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MetaboNews

This month in metabolomics

JUNE, 2023
Vol 13, Issue 6

MetaboNews is a monthly newsletter published in a partnership between The Metabolomics Innovation Centre (TMIC) and The Metabolomics Society

In This Issue

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Metabolomics Society News

The Metabolomics Society is an independent, non-profit organization dedicated to promoting the growth, use, and understanding of metabolomics in the life sciences.

General Enquiries

info@metabolomicssociety.org

Members' Corner

Board of Directors

Dear Society Members,

As I write this, I smile, as in a few days the majority of the Board of Directors will be travelling to Niagara Falls for our 19th Annual Conference of the Metabolomics Society. 😊 It's an exciting time for us all and we are looking forward to the science and the social programme. We are also looking forward to networking and meeting many old friends and colleagues and making new ones – life-long friendships are often made at conferences.

As social animals this is the one thing we all enjoy, and with WHO declaring that the COVID-19 pandemic is over there is even more reason to get together personally.

While in Niagara Falls, please seek us out and have a chat. We welcome all feedback on how the Society is run and our 19th conference will be a nice opportunity to do this face-to-face. Please do talk to the board about what you like and of course what you don't – we welcome all constructive comments and feedback.

It is worth reminding you that we wouldn't be able to organize a meeting on this scale without our very generous industrial supporters, so, we urge you to chat with our sponsors and learn about their latest developments in metabolomics. For Platinum Sponsors, there will be additional opportunities to engage during the lunchtime breaks.

The Board, led by Natasa (who leads our Conference Committee) and the Conference Organizers – Philip and Dajana – are very grateful to the following sponsors for their support.

- **Platinum Sponsors:** Agilent, Bruker, Metabolon, SCIEX, and ThermoFisher Scientific.
- **Gold Sponsors:** Biocrates, Cambridge Isotope Labs, LECO, Miltenyi Biotec, and Owlstone Medical.
- **Silver Sponsors:** Enveda Biosciences, IROA Tech., Metabolites, Millipore Sigma, Waters, and ZefSci.
- **University and Non-Profit:** Calgary Metabolomics Research Facility, Genome Canada and Genome Alberta, Michael G. DeGroote Centre for Medicinal Cannabis Research and The Metabolomics Innovation Centre.

We hope to see you soon, and safe travels.

All the very best.

Roy Goodacre, University of Liverpool, UK

President, Metabolomics Society

International Affiliates' Corner

Metabolomics Association of North America (MANA)

Visit: https://metabolomicsna.org

ECM Lipidomics Forum travel award winner

We are happy to announce that **Adriana Zardini Buzatto** from **The Metabolomics Innovation Centre** has won a $2000 Early Career Member travel award to attend the 8th Lipidomics Forum in Vienna, Austria, August 27-30, 2023. Adriana's winning application is titled "Decoding the Complex Composition of Exosomal Lipids". Please join us in offering Adriana a hearty congratulations!!

5th Annual MANA Conference

Registration is now open for the 5th Annual MANA Conference! The 2023 conference will be held **October 23-27, 2023** on the campus of the **University of Missouri in Columbia, MO**, which is located in the middle of everywhere! This year, MANA is excited to partner with the International Lipidomics Society (ILS), and the 2023 conference will have dedicated sessions for lipidomics, and an evening workshop with the ILS. Register at the conference website. Based on your feedback from previous conferences, the organizers have made the following changes to this year's program: the conference will be held during the week, rather than over the weekend; parallel sessions will occur to allow for more speaker opportunities; poster sessions will be held in the afternoon; and workshops will occur in the evening.

At this time, the conference organizers **invite community members to submit proposals for instructional workshops** at MANA 2023. Workshops should enable open discussions, be interactive, and if possible, include hands-on components. These workshops provide an outstanding opportunity to discuss a wide range of important topics and practical aspects of metabolomics. Workshops at previous MANA conferences have covered such topics as Metaboanalyst, best practices in teaching of metabolomics, microbiome and metabolomics, Skyline, GNPS, and wine tasting by NMR! Please submit workshop proposals by July 3 by completing the online form located here.

Other news

Call for Nominations for Directors of the Metabolomics Society

We're quickly approaching the time of year to consider new faces for the Board of Directors. The Call for Nominations for Board seats will be open during the month of July.

Keep an eye out for messages announcing the nomination process, and start thinking of dedicated and motivated names to add to the list!

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We are excited to announce that we have implemented a new format for our advertisements. However, we would like to inform you that the price is currently subject to review and may change in the near future. We encourage you to get in touch with us as soon as possible in order to freeze the current price and take advantage of this opportunity. Thank you for your continued support and we look forward to working with you.

Canadian Metabolomics Conference (Canmetcon) 2023

The 4th Annual Canadian Metabolomics Conference (CanMetCon) was held at the Prince of Wales Hotel in Niagara-on-the-Lake on June 15th–16th. This year's conference was set to be an exciting and in-depth look on current topics in metabolomics and exposomics - focusing specifically on advancing the understanding of exposures in Medicine, Agriculture/Food/Cannabis, Environment/Industrial Settings, and Clinical Applications.

Exposomics is a rapidly growing and important field that explores the impact of environmental exposures to human health. This year's CanMetCon had two very full days of presentations and panels on metabolomics and exposomics. On day 1, the theme was Metabolomics Technology and Exposomics featuring plenary speakers who are the experts in exposomics, each of the TMIC nodes participating in the 2023-2029 CFI-MSI program, and also poster presentations. On day 2, it explored four broad topics in exposomics with four keynote speakers who is the expert in this field and also oral presentations from the selected abstract. This exciting event brought together leading researchers, scientists, and industry experts from across Canada and internationally to share their latest findings and insights on the role of exposomics in these key areas.

We would like to take this chance to express gratitude to all attendees, sponsors, speakers, judges, organizers, and volunteers.

