICROJUNCTION SMAPLING INTO INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY. **Jordan Chiabai,** Diane Beauchemin, Queen's University, Department of Chemistry, 90 Bader Lane,Kingston, ON K7L 3N6, Canada.

Nanomaterials, Sensors, and Spectroscopy: From Fundamentals to Applications

17:00 (**P750646**) APTAMER-BASED BIOMARKER DETECTION FOR MUSCLE HEALTH MONITORING. **Jenna Berryman** [1]; Christa L. Brosseau [1]; Rafaela Andrade [2], [1] Department of Chemistry, Saint Mary's University, Halifax, NS, Canada; [2] Myomar Molecular Inc. Halifax, NS, Canada.

17:00 (**P750644**) NEW STRATEGIES FOR SUSTAINABLE CHEMICAL FEEDSTOCKS: PHOTOCATALYTIC AMMONIA GENERATION. **Scarlett Evans**; Geniece Hallett-Tapley, St. Francis Xavier University, Department of Chemistry, 5009 Chapel Square, Antigonish, NS B2G 2W5, Canada.

17:00 (**P750642**) PHOTOREMEDIATION OF PHARMACEUTICAL WASTE: A LIGHT-ACTIVATED APPROACH TO WATER DECONTAMINATION. **Ella MacPhee** [1]; Sydney Palmer [1]; Marzi Baneshi [2]; Stephanie MacQuarrie [2]; Geniece Hallett-Tapley [1], [1] St. Francis Xavier University, Department of Chemistry, 5009 Chapel Sq. Antigonish, NS B2G 2W5; [2] Cape Breton University, Department of Chemistry, 1250 Grand Lake Rd. Sydney, NS B1M 1A2.

17:00 (**P750643**) FUNCTIONALIZATION OF TITANIUM DIOXIDE NANOPARTICLES WITH ANTIOXIDANT-CHITOSAN MATERIALS FOR ANTI-AGING APPLICATIONS. **Makayla Bugden**; Sasha MacDonald; Geniece Hallett-Tapley, St. Francis Xavier University, Department of Chemistry, 5009 Chapel Square, Antigonish, NS B2G 2W5, Canada.

17:00 (**P750645**) PHOTOREACTIVE BIOCHAR NANOMATERIALS FOR ENHANCED ANALGETIC DECONTAMINATION PATHWAYS. **Zoe Sturmy** [1]; Judy MacInnis [2]; Stephanie MacQuarrie [2]; Geniece Hallett-Tapley [1], [1] St. Francis Xavier University, Department of Chemistry, 5009 Chapel Square, Antigonish, NS B2G 2W5,Canada; [2] Cape Breton University, Department of Chemistry,1250 Grand Lake Road, Sydney, NS, B1M 1A2, Canada.

Macromolecular NMR (sponsored by Bruker)

17:00 (**P750729**) RECOMBINANT CRIBELLATE SPIDER SILK: LINKING MOLECULAR DESIGN TO MECHANICAL PROPERTIES. **Hina Batool** [1]; Woobeen Shin [1]; Suad Rashid [1]; Jan K. Rainey [1,3], Department of Biochemistry & Molecular Biology, Dalhousie University, Halifax, NS, B3H 4R2, Canada [1]; Department of Chemistry, Dalhousie University, Halifax, NS, B3H 4R2, Canada [2]; School of Biomedical Engineering, Dalhousie University, Halifax, NS, B3H 4R2, Canada [3].

17:00 (**P750730**) COMBINED USE OF 1H RELAXATION AND J COUPLINGS TO DETERMINE PROTEIN SIDE CHAIN DIHEDRAL ANGLES. **Shaista Goel;** Jingyang Bu; David Case; Peter Hwang, Department of Biochemistry, 3-08 Medical Sciences Building.

17:00 (**P750737**) CHARACTERIZING THE STRUCTURE AND SELF-ASSEMBLY OF A HYDROPHOBIN FROM PHANEROCHAETE CARNOSA. **David Langelaan**; Calem Kenward ; Raymond He, Department of Biochemistry & Molecular Biology, Dalhousie University, Halifax, NS.

17:00 (**P750732**) PRECISE SIDE CHAIN ROTAMERIC CONSTRAINTS APPLICATION TO NMR STRUCTURE DETERMINATION. **Thomas Dumont**, University of Alberta, Department of Biochemistry,114-11450 80 Avenue, Edmonton, AB T6G 2X3, Canada.

17:00 (**P750734**) PROTEINS UNDER PRESSURE: INVESTIGATING STABLE INTERMEDIATES OF THE PYRIFORM SPIDER SILK REPETITIVE DOMAIN. **Charlotte Polo**, Dalhousie University, Department of Biochemistry & Molecular Biology, Halifax, NS, Canada.

17:00 (**P750733**) APPLYING NMR SPECTROSCOPY TO EVALUATE SPIDER SILK PROTEIN STRUCTURAL CONVERGENCE AND PLASTICITY. **Jeffrey R. Simmons** [1]; Charlotte Polo [2]; Ivan Hung [3]; Frédérick Mentink-Vigier [3]; Jan K. Rainey [1,2,4], [1] Department of Biochemistry and Molecular Biology, Dalhousie University, Halifax, NS B3H 4R2, Canada. [2] Department of Chemistry, Dalhousie University, Halifax NS B3H 4R2, Canada. [3] National High Magnetic Field Laboratory (NHMFL), Tallahassee FL 32310, USA. [4] School of Biomedical Engineering, Dalhousie University, Halifax, NS B3H 4R2, Canada.

17:00 (**P750735**) STRUCTURAL CHARACTERIZATION OF THE REPEAT UNIT OF MESOTHELAE SPIDER SILK. **Suad Rashid** [1]; Noelle Aldous [1]; Jan K. Rainey [1,2,3], [1] Department of Biochemistry & Molecular Biology, Dalhousie University, Halifax, Nova Scotia, B3H 4R2, Canada, [2] Department of Chemistry, Dalhousie University, Halifax, Nova Scotia, B3H 4R2, Canada, [3] School of Biomedical Engineering, Dalhousie University, Halifax, Nova Scotia, B3H 4R2, Canada.

17:00 (**P750736**) ADVANCES TOWARD FULL-LENGTH STRUCTURAL CHARACTERIZATION OF VITRONECTIN, A MAJOR MULTIFUNCTIONAL SERUM PROTEIN. **Kyungsoo Shin** [1]; Rana Mansour; Karthika Samimuthu; Francesca M Marassi, Medical College of Wisconsin, Department of Biophysics, 8701 W Watertown Plank Rd, Milwaukee, WI 53226.

17:00 (**P750731**) DEVELOPING AND CHARACTERIZING CONTACT-DRAWN COMPOSITE SPIDER SILK-COLLAGEN FIBRES. **Yanitza Trosel**, Department of Chemistry,

Dalhousie University, Chemistry Building, 6274 Coburg Road, Halifax, NS B3H 4R2, Canada.

Environmental Analysis

17:00 (**P750939**) ISOLATION OF PRYMNESIN-A2 FROM PRYMNESIUM PARVUM FOR REFERENCE MATERIAL PRODUCTION. **Jack Gillies** [1]; Bruno C. Garrido [1]; Cheryl Rafuse [1]; Ingunn A; Samdal Pearse McCarron [1]; Elizabeth M. Mudge [1], [1] Metrology Research Centre, National Research Council of Canada, 1411 Oxford Street, Halifax, NS, B3H 3Z1, Canada; [2] Norwegian Veterinary Institute, P.O. Box 64, 1431 Ås, Norway.

17:00 (**P750938**) ENHANCED ELECTROCHEMICAL DETECTION OF PER- AND POLYFLUOROALKYL SUBSTANCES USING SELF ASSEMBLED MONOLAYERS FOR APPLICATION IN SOIL WASHING. **Caroline Kupczyk**, Queen's University, Department of Civil Engineering, Dr. Zhe She, Queen's University, Department of Chemistry; Dr. Xiaying Xin, Queen's University, Department of Civil Engineering.

17:00 (**P750947**) EVALUATION OF EXTRACTION TECHNIQUES FOR ARSENIC SPECIATION IN FISH. **Xiufen Lu**; Quinn Goldberg; X. Chris Le, Division of Analytical and Environmental Toxicology, Department of Laboratory Medicine and Pathology, Faculty of Medicine and Dentistry, University of Alberta, Alberta T6G 2G3, Canada.

Nanoparticles, cells, and their analysis

17:00 (**P751041**) ANALYSIS OF MICROPLASTICS USING CRYOCELL LASER ABLATION SINGLE PARTICLE ICP-MS. **Andreas Limbeck**; Elias Foisner, TU Wien, Institute of Chemical Technologies and Analytics, Getreidemarkt 9/164, 1060 Vienna, Austria.

18:30 DINNER **Sponsored by Daedalus Innovations LLC.** Location: **McInnes**

Thursday, June 18 (Morning)

07:40 Hot Buffet Breakfast (provided) Location: **McInnes**

Analytical and Bioanalytical Applications of Mass Spectrometry, Separations, and Spectroscopy

Chair(s): **Alan Doucette; Tobias Karakach** Location: **McInnes**

08:40 (**T81011**) COMPARISON OF MICROSAMPLING AND MICROEXTRACTION FOR OXYLIPIN ANALYSIS. **Dajana Vuckovic**; Arianna Cirillo, Department of Chemistry and Biochemistry, Concordia University, 7141 Sherbrooke Street West, Montréal, QC, Canada H4B 1R6.

