Ryland T. Giebelhaus, PhD

Phone: 250-826-3769
Email: rgiebelh@ualberta.ca
LinkedIn

11227 Saskatchewan Drive, W3-12
Edmonton, AB T6G 2G2
www.ryland-giebelhaus.com

EDUCATION

PhD University of Alberta — September 2021 to April 2025
Doctor of Philosophy, Chemistry
Supervisor: Dr. James J. Harynuk
Thesis Title: **Data Processing and Chemometric Strategies for Metabolomics and Exposomics studies**
Graduating Average (/4.0): **4.0**

BSc (Hons.) University of British Columbia — September 2016 to May 2021
Bachelor of Science, Honors in Chemistry
Supervisors: Dr. Susan J. Murch; Dr. Thuy T. Dang
Thesis Title: **Metabolomics and Hormonomics of *Mitragyna speciosa***
Graduating Average: **92.6%**

RESEARCH EXPERIENCE AND EMPLOYMENT

University of Victoria, Victoria — Starting July 2025
Assistant Professor (*Incoming*)
Department of Chemistry, Faculty of Science

- Research program will be focused on (1) utilizing multidimensional liquid chromatography for metabolomics analyses and (2) developing novel data strategies for performing automated quality control, data analysis, and interpretation in metabolomics studies.
- Teaching will focus on undergraduate and graduate courses in analytical chemistry, chromatography, and chemometrics.

University of Alberta, Edmonton — September 2021 to April 2025
PhD Candidate (Chemistry)
Thesis Title: Data Processing and Chemometric Strategies for Metabolomics and Exposomics studies
Advisor: Dr. James J. Harynuk

- Developing of automated processing for GC-MS and GC×GC-TOFMS metabolomics data using machine learning and artificial intelligence.
- Exploring the impact of cannabis use during pregnancy on the mother and baby's metabolism with metabolomics.
- Chemometric analyses on data from multiple analytical platforms, including NMR, GC-MS, and LC-MS.
- Using multiple sampling techniques to analyze numerous biological samples by GC×GC-TOFMS, including solid phase micro extraction (SPME), dynamic headspace (DHS), and derivatization.

University of Copenhagen, Copenhagen February 2024 to May 2024
Visiting Scholar
Advisor: Dr. Jan H. Christensen

- Performing metabolomics analyses using GC×GC-HRMS and LC×LC-HRMS.
- Working with high resolution MS data to develop workflows for pixel-based analysis of multidimensional separations data.
- Utilizing novel chemometric algorithms developed in-house in the Analytical Chemistry group at University of Copenhagen.

University of British Columbia, Kelowna September 2020 to May 2021
BSc Honors Thesis
Thesis Title: Metabolomics and Hormonomics of *Mitragyna speciosa*
Advisors: Dr. Susan J. Murch and Dr. Thuy T. Dang

- Development and validation of targeted and untargeted UPLC – MS/MS metabolomics method for plant metabolites.
- Determination of intermediates in the mitragynine pathway in *M. speciosa*.
- Application and implementation of the Design of Experiments (DoE) methodology.
- Continued work on a metabolomics tool developed during summer 2020 research project.

University of British Columbia, Kelowna January 2018 to August 2021
Research Assistant, PlantSMART lab

- Responsible for many aspects of laboratory operations, including maintenance of instruments and plant cultures during COVID-19 (March 2020 to April 2021).
- Performed plant tissue culture and prepared growth medium.
- Developed and validated analytical methods on a UHPLC – MS/MS.
- Designed and developed a searchable database and metabolomics tool that searches untargeted MS datasets for phytohormones using R, python, and HTML coding languages.
- Learned how to maintain, troubleshoot, and repair a UHPLC – MS/MS instrument:
    - Replaced seals on the LC pumps.
    - Full cleaning of the LC system.
    - Replacement of parts in the sample manager.
    - Cleaning source and ion optics on the MS.