Thank you to our sponsors

- **Platinum:** Agilent
- **Gold:** ThermoFisher
- **Silver:** MRM Proteomics, Molecular You, MetaSci, ScieX
- **Other Sponsors:** University of Alberta, LECO
- **Media Partners:** MDPI Metabolites Journal

Thank you to our speakers and judges

- **Plenary speakers**:

Dr. Gary Miller, Dr. Joerg Bohlmann, and Dr. Susan Sumner

- **Keynote speakers:**

Dr. Shawn Whitehead, Dr. Jacques Corbeil, Dr. Karl Jobst, and Dr. Gerald Batist

- **TMIC Node leaders:**

Dr. David Wishart, Dr. Liang Li, Dr. Christoph Borchers, Dr. David Goodlett, Dr. James Harynuk, Dr. Philip Britz-McKibbin, Dr. Dajana Vuckovic, Dr. Jeff Xia, and Dr. Tao Huan

Thank you to the organizers

- **Scientific Committee:**

Dr. Liang Li (Chair), Dr. David Wishart (co-Chair), and Dr. Christoph Borcher (co-Chair)

- **Local Organizing Committee:**

Michael Lowings (Conference Director), Juan Darius, Nargiza Chorieva, and Dr. Philip Britz-McKibbin

Group Photo at the 4th Annual Canadian Metabolomics Conference 2023 in Niagara-on-the-Lake.
Hope to see you next year in Vancouver

MetaboInterview

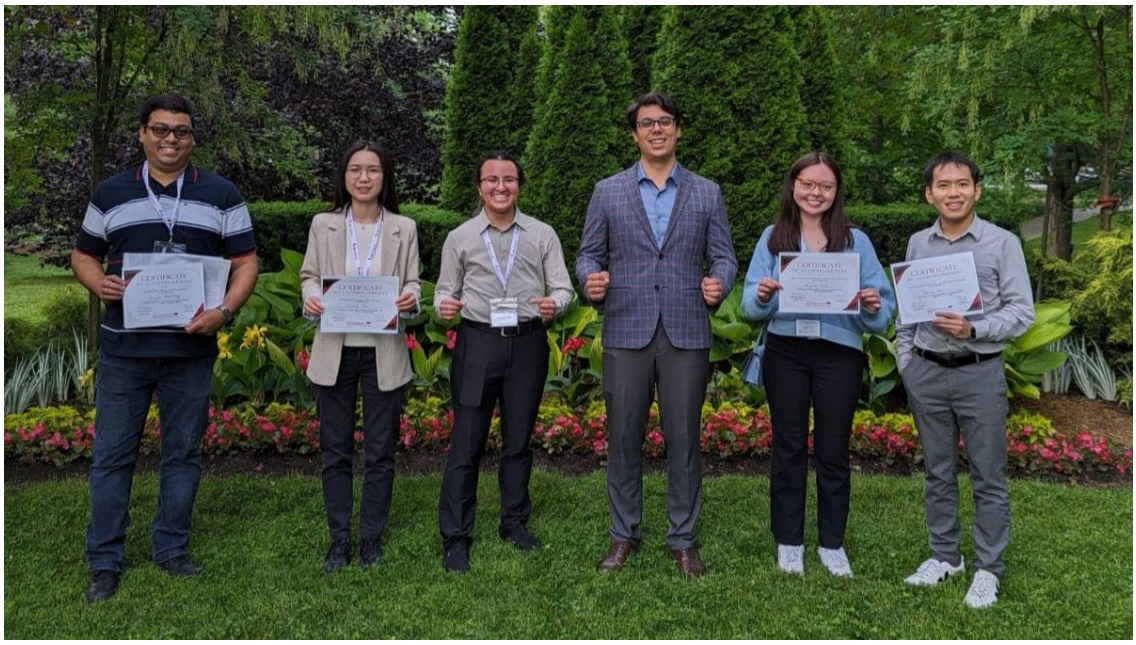
Canmetcon 2023 Awardees

Oral Presentation Winners:

- First Place: **Jacqueline Burton** "Investigating salivary thiocyanate as a biomarker of cannabis and tobacco use patterns by capillary electrophoresis"
- Second Place: **Shuang Zhao** "Development of a High-Coverage and Quantitative Metabolomics Assay for Targeted Analysis of Multiple Pathways"
- Third Place: **Kieran Tarazona Carrillo** "Exposomics of crab gills and algae samples from Caribbean aquatic ecosystems"

Poster Presentation Winners:

- First Place: **Ryland Giebelhaus** "Profiling and Characterizing the Volatile Exposome with Wristband-Based Passive Samplers and GC×GC-MS"
- Second Place: **Tingting Zhao** "De Novo Cleaning of Chimeric MS/MS Spectra for LC-MS/MS-Based Metabolomics"
- Second Place: **Dipanjan Bhattacharyya** "Design of a portable, inexpensive, color based, user friendly metabolomics platform and its application in cancer screening and animal pregnancy"



Congratulation to the oral and poster awardees.