09:20 (**T81013**) PATHWAY STRENGTH: A BIOINFORMATIC ALGORITHM THAT COMPUTES THE BIDIRECTIONAL STRENGTH OF METABOLIC PATHWAYS FROM STEADY STATE LIPIDOMIC. **Steffany A.L. Bennett** [1]; Zach Miller [1]; Miroslava Cuperlovic-Culf [2]; Thao Nguyen-Tran [1], [1] Neurolipidomics Lab, India Taylor Lipidomic Research Platform, Ottawa Institute of Systems Biology, Department of Chemistry and Biomolecular Sciences and Department of Biochemistry, Microbiology and Immunology, University of Ottawa; [2] Digital Technologies Research Centre, National Research Council of Canada, Canada, Ottawa, ON.

09:40 (**T81019**) MONITORING CRITICAL QUALITY ATTRIBUTES ON LARGE MOLECULE THERAPEUTICS USING BIOZEN LC SOLUTIONS. **Saba Dehghani-Tafti**; Vikram Shenoy, Phenomenex, 411 Madrid Avenue, Torrance, CA 90501 USA.

10:00 REFRESHMENT BREAK **Sponsored by CEM Corporation.**

10:40 (**T82015**) PERTURBATIONS IN LIVER METABOLISM IN AN MPS II MOUSE MODEL REVEALED BY COMBINED PROTEOMICS AND METABOLOMICS. **Lekha Sleno**; Nathan Ghafari; Maggy Lépine, Department of Chemistry, UQAM, PO Box 8888, Downtown Station, Montreal, QC, H3C 3P8, Canada

11:00 (**T92016**) A COMPARISON OF MULTIDIMENSIONAL SEPARATION TECHNIQUES FOR THE IDENTIFICATION AND QUANTIFICATION OF MICRO-/NANOPLASTICS BY PYROLYSIS GC-MS. **Justine R. Bissonnette**; Emmanuel C. Tolefe; Nikita E. Harvey; Lindsay S. Cahill; Karl J. Jobst, Department of Chemistry, Memorial University of Newfoundland, 45 Arctic Ave. St. John's, Newfoundland and Labrador, Canada.

11:20 (**T82017**) IDENTIFICATION OF SPECIFIC VETERINARY DRUG RESIDUES FOR MORANTEL AND PYRANTEL, APPLICABLE FOR USE IN MCLA SCREENING. **Amir Sedigheh Barzegar** [1,2]; Bryn O. Shurmer [2]; Anas El-Aneed [1,2]; and Randy W. Purves [1], [1] College of Pharmacy and Nutrition; University of Saskatchewan, Saskatoon SK S7N 5E5, Canada; [2] Centre for Veterinary Drug Residues{2], Canadian Food Inspection Agency, Saskatoon, SK S7N 2R3, Canada.

11:40 (**T82018**) ANALYTICAL STRATEGIES IN THE PROFILING OF BREATH VOLATILES: APPLICATION OF HEADSPACE SOLID-PHASE MICROEXTRACTION. **Zhehan Jiang** [1]; Laura Elliott [2]; Sarah DeGrace [2]; Simon Gadbois [2]; Sherry H. Stewart [2]; Suzanne M. Budge [1], [1] Dalhousie University, Department of Process Engineering and Applied Science, 5273 DaCosta Row, Halifax, NS; [2] Dalhousie University, Department of Psychology & Neuroscience, 6287 Alumni Crescent, Halifax, NS.

12:00 LUNCH **Sponsored by Anton Paar.** *(McInnes)*

Engineering Advancements in Diagnostic and Therapeutic Approaches

Chair(s): **Sahar Mahshid** Location: **Café**

08:40 (**T81021**) DEGRADABLE POLYESTERS FOR IMMUNOREGULATORY METABOLITE DELIVERY. **Davenport Huye** [1]; Locke [2], Department of Microbiology & Immunology, Faculty of Medicine, Dalhousie University, Halifax, NS B3H 4R2, Canada. School of Biomedical Engineering, Faculties of Medicine [1]; Engineering, Dalhousie University, Halifax, NS B3H 4R2, Canada, Nova Scotia Health, Halifax, NS B3S 0H6 Canada [2].

09:20 (**T81023**) RAPID DISCOVERY-TO-SCREENING OF BACTERIOPHAGES USING A COLORIMETRIC ASSAY AND AI-BASED ANALYSIS SYSTEM. **Ekaterina Kvitka** [1]; Akansha Prasad [2]; Saakshi Arvikar [3]; Carlos D. M. Filipe [1]; TohidF Didarb [4,5]; Zeinab Hosseinidoust [1,2,5,6], [1] Department of Chemical Engineering, McMaster University, Hamilton, Ontario, L9S 8L7, Canada; [2] School of Biomedical Engineering, McMaster University, Hamilton, Ontario, L9S 8L7, Canada; [3] School of Interdisciplinary Science, McMaster University, Hamilton, ON L8S 4L7, Canada; [4] Department of Mechanical Engineering, McMaster University, Hamilton, Ontario, L9S 8L7, Canada; [5] Michael DeGroote Institute for Infectious Disease Research, McMaster University, Hamilton, Ontario, L98 4L8, Canada; [6] Farncombe Family Digestive Health Research Institute, McMaster University, Hamilton, Ontario, L8S 4K1, Canada.

10:00 REFRESHMENT BREAK **Sponsored by CEM Corporation.**

10:40 (**T82025**) NANOPLASMONIC MICROFLUIDICS FOR ENHANCED CHARGE-TRANSFER KINETICS IN CLINICAL DIAGNOSTICS. **Sara Mahshid**, Department of Bioengineering, McGill University, Montreal, Quebec, Canada.

11:20 (**T82027**) HANDHELD MULTISPECTRAL IMAGING CYTOMETER FOR IMMUNOCYTOMETRY, IMMUNOASSAYS, SEROLOGY AND HEMATOLOGY ON SINGLE DROPLET SAMPLE VOLUMES. **Alan Fine** [1,2], [1] Departments of Physiology & Biophysics, Pediatrics; School of Biomedical Engineering, Dalhousie University, Faculty of Medicine, Halifax, Nova Scotia Canada Alentic Microscience Inc. Halifax, Nova Scotia, Canada.

12:00 LUNCH **Sponsored by Anton Paar.** *(McInnes)*

Agricultural and Food Safety

Chair(s): **Nausheen Sadiq** Location: **Room 302**

09:00 (**T81042**) CADMIUM AND LEAD IN CACAO POWDER: AN INTERNATIONAL INTER-COMPARISON EXERCISE AND DEVELOPMENT OF A CERTIFIED REFERENCE MATERIAL. **Kelly LeBlanc**; Kenny Nadeau; Calvin Palmer; Enea Pagliano; Lu Yang; Patricia Grinberg, Metrology Research Centre, National Research Council Canada.

09:20 (**T81045**) GC-MS PROFILING OF ORANGE PEEL EXTRACT AND ITS PROPERTIES IN DAIRY AND PLANT-BASED YOGHURT. **Oluwasayo Esther Ogunjinmi** [1]; Olayombo Margaret Banwo [1]; Basheet Tobiloba Fayoyin [2]; Anthony Feranmi Ogunsola [1], [1] Department of Industrial Chemistry, Abiola Ajimobi Technical

University, Ibadan, 200255, Nigeria; [2] Department of Physics and Science Laboratory Technology, Abiola Ajimobi Technical University, Ibadan, 200255, Nigeria.

09:40 (**T81043**) A CUT ABOVE THE REST: ELEMENTAL FINGERPRINTING OF GRASS-FED AND GRAIN-FED ALBERTA BEEF FOR AUTHENTICATION AND RISK ASSESSMENT USING ICP-MS. **Alisa Gincher**; Angelo Trinidad; Nausheen Sadiq, Mount Royal University, Department of Chemistry, 4825 Mount Royal Gate SW, Calgary, AB T3E 6K6, Canada.

10:00 REFRESHMENT BREAK **Sponsored by CEM Corporation.**

12:00 LUNCH **Sponsored by Anton Paar.** *(McInnes)*

Analytical Applications of Electrochemical Interfaces and Surfaces

Chair(s): **Christa Brosseau; Dhésmond Lima** Location: **Room 307**

08:40 (**T81051**) DISTINCT ELECTROCHEMICAL AND CATALYTIC PROPERTIES OF ELECTRODEPOSITED AND DROP-CASTED GOLD NANOPARTICLES. **Tyra Lewis** [1]; Sanela Martic [2,3], [1] Materials Science; [2] Environmental and Life Sciences; [3] Department of Forensic Science, Trent University, Peterborough, ON Canada.

09:00 (**T81052**) MECHANISTIC INSIGHTS INTO FERROCENE-MEDIATED OXIDATIVE ELECTROPLATING. **E. Bradley Easton**; Olena V. Zenkina; Marjan Saeidi; Ghazaleh Donyapeyma; Yelyzaveta V. Antsybora, Iraklii, Ebralidze Electrochemical Materials Lab, Faculty of Science, Ontario Tech University, Oshawa, Ontario, Canada L1G 0C5.

09:20 (**T81053**) THE GOOD, THE BAD AND THE UGLY: A TALE OF MICROSCOPIC CORROSION. **Janine Mauzeroll**, Department of Chemistry, McGill University, 801 Sherbrooke St. West, Montréal, Québec H3A 0B8.