RESEARCH GRANTS

University of Victoria New Faculty Start-up Funding – 145,000 CAD July 2025

One time start-up cash fund awarded to new faculty for establishing an independent research group at the University of Victoria. Awarded for my proposed research program entitled "Development of Methodologies and Data Tools for Multidimensional Liquid Chromatographic Separations in Untargeted Metabolomics".

HONORS AND AWARDS

University of Alberta Faculty of Science Dissertation Award April 2025

Awarded based on recognition from the examining committee. The awardee exemplifies the values of the Faculty of Science and contributes to knowledge on a national and international level.

Ryan-Harris Graduate Student Award – 1,250 CAD March 2025

The Ryan-Harris award is sponsored by the Analytical Chemistry Division of the Canadian Society for Chemistry. The Ryan-Harris is awarded to the top analytical chemistry graduate student in Canada annually.

Alberta Innovates Graduate Student Scholarships – 12,000 CAD November 2024

Alberta Advanced Education, in partnership with Alberta Innovates, invests in the support of academically superior graduate students undertaking full-time research education at an Alberta university, leading to a research-based Master's or Doctoral degree. The Alberta Innovates Graduate Student Scholarships program (GSS) is designed to enable these promising students to succeed in Emerging Technology Areas of scientific research which are strategically important to Alberta. Awarded for the proposal entitled "Leveraging machine learning and artificial intelligence to detect, classify, and identify emerging organic environmental contaminants of concern in non-target analysis"

Chemistry Department Travel Award – 500 CAD May 2024

Awarded to graduate students in the Chemistry Department at the University of Alberta for travel to a conference. Used to travel to the American Chemical Society (ACS) meeting in Denver, USA.

GSA Academic Travel Grant – 500 CAD May 2024

Awarded to PhD candidates by the Graduate Student Association (GSA) with a satisfactory GPA for travel to a conference. Used to travel to the 2024 Metabolomics Society Conference in Osaka, Japan.

Graduate Travel Award – 1950 CAD May 2024

Awarded to PhD candidates by the Faculty of Graduate & Postdoctoral Studies (GPS) with a satisfactory GPA for travel to a conference. Used to travel to the 2024 Metabolomics Society Conference in Osaka, Japan.

President's Doctoral Prize of Distinction – 7,000 CAD April 2024

The President's Doctoral Prize of Distinction (PDPD) is a Top-Up award given to students registered full-time in a doctoral degree program at the University of Alberta who have won one of the eligible major doctoral-level scholarships. Awarded for receiving the CIHR CGS-D.

Chemistry 502 Seminar Award (Analytical) – 300 CAD January 2024

Awarded to the best PhD seminar for each division in the chemistry department at the University of Alberta. Determined by faculty members who attended the seminar.

Michael Smith Foreign Study Supplement – 5,750 CAD December 2023

The Michael Smith Foreign Study Supplement (MSFSS) is a competitive nationally awarded grant to allow for research to be conducted in an international lab. The MSFSS is only available to graduate students who hold tri-council funding. Funding was awarded for the proposal titled "Automated data processing for two dimensional gas chromatography based metabolomics", which will be undertaken in the Analytical Chemistry Group headed by Dr. Jan Christensen at the University of Copenhagen in 2024.

First Place Poster | 4th Canadian Metabolomics Conference – 200 CAD June 2023

Awards were given for the top 3 talks and posters at the 4th Annual Canadian Metabolomics Conference (CanMetCon) in Niagara-on-the-lake, Ontario. This was awarded for the poster entitled: "Profiling and Characterizing the Volatile Exposome with Wristband-Based Passive Samplers and GC×GC-MS".

Richard D. Sacks Award | 1st Place Talk – 500 USD June 2023

The International GC×GC Symposium Awards annually recognize leaders in the field of comprehensive two-dimensional gas chromatography who have made significant contributions in instrument development, applications, theory, software, and/or have contributed to the continued growth of the technology. The Sacks Awards were established in 2013 in memory of Prof. Richard D. Sacks, a world-renowned analytical chemist who embraced the GC×GC technology in his laboratory at the University of Michigan for a few years before his untimely death in 2006. These awards recognize the three most outstanding student presentations and posters at the symposium, which are selected by members of the organizing committee. Awarded at the 20th International GC×GC Symposium for the poster entitled: "Developing Novel Workflows for Processing GC×GC-TOFMS Data".