Jacqueline Burton

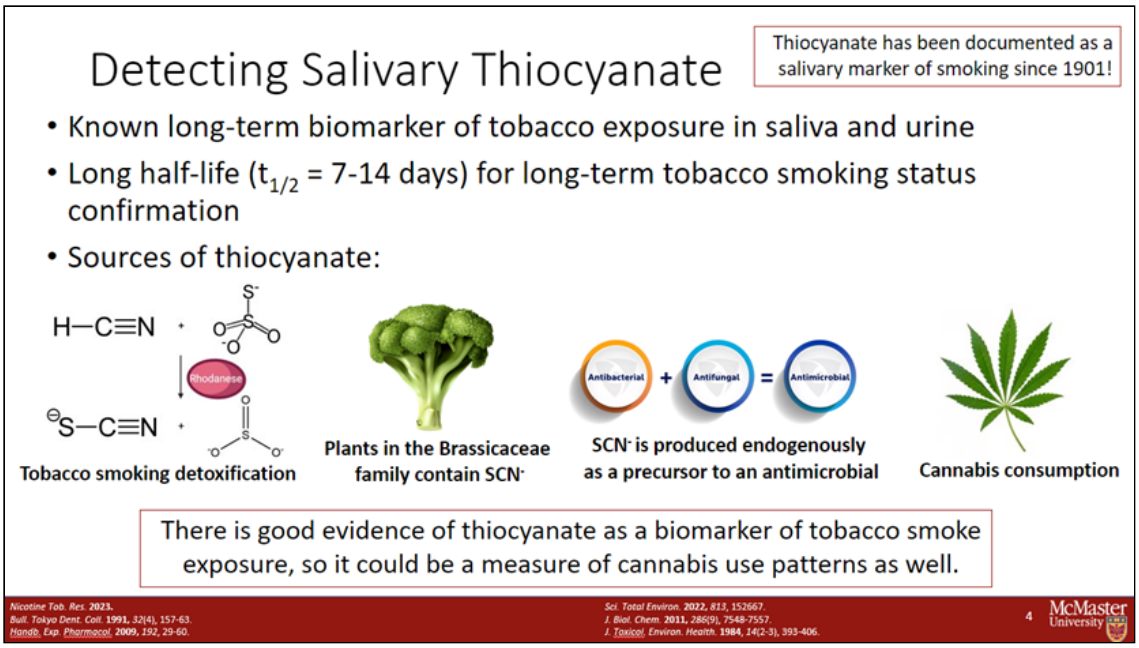
My name is Jacqueline and this coming fall, I will be going into my fifth and final year of the Chemical Biology Co-op undergraduate program at McMaster University. For a long while, I didn't know where my specific interests lay within chemistry, but when it came to deciding if I was going to complete an undergraduate thesis during my fourth year, I remembered the research of Dr. Britz-McKibbin from a second-year analytical chemistry course he taught that I took. I became especially interested in separation science and how it relates to public health, and that public advisements for what people should consume and expose themselves to should be backed up by exact, robust scientific evidence. My lab is currently collaborating with the Population Health Research Institute on the PURE (Prospective Urban and Rural Epidemiological Study) study, and I am in the process of data processing over 2000 samples.

Title of Presentation: Investigating thiocyanate as a biomarker of cannabis and tobacco smoking patterns

What is the key point or highlight that you want the audience to take away from your presentation?

Using cannabis products of any nature (flower, vape, or edibles) will significantly increase

your salivary thiocyanate (SCN-) concentration, but as far as my research goes, thiocyanate cannot definitively distinguish which sort of cannabis products you are using.



Can you summarize your presentation in a 30-second elevator pitch?

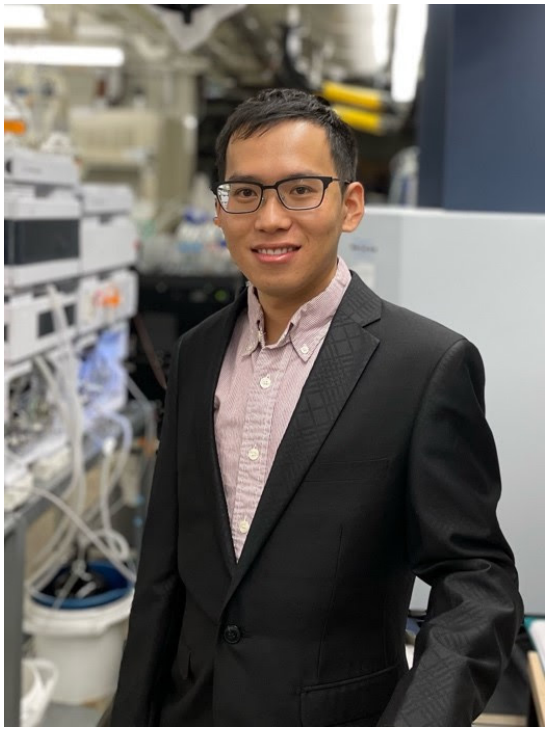
Prolonged cannabis use can lead to cannabis use disorder, and with the high rates of adolescent use in Canada, this must be monitored within the population. It was thought that since hydrogen cyanide which gets metabolized to the less toxic thiocyanate in the body is produced from the combustion reaction of tobacco smoke, that thiocyanate could also be produced via the same mechanism from cannabis smoke. It was found that salivary thiocyanate increases with both cannabis and tobacco use and is dose-responsive to the amount of tobacco smoked, but not to the amount of cannabis consumed. Salivary thiocyanate also doesn't show a significant difference from different cannabis use methods such as smoking, vaping and ingesting.

Where do you think the future of the technology lies? What is the next step?

I believe CE-UV (capillary electrophoresis coupled to UV detection) can continue to be a great targeted separation technique if similar technology such as CE-MS doesn't overshine it. I personally think CE is underrated, as CE-UV has many advantages such as low waste, low sample volume and materials required, high precision and sensitivity, high customizability and efficiency, making it a great fit for studies requiring quantification of just a handful of metabolites. A drawback is it is difficult to identify truly unknown compounds in untargeted analyses. It also may not be appropriate for larger scale studies. Continuing to use CE-UV for small scale, targeted epidemiological studies, for example, evaluating if nitrate (NO3-), a UV absorbable anion, is a suitable biomarker for

stress response in humans, would be a great use of the machine and it definitely has the ability to make significant discoveries in the future keeping its disadvantages in mind.

Shuang Zhao



Dr. Shuang Zhao obtained his B.Sc. degree in Chemical Biology from Tsinghua University, China in 2011 and Ph.D. degree in Chemistry from University of Alberta, Canada in 2018, under the direction of Professor Liang Li. After that he joined The Metabolomics Innovation Centre as research scientist and Nova Medical Testing Inc. as the Vice President.

His research focuses on developing innovative LC-MS-based metabolomics and lipidomics solutions. Specifically, he developed 4-channel chemical isotope labeling LC-MS methods, which feature high coverage analysis with outstanding quantification ability for metabolomics analysis. By applying these cutting-edge analytical techniques, he is working on developing novel solutions for clinical metabolomics/lipidomics analysis, and global biomarker discovery for medical and health diagnostic applications.

Title of Presentation: Development of a High-Coverage and Quantitative Metabolomics Assay for Targeted Analysis of Multiple Pathways

Shuang Zhao Interview

What is the key point or highlight that you want the audience to take away from your presentation?