09:40 (**T81054**) ELECHEMICAL AND IN SITU FTIR SPECTROSCOPIC PROBING OF NANOSTRUCTURED CATALYSTS FOR SUSTAINABLE ENERGY APPLICATIONS. **Aicheng Chen**, University of Guelph, Department of Chemistry, 50 Stone Road East, Guelph, ON N1G 2W1, Canada.

10:00 REFRESHMENT BREAK **Sponsored by CEM Corporation.**

10:40 (**T82055**) A TRANSISTOR GATED ELECTROCHEMICALLY AND ACTUATED BY QUANTUM MECHANICAL EXCHANGE DURING REDOX AND BONDING. **Al-Amin Dhirani** [1,2,3]; Xiaoyang Chen [1], [1] Department of Physics; [2] Department of Chemistry; [3] Department of Materials Science and Engineering, University of Toronto, Canada.

11:00 (**T82056**) INVESTIGATING ELECTROCHEMILUMINESCENCE OF GOLD NANOCLUSTERS THROUGH ADVANCED SPECTROELECTROCHEMISTRY. **Ian Lee**; Ruizhong Zhang; Zhifeng Ding, Western University, Department of Chemistry, 1151 Richmond St, London, ON N6A 3K7, Canada.

11:20 (**T82057**) PLASMONIC MATERIALS IN ELECTROCHEMISTRY AND PHOTOCATALYSIS. **Alexandre G. Brolo**, University of Victoria, Department of Chemistry, Victoria, BC, Canada.

11:40 (**T82058**) ELECTROOXIDATION OF UREA: INVESTIGATING PRODUCTS FORMATION AND STABILITY OF THE CATALYSTS. **Noah Ruscica**; Erwan Bertin, St Francis Xavier University, Department of Chemistry 5009 Chapel Square, Antigonish, NS B2G 2W5 Canada.

12:00 LUNCH **Sponsored by Anton Paar.** *(McInnes)*

Speciation Analysis

Chair(s): **Zuzana Gajdosechova; Mesay Wolle** Location: **Room 303**

08:40 (**T81081**) MERCURY SPECIATION IN WHOLE BLOOD USING LIQUID CHROMATOGRAPHY WITH VAPOR GENERATION COUPLED TO ICP-MS: FITNESS FOR PUBLIC HEALTH PURPOSES. **Emily J. Pacer** [1]; Christopher D. Palmer and Patrick J. Parsons [2], [1] Division of Environmental Health Sciences, Wadsworth Center, NY State Department of Health, Albany, NY 12237; and Department of Environmental Health Sciences, University at Albany, Rensselaer, NY 12114.

09:00 (**T81082**) THE CURIOUS CORRELATION BETWEEN MERCURY AND ARSENIC IN MUSHROOMS. **Iris Koch**, Royal Military College of Canada, Department of Chemistry and Chemical Engineering, 12 Verité Ave, 17000 Station Forces, Kingston, ON K7K 7B4, Canada.

09:20 (**T81083**) IDENTIFICATION OF ARSENOLIPIDS IN MARINE STANDARD REFERNCE MATERIALS BCR-627 AND DOLT-5. **Amrika Deonarinea**;Jocelyn Fostera; Shubhra Bhattacharjeea; Miguel Chacon Teranb; Michael Findlaterb; Jeremy Bailooc; Stacey Louied, Department of Chemistry & Biochemistry, Texas Tech University, 1204 Boston Avenue, Lubbock, TX 79409, United States.

09:40 (**T81084**) TINY PARTICLES, BIG IMPACT: CRMS FOR VALIDATING SP-ICP-MS IN FOOD TESTING. **Zuzana Gajdosechova** [1]; Filip Gregar [1,2]; Monique E. Johnson [3]; Antonio R. Montoro Bustos [3]; Katrin Loeschner [4], [1] Metrology Research Center, National Research Council Canada, 1200 Montreal Road, K1A 0R6, Ottawa, Ontario, Canada; [2] Palacky University Olomouc, Faculty of Science, Department of Analytical Chemistry, Czech Republic; [3] Chemical Sciences Division, Material Measurement Laboratory, National Institute of Standards and Technology, 100 Bureau Drive, Gaithersburg, MD 20899-1070; [4] Research Group for Analytical Food Chemistry, National Food Institute, Technical University of Denmark, 2800 Kgs. Lyngby, Denmark.

10:00 REFRESHMENT BREAK **Sponsored by CEM Corporation.**

10:40 (**T92085**) SPECIATION OF ARSENIC AND SELENIUM IN FRESHWATER FISH. **Chester Lau**; Hailey Yu; Xiufen Lu; Karen S. Hoy, Wei Chi; Tetiana Davydiuk; Mason D'Souza; Juanjuan Fu; Kade Shepherd; X. Chris Le, Division of Analytical and Environmental Toxicology, Department of Laboratory Medicine and Pathology, Faculty of Medicine and Dentistry, University of Alberta, Edmonton, Alberta, Canada, T6G 2G3.

11:20 (**T82086**) AUTOMATED AND SIMULTANEOUS LC COUPLED WITH -ICPMS AND -QTOF-MS. **C Derrick Quarles Jr** [1]; Patrick Sullivan [1]; Brianna Dufek [1]; Daniel Dobson [2]; Mathis Athmer [3]; Uwe Karst, [1] Elemental Scientific, Inc. Omaha, NE, USA; [2] Genentech, San Francisco, CA, USA. [3] University of Münster, Münster, Germany.

11:40 (**T82087**) OPTIMIZED MICROWAVE-ASSISTED DISSOLUTION OF COMPLEX GEOLOGICAL AND BATTERY MATRICES FOR ACCURATE TRACE AND SPECIATION ANALYSIS. **Mohammad Reza Gholipour** [1]; Eric Landry [2], [1] Anton Paar Canada Inc. 2920 Rue de Miniac; [2] Montréal, QC H4S 1N5, Canada.

12:00 LUNCH **Sponsored by Anton Paar.** *(McInnes)*

Environmental Analysis

Chair(s): **Adrian Pang** Location: **Room 224**

08:40 (**T81091**) TWENTY YEARS OF ENVIRONMENTAL MONITORING AT THE CENTRE FOR WATER RESOURCES STUDIES CLEAN WATER LAB – HIGHLIGHTS, REFLECTIONS, AND FUTURE DIRECTIONS. **Jessica L. Bennett**; Graham A. Gagnon, Centre for Water Resources Studies, Department of Civil & Resource Engineering, Dalhousie University.

09:00 (**T81092**) NON-TARGET LC–HRMS/MS METHODS FOR ANALYSIS OF CYANOBACTERIAL SECONDARY METABOLITES. **Lydia Zamlynny** [1,2]; Elliott J. Wright [2]; Rob C. Jamieson [1]; Daniel G. Beach [1,2], [1] Centre for Water Research Studies, Dalhousie University, Halifax, NS, Canada; [2] Metrology Research Centre, National Research Council of Canada, Halifax, NS, Canada.

09:20 (**T940118**) NEW INSIGHTS INTO MICROBIAL CARBON CYCLING VIA MARINE METABOLOMICS. **Kathryn H. Halloran**; Brianna Garcia; Natalie Graham; Melissa Kido Soule; Elizabeth B. Kujawinski; Erin M. Bertrand, Department of Biology, Dalhousie University, Halifax, NS, B3H 4R2, Canada.

09:40 (**T82095**) IDENTIFICATION AND VERIFICATION OF POTENTIAL PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) IMPACTED GROUNDWATER. **Adrian Pang** [1]; Dylan Roberts [2]; Dean Morrow [1]; Taylor Vereecken [1]; Iris Koch [1]; Kela Weber [1], Military College of Canada, Department of Chemistry and Chemical Engineering, 12 Verité Ave, 17000 Station Forces, Kingston, ON K7K 7B4, Canada. 2Greenstone Engineering Ltd, 8A Cumberland Street North, Suite #203, Thunder Bay, ON P7A 4K9.

10:00 REFRESHMENT BREAK **Sponsored by CEM Corporation.**

10:40 (**T81094**) A DUSTURBING REALITY: EXAMINING ELEMENTAL DISSOLUTION AND HUMAN HEALTH RISK IN THE ATMOSPHERIC AGING OF DUST AND COAL FLY ASH USING ICP-MS. **Nausheen Sadiq** [1]; Catharina Veldman [1]; Madison Smith [1]; Arden Oglivie [1]; Wisam Mohammed [2]; Yara Khalaf [2]; Hind A. Al-Abadleh [2], [1] Mount Royal University, Department of Chemistry and Physics, 4825 Mount Royal Gate

SW, Calgary, AB, T3E 6K6, Canada. [2] Wilfrid Laurier University, Department of Chemistry and Biochemistry, 75 University Ave W, Waterloo, ON, N2L 3C5, Canada.

11:00 (**T82096**) CHARACTERIZATION OF PER- AND POLYFLUORINATED ALKYLATED SUBSTANCES (PFAS) IN AQUEOUS FILM-FORMING FOAMS (AFFF) FOR FIREFIGHTING IN SOURCES, FIREFIGHTING VEHICLES, AND THE ENVIRONMENT. **Iris Koch**; Adrian Pang; Chris Kocur; Dean Morrow; Taylor Vereecken; Kela Weber, Royal Military College of Canada, Department of Chemistry and Chemical Engineering, 12 Verité Ave, 17000 Station Forces, Kingston, ON K7K 7B4, Canada.