Upper Bound Talent Bursary – 150 CAD May 2023

Awarded to graduate students in STEM who are utilizing artificial intelligence (AI) in their research. Value is equal to the cost of conference registration. Upper Bound is an AI conference hosted by Alberta Machine Intelligence Institute (AMII) in Edmonton, Alberta. Upper Bound is Canada's largest AI conference.

President's Doctoral Prize of Distinction – 10,000 CAD April 2023

The President's Doctoral Prize of Distinction (PDPD) is a Top-Up award given to students registered full-time in a doctoral degree program at the University of Alberta who have won one of the eligible major doctoral-level scholarships. Awarded for receiving the CIHR CGS-D.

CIHR Canada Graduate Scholarship-Doctoral – 115,000 CAD April 2023

The Canadian Institutes of Health Research Canada Graduate Scholarships - Doctoral Program (CIHR CGS-D) program provides special recognition and support to students who are pursuing a doctoral degree in a health-related field in Canada. The objective of the Canada Graduate Scholarships – Doctoral (CGS D) program is to promote continued excellence in Canadian research by rewarding and retaining high-caliber doctoral students at Canadian institutions. By providing support for a high-quality research training experience to awardees, the CGS D program strives to foster impacts within and beyond the research environment. Awarded for the research proposal entitled: "Exploring the Physiology of Lactose Intolerance Through Breath-Based GC×GC-TOFMS Metabolomics".

Chemistry Recruitment Scholarship (PhD) – 5,000 CAD September 2022

Awarded to a newly admitted student entering a Chemistry graduate degree program in recognition of academic and scholarly achievement at the University of Alberta.

Richard D. Sacks Award | 1st Place Poster – 500 USD May 2022

The International GC×GC Symposium Awards annually recognize leaders in the field of comprehensive two-dimensional gas chromatography who have made significant contributions in instrument development, applications, theory, software, and/or have contributed to the continued growth of the technology. The Sacks Awards were established in 2013 in memory of Prof. Richard D. Sacks, a world-renowned analytical chemist who embraced the GC×GC technology in his laboratory at the University of Michigan for a few years before his untimely death in 2006. These awards recognize the three most outstanding student presentations at the symposium, which are selected by members of the organizing committee. Awarded at the 19th International GC×GC Symposium for the poster entitled: "Region of Interest Selection for GC×GC-TOFMS Data using a Pseudo Fisher Ratio Moving Window with Connected Components Segmentation"

Canada Graduate Scholarship-Master's (CGS-M) – 17,500 CAD September 2021

The CGS-M program provides financial support to high-caliber scholars who are engaged in eligible master's in Canada. This support allows these scholars to fully concentrate on their studies in their chosen fields. The CGS-M program supports up to 3,000 students annually in all disciplines and is administered jointly by Canada's three granting agencies: CIHR, NSERC, and SSHRC. The selection process and post-award administration are carried out at the institutional level, under the guidance of the three agencies. Awarded for the research proposal entitled: "Metabolomics-Guided Investigation of a Plant-Mediated Insect-Pathogen Interaction in Canola".

Walter H Johns Graduate Fellowship – 5,800 CAD September 2021

The Walter H Johns Graduate Fellowship is a Top-Up award that may be given to students registered full-time in a graduate degree program who hold a Canada Graduate Scholarship - Master's (CGS-M) at the University of Alberta.

Chemistry Recruitment Scholarship (MSc) – 5,000 CAD September 2021

Awarded to a newly admitted student entering a Chemistry graduate degree program in recognition of academic and scholarly achievement at the University of Alberta.