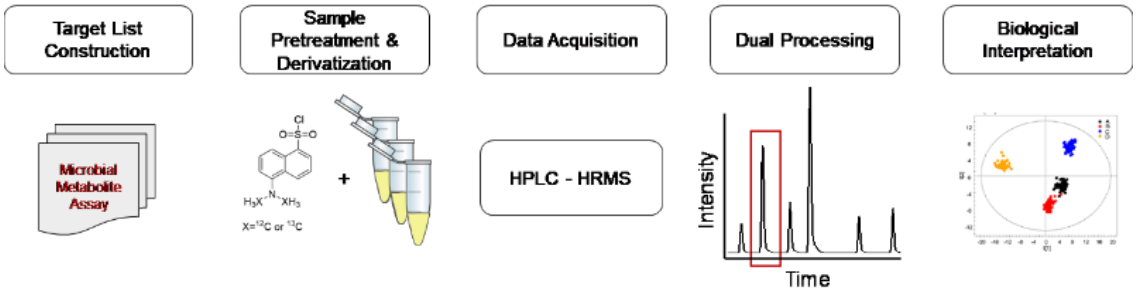
A high-coverage and quantitative metabolomics assay targeting multiple pathways was developed, which can be used for various research needs and areas.

Can you summarize your presentation in a 30-second elevator pitch?

We developed a high-coverage and quantitative metabolomics assay targeting multiple pathways. Two major innovative components of this assay are chemical isotope labeling LC-MS technique and IsoMS Dual processing approach. The assay can be applied to different types of samples for various research purposes.

Where do you think the future of the technology lies? What is the next step?

As our assay has its unique technology and advantages, we envisage that it could contribute to the methodology development in the metabolomics community and benefit various research areas in other fields. We are going to render this assay as a robust and high-performance service solution to all members in the communities.



Kieran Tarazona Carrillo

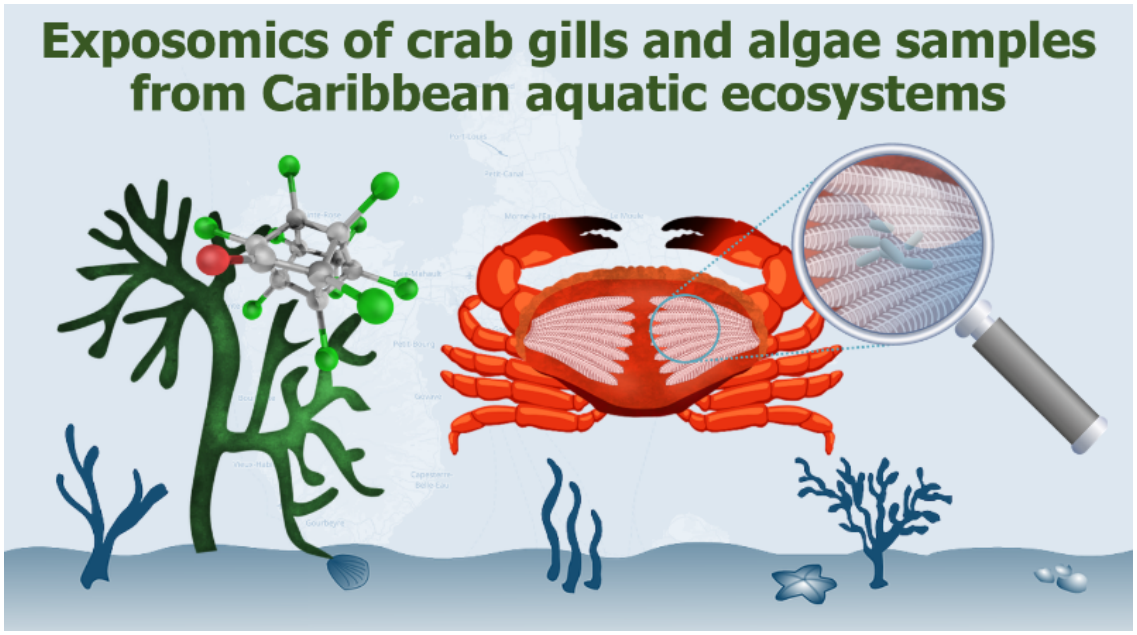
Kieran is a PhD candidate in the Harynuk TMIC node at the University of Alberta. In 2019 they obtained their Bachelor of Science degree in Biochemistry from the University of Waterloo where they were introduced to the world of comprehensive two-dimensional gas chromatography (GC´GC). Kieran is interested in studying the interplay between the microbiome and human health, with a particular interest on the effects of the gut microbiome on mental health as wells as the skin microbiome and how it is influenced by different skincare products. Their current research focuses on the development of fecal collection and metabolite stabilization technologies in collaboration with DNA Genotek. Additionally, they are studying symbiotic relationships of crabs and environmental exposures with algae from the French Caribbean environments in collaboration with researchers from the University of the Antilles.

Title of Presentation: Exposomics of crab gills and algae samples from Caribbean aquatic ecosystems

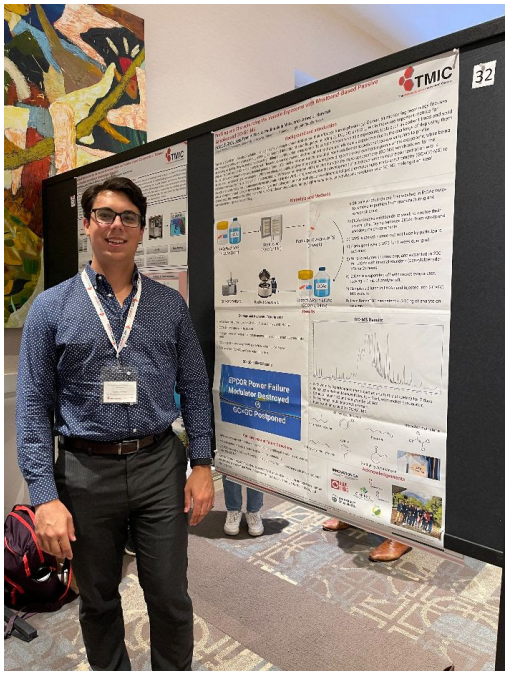
Kieran Tarazona Carrillo Interview

What is the key point or highlight that you want the audience to take away from your presentation?