11:20 (**T82097**) EXPLORING 'FOREVER CHEMICAL' CONTAMINATION IN PRINCE EDWRAD ISLAND DRINKING WATER SOURCES. **Nicole Unterlander**; Kelsey Jordan; Adriana Catalli; Bouchaib El Bahh; Anja Vogt, National Research Council Canada, Aquatic and Crop Resource Development, 550 University Avenue, Charlottetown, PE, C1A 4P3, Canada.

11:40 (**T82098**) THE ROLE OF ALGAE BLOOMS AND INORGANIC CONTAMINANT CYCLING ALONG LAKE ERIE SHORELINES. **Vaughn Managl**, Brock University; Chemistry Department, 500 Glenridge Avenue, St. Catharines, Ontario L2S 3A1, Canada.

12:00 LUNCH **Sponsored by Anton Paar.** *(McInnes)*

Thursday, June 18 (Afternoon)

Analytical and Bioanalytical Applications of Mass Spectrometry, Separations, and Spectroscopy

Chair(s): **Alan Doucette; Tobias Karakach**

13:20 (**T830111**) A NOVEL METHOD TO EXTERNALLY ADJUST COLUMN LENGTH DURING GAS CHROMATOGRAPHY OPERATION. **Kevin B. Thurbide**; Kade L. Shepherd, Department of Chemistry, University of Calgary, 2500 University Dr. NW, Calgary, AB, T2N 1N4, Canada.

14:00 (**T830113**) INTRODUCING MC-MICAP-MS: ADVANCING METAL ISOTOPIC ANALYSIS WITH NITROGEN PLASMA. **Anika Retzmann** [1]; Hadassah Michelle Dubois Recinos [1]; Gabriella Gelinas [1]; Kerri Miller [2]; Ashok Menon [3]; Michael Wieser [1], [1] University of Calgary – Department of Physics and Astronomy, 2500 University Dr. NW, Calgary, AB T2N 1N4, Canada; [2] University of Calgary – Arnie Charbonneau Cancer Institute, 3280 Hospital Dr. NW,Calgary, AB T2N 4Z6, Canada; [3] Radom Instruments LLC, N27W23676 Paul Rd, Pewaukee, WI 53072, USA.

14:20 (**T830114**) IMPACT OF HILIC STATIONARY PHASE CHEMISTRY ON THE SELECTIVITY AND ELUTION ORDER OF NEUROPATHOLOGICAL GLYCOSPHINGOLIPIDS AND STERYL GLYCOSIDES. **Irina Alecu** [1]; Thao Nguyen-Tran [2]; Steffany A.L. Bennett [3], Neurolipidomics Lab, India Taylor Lipidomic Research Platform, and Department of Chemistry and Biomolecular Sciences[1].

Ottawa Institute of Systems Biology, Department of Biochemistry, Microbiology and Immunology[2]. University of Ottawa, Ottawa, ON, Canada [3].

14:40 (**T830115**) ANALYSIS OF GEOLOGICAL SAMPLES USING A LIQUID MICROJUNCTION SAMPLE INTRODUCTION SYSTEM FOR INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY. **Alexander W. Bewsh**; Diane Beauchemin, Queen's University, Department of Chemistry, 90 Bader Lane, Kingston, ON, K7L 3N6, Canada.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Faculty of Science.**

15:40 (**T840116**) AN AMBIENT IONIZATION PLATFORM FOR THE ANALYSIS OF ADHERENT CELL CULTURES AND FFPE TISSUE SAMPLES. **Richard Oleschuk** [1]; Mina Alidoust [1]; Rachel Wood [1,2]; Malek Hassan [1]; Bryan Young [1]; Jess Deng [1]; Randy Ellis [3]; Chris Nicol [2,4], [1] Department of Chemistry, Queen's University, Kingston, Ontario, Canada; [2] Departments of Pathology and Molecular Medicine, Queen's University, Kingston, Ontario, Canada; [3] School of Computing, Queen's University, Kingston, Kingston, Ontario, Canada; [4] Sinclair Cancer Research Institute, Queen's University, Kingston, Ontario, Canada.

16:00 (**T92017**) INVESTIGATING THE EFFICIENCY OF ALGINATE-BASED ENZYME ENTRAPMENT IN HYDROGELS IN BOTTOM-UP PROTEOMICS COMPARING WITH THE TRADITIONAL METHODS. **Golfam Ghafourifar**, Chemistry Department, University of the Fraser Valley, 33844 King Rd. Abbotsford, BC V2S 7M8.

16:30 Atlantic Shore Dinner Excursion **Sponsored by the Trace Analysis Research Center, Dalhousie University.** *(buses will be parked outside Student Union Building)*

Engineering Advancements in Diagnostic and Therapeutic Approaches

Chair(s): **Sahar Mahshid** Location: **Café**

13:20 (**T830211**) A PLASMA-ENHANCED FABRICATION AND REGENERATION OF A BIOSENSOR PLATFORM. **Anna Ignaszak** [1]; Sina Ardalan [1]; Clara Tran [2]; Stuart T. Fraser [2]; Marcela Bilek [2], [1] Brock University, Department of Chemistry, 1812 Sir Isaac Brock Way, St. Catharines, ON L2S 3A1, Canada; [2] School of Biomedical Engineering, J03, The University of Sydney, NSW 2008, Australia, Culturon Pty Ltd, School of Physics, A28, The University of Sydney, NSW 2006, Australia.

14:00 (**T830213**) NANO-BIOMATERIALS FOR DIAGNOSTICS, THERAPEUTICS AND PREVENTING SPREAD OF INFECTIOUS DISEASES. **Tohid F. Didar**, School of Biomedical Engineering, McMaster University, Hamilton, Ontario, Canada.

14:40 (**T830215**) DUAL-FUNCTION AU–MXENE MICRONEEDLES ENABLE DEEP DRUG DELIVERY AND IN SITU LACTATE MONITORING FOR CHRONIC WOUND REPAIR. **Majed Amini** [1,2]; Dragos F. Mantaila [1,2]; Milena Lima [2,3]; Babak Anasori [5]; Hamed Shahsavan[2,4]; Emmanuel Ho [2,3]; Mahla Poudineh[1,2], [1] Department of Electrical and Computer Engineering, University of Waterloo, Waterloo, ON, Canada; [2] Waterloo Institute for Nanotechnology, University of Waterloo, Waterloo, ON, Canada; [3] School of Pharmacy, Faculty of Science, University of Waterloo, Kitchener,

ON, Canada; [4] Department of Chemical Engineering, University of Waterloo, N2L 3G1 Waterloo, Ontario, Canada; [5] School of Mechanical Engineering, Purdue University, West Lafayette, IN, USA.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Faculty of Science.**

15:40 (**T840216**) DESIGNING NEW APPROACH METHODS AND ANALYTICAL TECHNIQUES TO EVALUATE CELL-BASED IMMUNOTHERAPEUTICS. **Joseph Kinsella**, Department of Bioengineering, McGill University.

16:20 (**T840218**) RAPID DIAGNOSTICTECHNOLOGIES FROM CONCEPTUALIZTION TO COMMERCIALIZTION : A JOURNEY FOR QOLOREX. **Sahar Mahshid**, Department of Bioengineering, McGill University, Montreal, Quebec, Canada.

16:30 Atlantic Shore Dinner Excursion **Sponsored by the Trace Analysis Research Center, Dalhousie University.** *(buses will be parked outside Student Union Building)*

Forensic and Archeological Analysis

Chair(s): **Margaret MacConnachie** Location: **Room 307**

13:20 (**T830311**) SOME RECENT CASE STUDIES IN HERITAGE SCIENCE AT THE CANADIAN CONSERVATION INSTITUTE. **Stephanie Barnes**, Canadian Conservation Institute, 1030 Innes Road, Ottawa, ON K1B 4S7, Canada

13:40 (**T830312**) SWEAT, SPIT, AND SCIENCE: TRACE METAL ANALYSIS OF SWEAT AND SALIVA SAMPLES TO DETERMINE SEX, ETHNICITY, AND AGE IN FORENSIC SCIENCE USING INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY (ICP-MS). **Aimee Williams**; Madison Smith; Nausheen Sadiq, Mount Royal University, Department of Chemistry and Physics, 4825 Mount Royal Gate, Calgary, AB T3E 6K6, Canada.

14:00 (**T830313**) SULFUR ISOTOPES FROM MEASUREMENT TO INTERPRETATION IN ARCHAEOLOGY. **Damon Tarrant**, Michael Richards. Department of Archaeology, Simon Fraser University, 8888 University Drive, Burnaby British Columbia V5A1S6.

14:20 (**T830314**) FROM ADULTS TO CHILDREN: A COMPARATIVE STUDY OF ETV-ICPOES AND ETV-ICPMS FOR HAIR-BASED SEX DETERMINATION. **Darrian Prendergast**; Ella Lapointe; Diane Beauchemin, Queen's University, Department of Chemistry, Kingston, ON K7L 3N6, Canada.

14:40 (**T830315**) ACCURATE SEX DETERMINATION THROUGH MULTI-ELEMENTAL ANALYSIS OF FINGERNAILS USING ELECTROTHERMAL VAPORIZATION COUPLED TO INDUCTIVELY COUPLED PLASMA OPTICAL EMISSION SPECTROMETRY. **Margaret MacConnachie**; Andrew Schug; Diane Beauchemin, Queen's University, Department of Chemistry, Kingston, ON K7L 3N6, Canada.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Faculty of Science.**

16:30 Atlantic Shore Dinner Excursion **Sponsored by the Trace Analysis Research Center, Dalhousie University.** *(buses will be parked outside Student Union Building)*

Nanomaterials, Sensors, and Spectroscopy: From Fundamentals to Applications

Chair(s): **Malama Chisanga; Michael Freund; Danielle Tokarz** Location: **Room 303**

13:20 (**T830611**) INKJET-PRINTED SERS SENSORS FOR FIELD CHEMICAL ANALYSIS. **Li-Lin Tay**; Hal Bowen-Smith; Ali Ghaemi; Greg Wardle; John Hulse, National Research Council Canada, Metrology Research Centre, Ottawa, ON Canada K1A0R6.

13:40 (**T830612**) ADVANCING ELETROCHEMICAL SERS USING SCREEN-PRINTED ELECTRODES. **Christa L. Brosseau**; Claire Cullinan; Mary Stackaruk, Department of Chemistry, Saint Mary's University, Halifax, NS, Canada, B3H 3C3.

14:00 (**T830613**) OPTOPLASMONICS AND DEUTERIUM ISOTOPIC LABELLING FOR RAPID ANTIBIOTIC SUSCEPTIBILITY TESTING. **Malama Chisanga** [1]; Ryma Boudriesa [1]; Claudele Lemay-St-Denisb [2]; Xinran Weic [3]; Yuzhang Liang [3]; Mengdi Lu [3]; Wei Peng [3]; Joelle N. Pelletier [2]; Jean-Francois Masson [2], [1] Department of Chemistry, Dalhousie University, Coburg Road, Halifax, NS, B3H 4R2, Canada; [2] Department of Chemistry, Institut Courtois, Québec Centre for Advanced Materials (QCAM); [3] Regroupement Québécois sur les Matériaux de Pointe (RQMP), and Centre interdisciplinaire de recherche sur le cerveau et l'apprentissage (CIRCA), Université de Montréal, CP 6128 Succ. Centre-Ville, Montréal, Québec, H3C 3J7, Canada; [3] College of Physics, Dalian University of Technology, Dalian, 116024, China.

14:20 (**T830614**) CHICKENS AND EGGS: SERS MONITORING OF GOLD NANOPARTICLE LIGAND EXCHANGE. Samuel A. Levesque; Anna L. Ritter; Nghi La; Cynthia J. McNair, Nathan M. Regular; Edith R. Mummery; **Vicki Meli**, Mount Allison University, Department of Chemistry and Biochemistry, Sackville NB E4L 1E4, Canada.

14:40 (**T830615**) POINT OF CARE DIAGNOSIS OF VITAMIN D. **Onur Bulut**; Kevin Hewitt, Dalhousie University, Department of Physics and Atmospheric Science, 6310 Coburg Road, Halifax, NS B3H 4R2, Canada.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Faculty of Science.**

15:40 (**T840616**) ELECTROPOLYMERIZATION OF AU NANOPARTICLE INCORPORATED POLY(DOPAMINE) THIN-FILMS AT A MICRO LIQUID-LIQUID INTERFACE. **Jane Stockmann**, Department of Chemistry, Memorial University of Newfoundland, Core Science Facility, 45 Arctic Avenue, St. John's, NL A1C 5S7, Canada.

16:00 (**T840617**) USING COPPER NANOSPECIES TO ADVANCE CHEMICAL FEEDSTOCK SYNTHESIS: A LIGHT-MEDIATED APPROACH TO SUSTAINABLE PROCESSES. **Geniece L. Hallett-Tapley**; Leah Baylis; Anna Mulak; Lauren Gatto; Jillian Fougere, St. Francis Xavier University, Department of Chemistry, 5009 Chapel Square, Antigonish, NS B2G 2W5, Canada.

16:20 (**T840618**) QUANTUM DOTS ENGINEERING: FROM FUNDAMENTAL TO PRODUCT DEVELOPMENT. **Gurpreet S. Selopala**; Swedha Madhua; Joshita P. Kumara; Msughter Guusua; Umair Sohaila; Sukhjinder Singha; Manmeet Kaur Chhinaa, Sustainable Nanoengineering Lab, Department of Engineering, Faculty of Agriculture, Dalhousie University, 39 Cox Rd, Banting Building, B2N 5E3, Truro, NS, Canada.

16:30 Atlantic Shore Dinner Excursion **Sponsored by the Trace Analysis Research Center, Dalhousie University.** *(buses will be parked outside Student Union Building)*

Macromolecular NMR (sponsored by Bruker)

Chair(s): **David Langelaan; Jan Rainey** Location: **Room 302**

13:20 (**T830711**) THE ESSENTIALITY OF SOLUTION NMR SPECTROSCOPY IN THE POST-ALPHAFOLD ERA. **Lewis Kay**, Department of Chemistry, Lash Miller Chemical Laboratories, 80 St. George Street Toronto, ON M5S 3H6, Canada.

14:00 (**T830713**) UNDERSTANDING RECOMBINANT ACINIFORM SILK FIBRILLOGENESIS THROUGH SOLID-STATE NMR SPECTROSCOPY. **Sara Evans** [1]; Lingling Xu [2]; Marie-Laurence Tremblay [2]; Anamika Sulekha [2]; Ivan Hung [4]; Frederic Mentink-Vigier [4]; Xiang-Qin Liu [2]; Jan K. Rainey [1,3], [1] Dalhousie University, Department of Chemistry, Halifax, Nova Scotia, Canada; [2] Dalhousie University, Department of Biochemistry & Molecular Biology, Halifax, Nova Scotia, Canada; [3] Dalhousie University, School of Biomedical Engineering, Halifax, Nova Scotia, Canada; [4] National High Magnetic Field Laboratory, Tallahassee, Florida, USA.

14:20 (**T830714**) CONFORMATION DYNAMICS AS AN EXPLANATION FOR THE PROSMICUITY OF AMI-DOMAIN IN INTEGRIN MAC-1. **Heather Couture**; Xu Wang, School of Molecular Sciences, Arizona State University, Tempe, Arizona, USA.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Faculty of Science.**

15:40 (**T840716**) STRUCTURAL BASIS OF RECEPTOR RECOGNITION AND IMMUNITY IN THE GARVICIN Q BACTERIOCIN SYSTEM. **T. Mallett**; T. Lamer; J.C. Vederas, Department of Chemistry, University of Alberta, Edmonton, AB, Canada.

16:00 (**T840717**) STRIKING DIFFERENCES IN INCLUSION BODY STRUCTURE AND STABILITY CONNECT TO NATIVE MONOMER PROPERTIES. **Elizabeth M Meiering**; Bruna Siebeneichler; Pedro Rodriguez Cruz; Xiaoyue Liu; Dalia Naser; Anna Schaefer, Department of Chemistry, University of Waterloo, Waterloo, Ontario, Canada.

16:30 Atlantic Shore Dinner Excursion **Sponsored by the Trace Analysis Research Center, Dalhousie University.** *(buses will be parked outside Student Union Building)*

Nanoparticles, cells, and their analysis

Chair(s): **Diane Beauchemin** Location: **Room 224**

13:20 (**T831011**) BUILDING THE FOUNDATION FOR ENVIRONMENTAL NANOBIOGEOCHEMISTRY: SCOPE, PROGRESS, AND FRONTIERS. Salani U. Fernando [1]; Claire M. Churchill [1]; Lakshman W. Galagedara [1]; Manokararajah Krishnapillai [1]; **Chad W. Cuss** [1]; Isabelle A. M. Worms [2]; Vera Slaveykova [2], M. Tharaud [3]; Marc F. Benedetti [3]; Houssame-Eddine Ahabchane [4]; Madjid Hadioui [4]; Kevin J Wilkinson [4] Michaela Schmitz [5]; Roland Drexel [5]; Florian Meier [5]; Agil Azimzada [6]; Björn Meermann [6], [1] Laboratory for Environmental and Analytical

Nanogeochemistry, Memorial University of Newfoundland, Canada; [2] Département F.-A. Forel des sciences de l'environnement et de l'eau, Université de Genève, Switzerland; [3] Université Paris Cité – Institut de Physique du globe de Paris, CNRS, F75005 Paris, France; [4] Biophysical Environmental Chemistry Group, Université de Montréal, Montréal, Canada; [5] Postnova Analytics GmbH, Landsberg, Germany; [6] Federal Institute for Materials Research and Testing (BAM) – Division 1.1 – Inorganic Trace Analysis (ITALab), Berlin, Germany.