Finding an effective way to remediate the chlordecone contamination in the Caribbean is of utmost importance as this pesticide is harmful and persists even decades after it stopped being used. Using comprehensive two-dimensional gas chromatography with time-of-flight mass spectrometry (GC´GC-TOFMS) for metabolomics can help us towards achieving this by enabling us to study the complex metabolomes of marine organisms and identify the impacts this pesticide has on them.



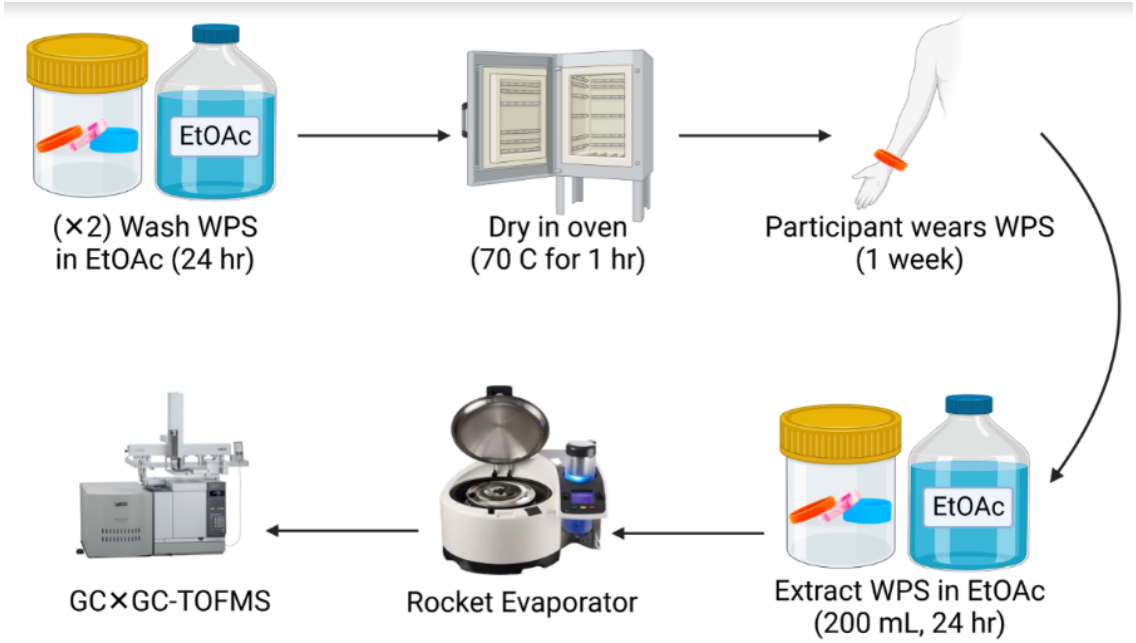
Ryland Giebelhaus



Ryland is currently a 2nd year PhD student at the University of Alberta and TMIC in Dr. James Harynuk's group. He completed his BSc (Hons.) at UBC Okanagan, where he studied phytohormone metabolism in Dr. Susan Murch's laboratory. Ryland is currently interested in using mass spectrometry-based metabolomics to explore physiology and how organisms interact with their environment. Ryland research focuses on combining bench top analysis with novel computational and chemometric approaches to better use metabolomics. Currently, Ryland uses comprehensive two-dimensional gas chromatography mass spectrometry (GC×GC-MS) to probe metabolism and environmental exposures. Specifically, Ryland is using GC×GC-MS to explore maternal-infant interactions. Ryland has authored multiple papers on metabolomics, data processing, and chemometrics. Ryland received the Natural Science and Engineering Research Council of Canada (NSERC) Canadian Graduate Scholarship – Masters (CGS-M) in 2021 at the beginning of his graduate studies, and just received the Canadian Institutes of Health Research (CIHR) CGS-D in April 2023.

Title of Presentation: Profiling and Characterizing the Volatile Exposome with Wristband-Based Passive Samplers and GC×GC-MS

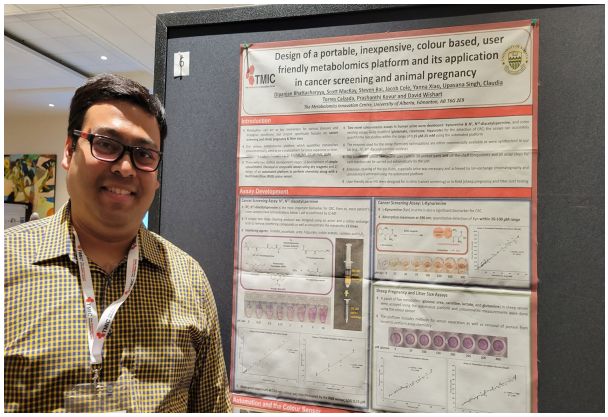
Ryland Giebelhaus Interview



Research Methodology

Dipanjan Bhattacharyya

Dr. Dipanjan Bhattacharyya earned his PhD from the Department of Chemistry, University of Alberta in 2012 in the field of Synthetic Organic Chemistry. He worked in the field of total synthesis of natural products and synthetic methodology. Before joining TMIC, he



worked as a Research Scientist in the field of drug designing and synthesis. He has worked for TMIC as a Research Associate for more than five years. His main research is focused on colourimetric assay developments in bio-fluids. He has been working on the novel colourimetric assay developments of CRC biomarkers in human urine samples as part of an NIH funded project.