14:00 (**T831013**) SUSTAINABLE NANOTECHNOLOGY: ALGAE-BASED SYNTHESIS OF COPPER OXIDE NANOPARTICLES. **Vaughn Mangal**; Reem Mahamoud, Brock University, Department of Chemistry

14:20 (**T831014**) SEPARATION-COUPLED MULTIDIMENSIONAL ANALYSIS OF POLYETHYLENE BIODEGRADATION PRODUCTS REVEALS NANOPLASTICS AND SHORT-CHAIN OLIGOMERS FROM GUT-MICROBE-MEDIATED TRANSFORMATION. **Jesse Greener**; Saqib Ali; Nan Jia; Sabhjeet Kaur; George C. diCenzo, Département de chimie, Université Laval, 1045 avenue de la médecine, Québec G1V 0A6, Canada

14:40 (**T831015**) DETERMINATION OF NANOPARTICLE COMPOSITION USING LASER ABLATION SINGLE PARTICLE ICP-QMS. **Elias Foisner**; Andreas Limbeck, TU Wien, Institute of Chemical Technologies and Analytics, Getreidemarkt 9/164, 1060 Vienna, Austria.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University, Faculty of Science.**

15:40 (**T841016**) MULTIELEMENT DETECTION OF METAL-BASED NANOPARTICLES IN BIOLOGICAL FLUIDS BY ADVANCED SINGLE-PARTICLE ICP-MS. **Ciprian M. Cirtiu**, Institut national de santé publique du Québec (INSPQ), 945 Av. Wolfe, Québec, QC, G1V 5B3, Canada.

16:30 Atlantic Shore Dinner Excursion **Sponsored by the Trace Analysis Research Center, Dalhousie University.** *(buses will be parked outside Student Union Building)*

Friday, June 19 (Morning)

07:40 Breakfast Buffet (provided) Location: **McInnes**

Analytical and Bioanalytical Applications of Mass Spectrometry, Separations, and Spectroscopy

Chair(s): **Alan Doucette; Tobias Karakach** Location: **McInnes**

08:40 (**T91011**) FROM SPECTRA TO SOLUTIONS: PROTEOMICS AT THE FOREFRONT OF FUNGAL INFECTION, IMMUNITY, AND RESILIENCE. **Jennifer Geddes McAlister**, Department of Molecular and Cellular Biology, University of Guelph, 50 Stone Rd E, Guelph, Ontario, Canada

09:20 (**T91013**) DIFFERENTIAL ION MOBILITY SPECTROMETRY FOR SEPARATION OF NATURAL TOXINS. **Daniel G. Beach**, Metrology Research Centre, National Research Council, Halifax, NS.

09:40 (**T840118**) DEVELOPMENT AND APPLICATION OF A PFAS (PER- AND POLYFLUOROALKYL SUBSTANCES) DECONTAMINATION PROTOCOL FOR ULTRA-TRACE ANALYSIS. **Manda Tchonlla**; Jessica L. Bennett; Graham A. Gagnon, Centre for Water Resources Studies, Department of Civil & Resource Engineering, Dalhousie University.

10:00 REFRESHMENT BREAK **Sponsored by Daedalus Innovations LLC.**

10:40 (**T92015**) PEPTIDE SEPARATION SELECTIVITY UNIVERSE: A GLOBAL OVERVIEW OF REVERSED-PHASE FULLY POROUS SEPARATION MEDIA FOR BOTTOM-UP PROTEOMICS. **Oleg Krokhin**; Vic Spicer, University of Manitoba, Department of Internal Medicine University of Manitoba, Winnipeg, Canada.

11:00 (**T82016**) ARE WE BREATHING IN SIDECHAIN FLUOROPOLYMER MICROPLASTICS? INSIGHTS FROM ION MOBILITY MASS SPECTROMETRY. **K.J. Jobst** [1]; J.R. Bissonnette; G.C. Lastoria; M. Aghaei; N. Harvey; E.C. Tolefe; M.L. Rowsell; S. Brandsma [2], [1] Department of Chemistry, Memorial University of Newfoundland, St. John's, NL, Canada; [2] A-LIFE Labs, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands.

11:20 (**T840117**) IMPROVING TRACE-LEVEL DETECTION OF PYOCYANIN ACROSS ENVIRONMENTAL AND BIOLOGICAL MATRICES VIA HPLC COLUMN OPTIMIZATION AND MS PARAMETER TUNING. **Chukwuemeka Edeh**; Alan Doucette, Department of Chemistry, Dalhousie University, Halifax, NS, B3H 4R2.

11:40 (**T92018**) ENHANCED SENSITIVITY AND QUANTITATIVE PERFORMANCE OF THE SCIEX TRIPLE QUAD 7500+ AND ZENOTOF 8600 SYSTEMS ADDRESS THE CURRENT CHALLENGES IN BIOANALYSIS. **Mahbod Hajivandi**; Mathew Stone [1]; Lakshmanan Deenadayalan [2]; Sashank Pillai [2]; Eshani Galermo [1]; Ebru Selen [1]; Rahul Baghla, [1] SCIEX, India; [2] SCIEX, USA.

12:00 LUNCH **Sponsored by the Department of Chemistry, and Faculty of Science, Dalhousie University.**

Forensic and Archeological Analysis

Chair(s): **Margaret MacConnachie** Location: **Room 307**

08:40 (**T91031**) CHEMICAL TRACE EVIDENCE: ANALYTICAL OPPORTUNITIES AND CHALLENGES. **Sanela Martic**, Department of Forensic Science, Environmental Life Sciences, Materials Science Program, Trent University, Peterborough, ON, Canada.

09:20 (**T91033**) INVESTIGATION OF ELEMENTAL DISTRIBUTION IN BONE USING LA-ICP-MS AND X−RAY SPECTROSCOPY. **Cassidy VanderSchee**, The King's University, Department of Chemistry, 9125 50 St NW, Edmonton, AB T6B 2H3, Canada.

09:40 (**T91034**) 210PB IN HUMAN TOENAILS: A BIOMARKER OF CUMULATIVE RADON EXPOSURE. **Michael Wieser** [1]; Kerri Miller [2]; Dustin Pearson [2]; Aaron Goodarzi [2], [1] Department of Physics and Astronomy, University of Calgary. 2500 University Dr. NW, Calgary, AB T2N 1N4, Canada; [2] Department of Biochemistry and Molecular Biology, Cumming School of Medicine, Arnie Charbonneau Cancer Institute, University of Calgary. 3280 Hospital Dr. NW, Calgary, AB, T2N 4Z6, Canada.

10:00 REFRESHMENT BREAK **Sponsored by Dadalus Innovations LLC.**

Analytical Applications of Electrochemical Interfaces and Surfaces

Chair(s): **Christa Brosseau; Dhésmond Lima** Location: **Room 307**

10:40 (**T92055**) ELECTROCHEMILUMINESCENCE OF A GRAPHENE QUANTUM DOT MODEL MOLECULE WITH ATOMIC PRECISION AND TRANSLATABLE ENERGY LEVELS. **Zhifeng Ding**; Ziying Zhan, Department of Chemistry, Western University, 1151 Richmond St, London ON N6A 5B7.

11:00 (**T92056**) MEASURING ELECTRON-TRANSFER REACTION KINETICS IN SINGLE ELECTROCHEMILUMINESCENCE EVENTS AT AN ULTRAMICROELECTRODE FOR THE RU(BPY)/TRI-N-PROPYLAMINE COREACTANT SYSTEM. **Zhenzhong Cai**; Tianyu Wei; Zhifeng Ding, Western University, Department of Chemistry, 1151 Richmond Steet, London, ON N6A5B7, Canada.

11:20 (**T92057**) ECL-BASED ABSOLUTE QUANTUM EFFICIENCY & MOLECULAR KINETICS STUDY OF A NEW CLASS OF BORON- AND NITROGEN-EMBEDDED POLYCYCLIC AROMATIC HYDROCARBONS (PAHS). **Tianyu Wei** [1]; Deng-Tao Yang [2]; Zhifeng Ding [1], [1] Department of Chemistry, Western University, 1151 Richmond St, London, ON N6A 3K7, Canada; [2] School of Chemistry and Chemical Engineering, Northwestern Polytechnical University, Xi'an, Shaanxi 710072, China.

11:40 (**T92058**) CONTRASTING EFFECTS OF HEMIN AND GO-MPC MODIFIERS ON THE ELECTROCHEMICAL RESPONSE OF Δ9-TETRAHYDROCANNIBINOL. **Dhésmon Lima**; Kaique A. Mendes; Kyle Mosher; Paige Thornton; Marianna Kovtun; Sarah Mulla, Department of Chemistry and Physics, Mount Saint Vincent University, 166 Bedford Highway, Halifax, NS B3M 2J6, Canada.

12:00 LUNCH **Sponsored by the Department of Chemistry, and Faculty of Science, Dalhousie University.**

Macromolecular NMR (sponsored by Bruker)

Chair(s): **David Langelaan; Jan Rainey** Location: **Room 302**

08:40 (**T91071**) LEVERAGING ALLOSTERY IN SMALL MOLECULE AND PROTEIN DRUG DISCOVERY - NEW INSIGHTS USING NMR. **R. Scott Prosser** [1,2], [1] Department of Chemistry, University of Toronto, Chemical and Physical Sciences, University of Toronto at Mississauga, Mississauga, ON L5L 1C6, Canada; [2] Department of

Biochemistry, University of Toronto. Medical Science Building, Toronto, ON M5S 1A8, Canada.

09:20 (**T91073**) NMR INVESTIGATIONS OF MACROMOLECULAR POLYANION INHIBITORS. **R.M. Scott** [1]; Hemant K. Saini [2,3]; A. Louise Creagh [3]; Chanel C. La [2]; Irina Chafeeva [2]; David Thiam En Lim [1,2] Charles A. Haynes [3]; Simcha Srebnik [3]; Jayachandran N. Kizhakkedathu* [2,4,5]; Matthias Ballauff [6]; Suzana K. Straus [1], [1] Department of Chemistry, University of British Columbia, 2036 Main Mall, Vancouver, BC, V6T 1Z1, Canada; [2] Center for Blood Research, Life Sciences Institute, University of British Columbia,2350 Health Sciences Mall, Vancouver, BC, V6T 1Z3, Canada; [3] Department of Chemical and Biological Engineering, University of British Columbia, 2360 East Mall, Vancouver, BC, V6T 1Z3, Canada; [4] Department of Pathology and Laboratory Medicine, University of British Columbia,2350 Health Sciences Mall, Vancouver, BC, V6T 1Z3, Canada; [5] The School of Biomedical Engineering, University of British Columbia, 2350 Health Sciences Mall, Vancouver, BC, V6T 1Z3, Canada 6 Institut für Chemie und Biochemie, Freie Universität Berlin, 14195 Berlin, Germany.

10:00 REFRESHMENT BREAK **Sponsored by Dadalus Innovations LLC.**

10:40 (**T92075**) ENSEMBLES OF PROTEINS CONTAINING INTRINSICALLY DISORDERED REGIONS. **Julie Forman-Kay** [1,2], [1] The Hospital for Sick Children, Molecular Medicine Program, 686 Bay St.Toronto, ON M5G 0A4, Canada; [2] University of Toronto, Department of Biochemistry, 1 King's College Circle, Toronto, ON M5S 1A8, Canada.

11:20 (**T92077**) EXPERIMENTS IN CROWDED MACROMOLECULAR SOLUTIONS. **Anand Yethiraj**, Department of Chemistry, University of Guelph, 50 Stone Road East, Guelph, ON N1G 2W1, Canada.

12:00 LUNCH **Sponsored by the Department of Chemistry, and Faculty of Science, Dalhousie University.**

Speciation Analysis

Chair(s): **Zuzana Gajdosechova; Mesay Wolle** Location: **Room 303**

09:20 (**T91083**) (**VIRTUAL**) DEVELOPMENT AND VALIDATION OF A METHOD FOR VITAMIN B12 DETERMINATION IN DIETARY SUPPLEMENTS AND NUTRITIONAL YEAST BY HPLC-ICP-MS. **Mesay M. Wolle**, Office of Chemistry and Toxicology, Office of Analytical Operations and Applied Science, Human Foods Program, U.S. Food and Drug Administration, 5001 Campus Drive, College Park, MD 20740, USA.

09:40 (**T91084**) VITAMIN B12 SURVEY OF INFANT FORMULA FROM THE U.S. MARKET. **Jordan Escavage**, Oak Ridge Institute for Science and Education, Oak Ridge, TN 37831, USA. Mesay M. Wolle, U.S. FDA, 5001 Campus Drive, College Park, MD 20740, USA.

10:00 REFRESHMENT BREAK **Sponsored by Dadalus Innovations LLC.**

10:40 (**T82085**) ISOTOPE DILUTION CALIBRATION CURVE FOR INORGANIC ANALYSIS AND METAL SPECIATION: THE CASES OF LEAD AND METHYLMERCURY. **Enea Pagliano**, Metrology Research Center, National Research Council Canada, 1200 Montreal Road, Ottawa,Ontario, K1A 0R6, Canada.

11:20 (**T92087**) (**VIRTUAL**) MATRIX EXTENSION OF FDA METHOD EAM 4.11 (ARSENIC SPECIATION IN RICE AND RICE PRODUCTS USING HPLC-ICP-MS DETERMINATION) FOR INFANT FORMULA. **Sean Conklin**, Office of Chemistry and Toxicology, Office of Analytical Operations and Applied Science, Human Foods Program, U.S. Food and Drug Administration, 5001 Campus Drive, College Park, MD 20740, USA.

11:40 (**T92088**) ROUTINE DETERMINATION OF CR6+ AND CR3+ SPECIATION IN DRINKING WATER USING AGILENT ICPMS WITH METROHM ION CHROMATOGRAPHY INTEGRATION. Yan Cheung; **Bastian Georg**, Agilent Technologies Canada, 6705 Millcreek Dr. Unit 5, Mississauga, L5N 5M4, Ontario, Canada.

12:00 LUNCH **Sponsored by the Department of Chemistry, and Faculty of Science, Dalhousie University.**

Environmental Analysis

Chair(s): **Adrian Pang** Location: **Room 224**

08:40 (**T91091**) NON-TARGET ANALYSIS BY LIQUID CHROMATOGRAPHY–HIGH-RESOLUTION MASS SPECTROMETRY: APPLICATION IN ALGAL BIOTOXIN SURVEYS. **Elliott J. Wright**; Daniel G. Beach; Pearse McCarron, Metrology Research Centre, National Research Council of Canada, 1411 Oxford Street, Halifax, NS, B3H 3Z1, Canada.

09:00 (**T91092**) MEASUREMENT OF TRACE LEVELS OF ANATOXINS IN NOVA SCOTIA FRESHWATER SYSTEMS USING LC-MS/MS AND DART-HRMS/MS. **Sophie Haverstock** [1,2]; Rob C. Jamieson [1]; Daniel G. Beach [1,2], [1] Department of Civil & Resource Engineering, Dalhousie University, Halifax, NS, Canada; [2] Metrology Research Center, National Research Council of Canada, Halifax, NS, Canada.

09:20 (**T91093**) TERRESTRIAL DOM DRIVES TRACE METAL TRANSPORT IN AGRICULTURAL WATERSHED. **Mary Chris Lagumen** [1]; Lisa Harris [1]; Taryn Petrovsky [1]; Kelly Biagi [2]; Vaughn Mangal [1], [1] Department of Chemistry, Brock University, St. Catharines, ON; [2] Department of Earth Sciences, Brock University, St. Catharines, ON.

09:40 (**T91099**) OPTIMISING ICP-MS ANALYSIS: ENHANCING HELIUM COLLISION AND REACTION CELL MODES. **R. Bastian Georg;** Clint Walker, Agilent Technologies Canada, 6705 Millcreek Dr., Unit 5, Mississauga, L5N 5M4, Ontario, Canada.

10:00 REFRESHMENT BREAK **Sponsored by Dadalus Innovations LLC.**

11:00 (**T92096**) CHOOSING THE RIGHT NEBULIZER FOR YOUR ICP-OES APPLICATION. **Alejandro Amorin**; Longbo Yang, Agilent Technologies, #5, 6705 Millcreek Drive, Mississauga, ON L5N 8B3, Canada.

11:20 (**T92097**) LEVERAGING HIGH-THROUGHPUT ANALYSIS TO CHARACTERIZE THE FATE, OCCURRENCE, AND ATTENUATION OF 6PPDQ IN URBAN WATERS AT SCALE. Angelina Jaeger [1,2]; Joseph Monaghan [1]; Niki Gholamiaval [1,2]; Haley Tomlin [3]; Jamieson Atkinson [3]; Chris G Gill [1,2]; **Erik T Kroch*** [1,2], [1] Centre for Health and Environmental Mass Spectrometry, Department of Chemistry, Vancouver Island University, Nanaimo, B.C., Canada; [2] Department of Chemistry, University of Victoria, Victoria, B.C., Canada; [3] British Columbia Conservation Foundation, Nanaimo, B.C., Canada.

12:00 LUNCH **Sponsored by the Department of Chemistry, and Faculty of Science, Dalhousie University.**

Friday, June 19 (Afternoon)

Analytical and Bioanalytical Applications of Mass Spectrometry, Separations, and Spectroscopy

Chair(s): **Alan Doucette; Tobias Karakach**

13:20 (**T930111**) A NOVEL SUPERVISED LEARNING APPROACH FOR THE REAL-TIME OPTIMIZATION OF MASS SPECTROMETRY DATA ACQUISITION INCREASES PROTEOME COVERAGE. **Mathieu Lavallée-Adam** [1]; Iryna Abramchuk; Yun-En Chung [2]; Alona Petrova [3]; Jonathan St-Germain [4]; Jens Decker [5]; Brian Raught [6]; Jonathan Krieger [7]; Tharan Srikumar [8], [1] University of Ottawa, Department of Biochemistry, Microbiology and Immunology, 451 Smyth Road, Ottawa, ON, K1H 8M5, Canada; [2] University of Ottawa, Department of Biochemistry, Microbiology and Immunology, 451 Smyth Road, Ottawa, ON, K1H 8M5, Canada; [3] University of Ottawa, Department of Biochemistry, Microbiology and Immunology, 451 Smyth Road, Ottawa, ON, K1H 8M5, Canada; [4] University of Ottawa, Department of Biochemistry, Microbiology and Immunology, 451 Smyth Road, Ottawa, ON, K1H 8M5, Canada; [5] Princess Margaret Cancer Centre, 101 College Street, Toronto, ON, M5G 1L8, Canada; [6] Bruker Daltonics GmbH & Co. KG, Fahrenheitstraße 4, Bremen, 28359, Germany; [7] Princess Margaret Cancer Centre, 101 College Street, Toronto, ON, M5G 1L8, Canada; [8] Bruker Ltd, 2800 High Point Dr., Milton, ON, L9T 5V7, Canada.