Title of Presentation: Design of a portable, inexpensive, color based, user friendly metabolomics platform and its application in cancer screening and animal pregnancy

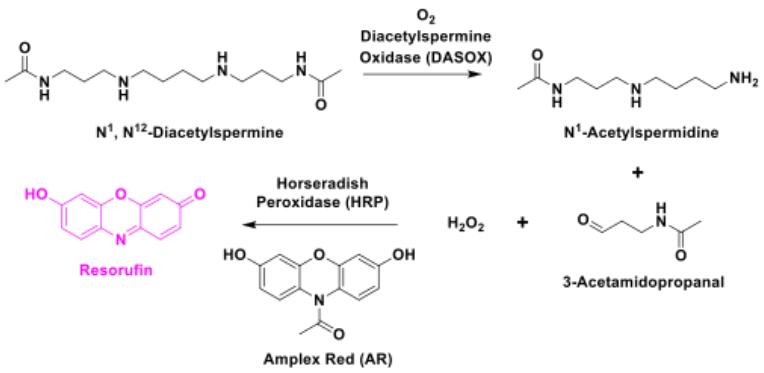
What is the key point or highlight that you want the audience to take away from your presentation?

The poster shows the design of a novel, inexpensive colour-based metabolomics platform for in-clinic cancer screening (CRC) and in-field sheep pregnancy and litter size detection. We have developed novel colourimetric assays of biomarkers in human urine or sheep serum samples which can quantify the metabolites within the 0.25 µM to 25 mM range. The assays require extensive cleaning of the bio-fluids to minimize the matrix effect and enrichment of the metabolite concentrations to improve the limit of detection (LOD); these steps were achieved using ion-exchange chromatography among other techniques. A platform was designed to automate all of the assay chemistry and cleaning steps using custom 3D printed parts and off-the-shelf components. The platform also includes an RGB sensor to measure the colour and accurately report the results. This portable and time-efficient platform aims to be a replacement of NMR and MS-based techniques which are expensive and more time consuming.

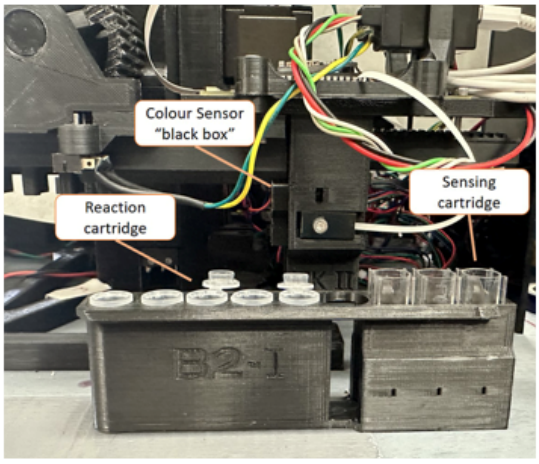
Can you summarize your presentation in a 30-second elevator pitch?

Metabolites can act as key biomarkers for various diseases and biological conditions. We have developed a unique metabolomics platform to quantify metabolites colourimetrically, which aims to be a replacement for more expensive or time-consuming assay techniques. The development of the platform has two distinct aspects: 1) development of novel colourimetric chemical or enzymatic assays (e.g. N^1, N^{12}-diacetylspermine) and 2) design of an automated platform to perform all the chemistry steps along with a Red/Green/Blue (RGB) colour sensor for colourimetric measurements. The two key ongoing projects highlighted using this platform are: 1) screening for colorectal cancer (CRC) based on an in-clinic urine test and 2) a test to determine sheep pregnancy and litter sizes in farms. Overall, the development of these two projects that are so disparate

in application and execution demonstrates the utility and versatility of this metabolomics sensor platform.



Enzymatic Assay Principle of N^1, N^{12}-Diacetylspermine



Color Sensor & Automation Unit to Perform Assay Chemistry

Ion-Exchange Chromatography Unit for Cleaning of Urine and Enrichment of the Metabolite Concentration

Where do you think the future of the technology lies? What is the next step?

User-friendly assay kits are designed for in-clinic (cancer screening) or in-field (sheep pregnancy and litter size) testing. A pilot study for the in-clinic CRC screening is currently in progress in Nigeria and we are getting very promising and consistent results. We are planning to conduct a large scale study in the near future. With the ability to integrate any required colourimetric assay chemistry steps into this automated platform and the sensitivity with which the colour sensor can measure the data, we will be able to modify and utilize this platform for the quantitative detection of other biomarkers of various diseases for e.g. maple syrup urine disease, phenylketonuria, polyps and different types of cancer etc.

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The Metabolomist Podcast

Recent Publications

Reviews:

- Applications of multi-omics techniques to unravel the fermentation process and the flavor formation mechanism in fermented foods
- Multiomics Network Medicine Approaches to Precision Medicine and Therapeutics in Cardiovascular Diseases (Open access)
- Network medicine: an approach to complex kidney disease phenotypes
- Plant and microbial sciences as key drivers in the development of metabolomics research (Open access)
- Systems Immunology Approaches to Metabolism (Open access)

Articles:

- 1H NMR spectroscopy applied to identify chemical aging markers in green coffee (Coffea arabica L.)
- Chemotaxis increases metabolic exchanges between marine picophytoplankton and heterotrophic bacteria
- Corrigendum to: Untargeted metabolomics identifies succinate as a biomarker and therapeutic target in aortic aneurysm and dissection (Open access)

- Expanding Lipidomic Coverage in Multisegment Injection-Nonaqueous Capillary Electrophoresis-Mass Spectrometry via a Convenient and Quantitative Methylation Strategy
- Gestational diabetes is driven by microbiota-induced inflammation months before diagnosis (Open access)
- Metabolomic Profiling in Children with Celiac Disease: Beyond the Gluten-Free Diet (Open access)
- Metabolomics and mass spectrometry imaging reveal the chronic toxicity of indoxacarb to adult zebrafish (Danio rerio) livers
- Myocardial Metabolomics of Human Heart Failure With Preserved Ejection Fraction
- Nontargeted metabolomics reveals the potential mechanism underlying the association between birthweight and metabolic disturbances (Open access)
- PlasMapper 3.0—a web server for generating, editing, annotating and visualizing publication quality plasmid maps (Open access)
- Spatial probabilistic mapping of metabolite ensembles in mass spectrometry imaging (Open access)
- The core metabolome and root exudation dynamics of three phylogenetically distinct plant species (Open access)
- Tryptophan pretreatment adjusts transcriptome and metabolome profiles to alleviate cadmium toxicity in Arabidopsis
- Unsupervised Hierarchical Clustering of Head and Neck Cancer Patients by Pre-Treatment Plasma Metabolomics Creates Prognostic Metabolic Subtypes (Open access)
- Vitamin C injection improves antioxidant stress capacity through regulating blood metabolism in post-transit yak (Open access)

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Metabolomics Events

Hands-on Data Analysis for Metabolic Profiling Course

July 10 – 14, 2023

Venue: Imperial College London Hammersmith Campus

Learn More Here

This 5-day course provides a comprehensive overview of data analysis for metabolic profiling studies focusing on data from NMR spectroscopy and Liquid Chromatography-Mass Spectrometry. It combines lectures and tutorial sessions using open-source software to ensure a thorough understanding of the theory and practical applications.