13:40 (**T930112**) INTELLIGENT DIFFERENTIAL ION MOBILITY SPECTROMETRY (IDMS): A DEEP NEURAL NETWORK THAT PREDICTS OPTIMAL SPACE-RESOLVED ION MOBILITY PARAMETERS FOR ISOMERIC. **Thao Nguyen-Tran** [1;2]; Xun Xun Shi [1,2]; Graeme P. Taylor [1,2]; Mathieu Lavallée-Adam [2]; Theodore J. Perkins [2]; Steffany A. L. Bennett [1,2], [1] Neurolipidomics Lab, India Taylor Lipidomic Research Platform, and Department of Chemistry and Biomolecular Sciences, University of

Ottawa, Ottawa, ON, Canada K1N 6N5. [2] Ottawa Institute of Systems Biology, Department of Biochemistry, Microbiology and Immunology, University of Ottawa, Ottawa, ON, Canada K1H 8M5.

14:00 (**T930113**) ONLINE APPLICATION FOR LIQUID CHROMATOGRAPHY SYSTEM PERFORMANCE ASSESSMENT VIA OPTIMIZABLE MACHINE LEARNING ANALYSES OF PRESSURE TRACE MEASUREMENTS. **Miroslava Cuperlovic-Culf** [1,3]; Irina Alecu [1,2]; Anuradha Surendra [3]; Thao Nguyen-Tran [1,2,4]; Evan Bushnik [1,2]; Caitlin Fowler [3]; Steffany A.L. Bennett [1,2,4], Department of Biochemistry, Microbiology, and Immunology, University of Ottawa, Ottawa, ON, K1H 8M5, Canada [1]; Neurolipidomics Laboratory, uOttawa Brain and Mind Research Institute, University of Ottawa, Ottawa, ON, K1H 8M5, Canada [2]; Digital Technologies Research Centre, National Research Council of Canada, 1200 Montreal Road, Ottawa, ON, K1A 0R6, Canada [3]; Department of Chemistry and Biomolecular Sciences, Centre for Catalysis Research and Innovation, University of Ottawa, Ottawa, ON, K1N 6N5, Canada [4].

14:20 (**T930114**) A VISUALIZATION AND FLUORIMETRIC DETECTION FOR SULFISOXAZOLE BASED ON SELECTIVELY WEAKENED PEROXIDASE ACTIVITY OF GOLD NANOCLUSTERS. Meiling Li [1,2,3]; Huaidong Peng [4]; Yanlan Liang; Jiang Meng [1]; Hongliang Huang; **Paul C.H. Li** [5]; Yue Sun [1,2,3], [1] School of Traditional Chinese Medicine, Guangdong Pharmaceutical University, Guangzhou 510006, China; [2] Key Laboratory of State Administration of TCM for Digital Quality Evaluation of Chinese Materia Medica, Guangzhou 510006, China; [3] Engineering & Technology Research Center for Chinese Materia Medica Quality of Guangdong Province, Guangzhou 510006, China; [4] Department of Pharmacy, The Second Affiliated Hospital of Guangzhou Medical University, Guangzhou 510260, China; [5] Department of Chemistry, Simon Fraser University, Burnaby, BC V5A 1S6, Canada.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University.**

15:40 (**T940116**) PROPOSAL FOR A NATIONAL PROGRAM TO DELIVER ADVANCED ANALYTICAL CHEMISTRY EDUCATION. **Alan Doucette**, Department of Chemistry, Dalhousie University, Halifax, NS, B3H 4R2, Canada.

16:00 (**T940117**) 1H NMR ANALYSIS OF PETASE PRODUCT DISTRIBUTION AND SUBSTRATE SPECIFICITY REVEALS MECHANISTIC FEATURES OF PET HYDROLYSIS. **Constadina Rogers**; Amelia Wojtyk; David Langelaan, Dalhousie University, Department of Biochemistry & Molecular Biology, 5850 College Street, Halifax, NS B3H 4R2, Canada.

17:00 End of 68th ICASS.

Analytical Applications of Electrochemical Interfaces and Surfaces

Chair(s): **Christa Brosseau; Dhésmond Lima** Location: **Room 307**

13:20 (**T930511**) SURFACE FORCES AND NANOSCALE CHEMISTRY IN PLANT MICROBE INTERACTIONS. **Ruby Sullan**, University of Toronto Scarborough, Department of Physical and Environmental Sciences, Department of Chemistry, 1065 Military Trail, Toronto, ON M1C 1A4, Canada.

13:40 (**T930512**) DIVERSITY OF ELECTROCHEMISTRY. **Sanela Martic**, Department of Forensic Science, Environmental and Life Sciences Program, Trent University, Peterborough, Canada, K9L0G2.

14:00 (**T930515**) USING ELECTROCHEMISTRY TO DETECT ESCHERICHIA COLI AND ANTIBIOTIC-RESISTANT BACTERIA BY MONITORING BIOMOLECULES. **Rebecca X. Y. Chen**; Zhe She; R. Stephen Brown, Queen's University, Department of Chemistry, 90 Bader Lane, Kingston, ON K7L 3N6, Canada.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University.**

17:00 End of 68th ICASS.

Nanomaterials, Sensors, and Spectroscopy: From Fundamentals to Applications

Chair(s): **Malama Chisanga; Michael Freund; Danielle Tokarz** Location: **Room 303**

13:20 (**T930611**) MODULATION OF PLASMONIC COUPLING AND SIGNAL PROPAGATION IN SURFACE-ENHANCED RAMAN SPECTROSCOPY BY DISSOLVED OXYGEN AND ORGANIC SOLVENTS. **Xu Zhang**; Collins Nganou, Department of Chemistry, Cape Breton University, Sydney, Nova Scotia, B1P 6L2, Canada.

13:40 (**T930612**) A MULTIPLEXED PLASMONICALLY ENHANCED MICROFLUIDIC DEVICE FOR BACTERIAL DIAGNOSTICS. **Tamer AbdElFatah**; Mahsa Jalali; Carolina del Real Mata; Imman I. Hosseini; Sripadh Guptha Yedire; Geoffrey A. McKay; Rachel Corsini; Roozbeh Siavash Moakhar; Hamed Shieh; Grace Reszetnik; Seyed Vahid Hamidi; Cedric P. Yansouni; Dao Nguyen; Sara Mahshid, McGill University, 3575 Av. du Parc, Montréal QC H2X 3P9, Canada.

14:00 (**T930613**) MECHANISTIC INSIGHTS TO PD-BASED THIN FILM HYDROGEN SENSING. **Julia E. Schmitt**; Michael S. Freund, Department of Chemistry, Dalhousie University, Halifax, NS, Canada

14:20 (**T930614**) QUANTITATIVE ISOTOPE-RESOLVED SERS FOR RAPID ANTIBIOTIC SUSCEPTIBILITY. **Ryma Boudries**; Malama Chisanga, Dalhousie University, Department of Chemistry, 6243 Alumni Crescent, Halifax, NS B3H 4R2, Canada.

14:40 (**T930615**) STRAIN-INDUCED ULTRASTRUCTURAL REMODELING OF COLLAGEN: A POLARIZATION-RESOLVED SECOND HARMONIC GENERATION MICROSCOPY STUDY. **Danielle Tokarz** [1]; MacAulay Harvey, Department of Chemistry, Saint Mary's University, 923 Robie Street, Halifax, NS, B3H 3C3, Canada 2Department of Physics and Atmospheric Science and School of Biomedical Engineering, Dalhousie University, Halifax, NS, B3H 4J5, Canada.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University.**

17:00 End of 68th ICASS.

Macromolecular NMR (sponsored by Bruker)

Chair(s): **David Langelaan; Jan Rainey** Location: **Room 302**

13:20 (**T930711**) A NEW NMR PROTOCOL FOR DETERMINING PROTEIN SIDE CHAIN ROTAMERS USING 1H RELAXATION AND J COUPLINGS. **Peter M. Hwang** [1]; David Case [2], [1] Departments of Medicine and Biochemistry, 3-08 Medical Sciences Building, University of Alberta, Edmonton, Alberta, Canada T6G 2H7 ; [2] Department of Chemistry and Chemical Biology, Rutgers University.

14:00 (**T930713**) INVESTIGATING THE SOLUTION STABILITY OF A HYDROPHOBIN FROM SCHIZOPHYLLUM COMMUNE. **Raymond He**, Department of Chemistry, Dalhousie University, Chemistry Building, 6274 Coburg Road, Halifax, NS B3H 4R2, Canada.

14:20 (**T930714**) MAPPING THE MOLECULAR FEATURES AND FUNCTIONAL ROLES OF INTRINSICALLY DISORDERED REGIONS IN KATP CHANNELS. **Voula Kanelis**, Department of Chemical and Physical Sciences, University of Toronto Mississauga; Departments of Chemistry, and Cell and Systems Biology, University of Toronto.

15:00 REFRESHMENT BREAK **Sponsored by Dalhousie University.**

15:40 (**T940716**) EXPLORING THE STRUCTURAL DYNAMICS OF THE BACTERIAL PERIPLASMIC PROTEASE-CHAPERONE DEGP USING METHYL TROSY NMR. **Robert W. Harkness**, University of Guelph Department of Molecular and Cellular Biology.

16:20 (**T940718**) NMR STRUCTURAL STUDIES IN THE NATIVE STATE – INSIGHTS TO MEMBRANE PROTEINS AND LIPID-BOUND PROTEINS. **Francesca M. Marassi**, Departments of Biophysics and Biochemistry, Medical College of Wisconsin, Milwaukee, WI 53226-3548, USA.

17:00 End of 68th ICASS.