MANA SODAMeet

August 8, 2023

Venue: Online

Learn More Here

The goal of SODA is to provide a community-driven resource of actively-maintained software, test datasets used for software benchmarking, and results produced by software. SODAMeetsis a platform where data generators and computational scientists can share their use of software/data. During SODAMeets (every 2 months), two speakers will present on software or data they would like to share with the community, emphasizing how these software/data are used. Speakers will be requested to fill out a form on our SODA website so that we collect relevant information on these software/data presented.

International Summer Sessions in Metabolomics

August 21 - September 1, 2023

Venue: Online

Learn More Here

During the summer sessions, participants will engage in both theoretical and practical aspects of metabolomics applications. Utilizing example data sets for training and discussions, attendees will work in small teams to explore various solutions to metabolomic challenges. The course content encompasses study design, sample preparation and compound identification, various metabolomics methodologies, data processing and interpretation, as well as statistical analysis and data visualization techniques. Additionally, the curriculum covers pathway and network analysis. This course welcomes beginners and advanced users.

The 8th Lipidomics Forum of iLS

August 27 - 30, 2023

Venue: Vienna, Austria.

Learn More Here

A Conference of the International Lipidomics Society and Partners. You will get a chance to learn about the latest lipidomics research from your presentations, posters, and of course from the keynote speakers Frances Platt, Giovanni D'Angelo, Maria Fedorova, Valerie O'Donnell, Peter Meikle, Christoph Thiele, Zoltan Takats, Julijana Ivanisevic, and Andrej Shevchenko. Early bird registration is open until **May 31.**

Bits & Bites # 05: Identification of unknown compounds in untargeted metabolomics using freely available software

September 7, 2023

Venue: Online

Learn More Here

This 5th course is taught by Dr. Arpana Vaniya from UC Davis, and participants required to have basic knowledge of computer skills and no coding experience is needed. The tuition for #5 is $350 and it takes approximately 8 hours.

Short description of the course: Compound identification is known as the bottleneck in metabolomics. However, there are many approaches one may consider while tackling this challenge (i.e. mass spectral library search, in silico fragmentation tools, or database searching). This short course will provide an overview of the current status of compound ID in metabolomics,

participants will learn how to use freely available in silico fragmentation tools MS-FINDER and SIRIUS+CSI: FingerID, web-based tools such as MetFrag and CFM-ID and learn how to use MassBank of North America in NIST MS Search.

Early Career Members (ECM) Virtual Job Fair

September 7, 2023

Venue: Online

Learn More Here

Are you seeking new lab members or exploring new career opportunities? If so, consider attending the Metabolomics Society of North America (MANA) ECM Virtual Job Fair! This event is for employers, recruiters, and job seekers alike, providing a platform to connect with potential candidates or employers from diverse sectors such as academia, industry, or government/ nonprofit organizations. Through the virtual Zoom setup, organizers facilitate effortless interactions between employers and prospective candidates, helping you make valuable connections for your career or organization.

2023 World Critical Care & Anesthesiology Conference

September 8-9, 2023

Venue: Hybrid, Singapore

Learn More Here

The 5th 2023 WCAC will serve as a platform for discussions on current trends, emerging technologies, advancements, challenges and research in the field of critical care and various surgical procedures. This conference aims to bring together a diverse group of professionals including Intensivist Doctors, Professors, Pulmonologists, Anesthesiologists, Nursing officers, Scientists, and Researchers. For more conference and registration details, click here.

2023 World Pediatrics Conference

September 8-9, 2023

Venue: Hybrid, Singapore

Learn More Here

2023 World Pediatrics Conference (WPC) will focus on the latest advancements and innovations in different fields of Pediatrics research. The theme of the conference is "Scientific advancement

and exploration in Pediatrics and Neonatology." where professionals from around the world exchange their views on a wide range of topics related to childcare and pediatric diseases globally. For more conference and registration details, click here.

9th Swiss Metabolomics Society Annual Meeting

September 15, 2023

Venue: Zurich, Switzerland

Learn More Here

This year's science day will be hosted by Nicola Zamboni in the historic main building of the Eidgenössisch Technische Hochschule Zürich (ETHZ). The theme for this meeting is "Frontiers in Metabolomics", focusing on the latest advancements in analytics, small molecule structure elucidation, omics integration & application, cheminformatics, and computational mass spectrometry. The event has confirmed two distinguished plenary speakers: Emma Schymanski and Matej Orešič, who will be joining the gathering in Switzerland. The deadline for oral presentation submissions has been extended to **June 30, 2023**, while the poster submission deadline is **August 15, 2023.**

Bits & Bites # 06: Mass Spectrometry for Metabolomics

October 5, 2023

Venue: Online

Learn More Here

This 6th course is taught by Dr. Uri Keshet from UC Davis, and no prior knowledge or software is required. The tuition is $175.

Short description of the course: Mass spectrometry (MS) is an important analytical technique in many metabolomics labs. With a wide range of MS systems available, such as GC-MS, LC-MS, EI, ESI, TOF, QQQ, and Orbitrap, selecting the appropriate instrument to suit specific needs and constraints can be a daunting task. In this short course, the fundamental principles of MS will be explored, encompassing various sample introduction methods, ionization techniques, and mass analyzer options, with a particular focus on their application in metabolomics. Whether for targeted or untargeted applications, participants will gain insights into reading and comprehending MS output data, including EI-MS, ESI-MS, or ESI-MS/MS spectra. The course will also provide valuable guidance on developing high-throughput MS methods, (i.e., short 5-min method) that can be used in metabolomics. By the end of the course, attendees will have acquired a solid understanding of the available MS systems in the market, the challenges associated with their use, the essentials of designing studies using different MS approaches, and the tools required for reading and processing MS data files.

5th Annual Metabolomics Society of North America (MANA) Conference

October 23 – 27, 2023

Venue: Columbia, MO, USA

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The 2023 conference will be held October 23-27, 2023 on the campus of the University of Missouri in Columbia, MO. Professor Lloyd Sumner will chair the meeting and is developing an exciting program that will appeal to many interests in metabolomics. This year, MANA is excited to partner with the International Lipidomics Society (ILS), and the 2023 conference will have dedicated sessions for lipidomics, and an evening workshop with the ILS. Check out the conference website for program updates.

- Oral abstract submissions deadline: July 9, 2023
- Poster abstract submissions deadline: August 4, 2023
- Early bird registration deadline: July 9, 2023

14th European Nutrition Conference (ENC) FENS 2023

November 17 – 25, 2023

Venue: Belgrade, Serbia

Learn More Here

The 14th European Nutrition Conference will be held in Belgrade, the capital city of Serbia. The theme of the conference is “Food, Nutrition, and Health: Translating science into practice”. Around this theme, the conference will deliver a high-quality program, featuring international speakers across plenary sessions and symposia. Other features of the program will be discussions and debates, industry symposia, panel sessions, and networking opportunities including several specifically catering to early career researchers.

- Abstract submission is closed
- Early bird registration deadline is extended to July 24th, 2023

NIST SRM1950 Customer Feedback Survey

NIST SRM 1950 Survey
We Need Your Help!!

Dear Colleagues,

The National Institute of Standards and Technology (NIST) is conducting a survey about NIST SRM 1950 Metabolites in Frozen Human Plasma to gather feedback directly from **existing and potential users** on their experiences and needs to better design SRM products in the future.

SRM 1950 was first made available in 2011 and has been widely used by researchers and scientists in the metabolomic and lipidomic communities and beyond. NIST will be renewing SRM 1950 and/or developing new reference materials in the coming years, a process that typically takes 5-7 years. The survey results will help NIST devise future reference material formulations to fulfill your needs and continue to support the clinical chemistry, metabolomic and lipidomic communities.

Help the succession of NIST SRM 1950!
Please complete survey by

Friday, June 30th , 2023

Click for Survey

Or, copy-and-paste the link in a web browser:
https://usability.gov1.qualtrics.com/jfe/form/SV_25hVWSW2sOr16bc

If you have any questions regarding the survey, please don't hesitate to email the survey point of contact, Yee-Yin Choong at yee-yin.choong@nist.gov.

Best regards,

The NIST SRM 1950 Survey Team:

Yee-Yin Choong, Human Factors Scientist, Information Technology Laboratory
Johanna Camara, Research Chemist, Material Measurement Laboratory
Tracey Schock, Research Chemist, Material Measurement Laboratory
Clay Davis, Research Chemist, Material Measurement Laboratory

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Metabolomics Jobs

Metabolomics Jobs

If you have a job to post, please email the MetaboNews team at metabolomics.innovation@gmail.com

We may remove a listing after 6 months if we do not receive a confirmation that it is still necessary. However, if you would like us to repost it, please contact us.

Job Title	Employer	Location	Source
Operations Assistant	NovaMT and TMIC Li Node at the University of Alberta	Edmonton, Alberta, Canada	Dr. Liang Li (please contact liang.li@ualberta.ca)
Postdoctoral Research Associate-Sumner Lab	Nutrition Research Institute	Kannapolis, North Carolina, US	The University of North Carolina
Metabolomics Project Coordinator	Human Metabolome Technologies of America	Remote or Boston, MA, USA	Metabolomics Society
Senior Data Scientists	Olaris, Inc.	Framingham, MA, USA	Metabolomics Society

Postdoctoral Research Associate - Pharmaceutical Sciences	St. Jude Children's Research Hospital	Memphis, TN, USA	Metabolomics Association of North America
Doctoral Candidates	HUMAN – Harmonising and Unifying Blood Metabolomics Analysis Networks	Europe	HUMAN Doctoral Network
Postdoctoral Fellow in Omics	Georgia Institute of Technology	Atlanta, USA	Metabolomics Society
Postdoctoral Scholar	Coral Reef Metabolomics Michigan State University/East Lansing	Michigan, USA	Michigan State University
Assistant Professor in Mass Spec and/or Metabolomics	Michigan State University	East Lansing, Michigan, USA	Michigan State University
Postdoctoral Research Fellow	Cincinnati Children's Hospital Medical Center	Cincinnati, OH, USA	ASMS Careers or contact Xueheng Zhao (xueheng.zhao@cchmc.org)
Postdoctoral Researcher in MALDI Mass Spectrometry Imaging (Metabolomics)	Medical School OWL, Bielefeld University	Bielefeld, NRW, Germany	Bielefeld University
Metabolite Scientist	Olaris, Inc.	Framingham, MA, USA	Olaris Inc.
Postdoctoral Research Fellow (LC-MS and Data Science for Metabolomics)	The Li Lab and the Li Node of TMIC, University of Alberta	Edmonton, Alberta, Canada	University of Alberta
Various Positions	Various	Various (within North America)	Metabolomics Association of North America

MetaboNews Feedback Form

As you noticed, we change to a new format starting this April 2023 issue. We hope to provide enough useful content to keep you interested and informed and appreciate your comments and feedback on how we can make this newsletter better. Please fill out this quick survey and let us know your thoughts (your answers will be anonymous). It will only take less than one minute with only two mandatory questions

Fill Out Your Survey Here

If you have any questions, don't hesitate to contact us at metabolomics.innovation@gmail.com

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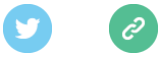

Our mailing address is:
metabolomics.innovation@gmail.com