Faculty of Science Graduate Scholarship – 2,000 CAD September 2021

Awarded to a newly admitted student entering a graduate degree program in recognition of academic and scholarly achievement at the University of Alberta in the faculty of science.

First Place | Canadian Chemistry Conference and Exhibition – 75 CAD August 2021

Awarded for having the highest score from the undergraduate poster competition in the analytical division at the 2021 Online Canadian Chemistry Conference and Exhibition (CCCE). Awarded for the poster entitled: "HormonomicsDB: A new tool for analysis of plant growth regulators".

Second Place | UBCO Undergraduate Research Conference April 2021

Awarded for having the second highest score from the adjudicated poster/presentation competition at the 2021 University of British Columbia Okanagan Undergraduate Research Conference. Awarded for the poster entitled: "Are all kratom products created equal? Metabolomics of Mitragyna speciosa and commercial kratom products".

Undergraduate Student Research Award (USRA) – 8,500 CAD March 2021

NSERC offers a USRA to candidates based on their academic record and research aptitudes. The program aims to stimulate interest in research in the natural sciences and engineering and to encourage graduate studies and pursue a research career in these fields. Awarded for the research proposal entitled: "Metabolomics of Mitragyna speciosa and Commercial Kratom Products".

ACPBC Undergraduate Student Scholarship – 1,000 CAD June 2020

The Association of the Chemical Profession of British Columbia Undergraduate Student Scholarship is awarded annually to an ACPBC student member enrolled in third or fourth year of an undergraduate Chemistry program at a British Columbia university. All applicants must be student members of the ACPBC. The award is equally based on academic performance in all completed Chemistry courses and service to the Chemistry profession.

Undergraduate Student Research Award (URA) – 9,500 CAD March 2020

The Undergraduate Research Awards (URA) program was established by the Irving K. Barber Endowment Fund Advisory Committee to provide exceptional learning experiences for undergraduate Science students at UBC's Okanagan campus. The purpose of the program is to encourage undergraduate students enrolled in the Irving K. Barber Faculty of Science to pursue innovative and original research as part of their learning experience while at UBC's Okanagan campus. Awarded for the research proposal entitled: "HormonomicsDB: A New Tool for the Analysis of Phytohormones in Untargeted Metabolomics Data".

Aboriginal Undergraduate Research Mentorship Award – 3,300 CAD January 2020

The Aboriginal Undergraduate Research Mentorship (AURM) Program is an opportunity for self-identified Aboriginal undergraduate students to gain practical research and laboratory experience while working with a UBC Okanagan faculty member or postdoctoral fellow.

Dean's List May 2019

Award given to those with a grade average of 85% or higher.

Undergraduate Student Research Award – 9,500 CAD (Declined) March 2020

The Undergraduate Research Awards (URA) program was established by the Irving K. Barber Endowment Fund Advisory Committee to provide exceptional learning experiences for undergraduate Science students at UBC's Okanagan campus. The purpose of the program is to encourage undergraduate students enrolled in the Irving K. Barber Faculty of Science to pursue innovative and original research as part of their learning experience while at UBC's Okanagan campus. Awarded for the project entitled: "Analysis of Glyphosate in Food and Environmental Samples".

Undergraduate Student Research Award (USRA) – 4,500 CAD March 2019

NSERC offers a USRA to candidates based on their academic record and research aptitudes. The program aims to stimulate interest in research in the natural sciences and engineering and to encourage graduate studies and pursue a research career in these fields. Awarded for the project entitled: "Analysis of Glyphosate in Food and Environmental Samples".

Aboriginal Undergraduate Research Mentorship Award – 3,300 CAD January 2019

The Aboriginal Undergraduate Research Mentorship (AURM) Program is an opportunity for self-identified Aboriginal undergraduate students to gain practical research and laboratory experience while working with a UBC Okanagan faculty member or postdoctoral fellow.

Aboriginal Undergraduate Research Mentorship Award – 3,000 CAD January 2018

The Aboriginal Undergraduate Research Mentorship (AURM) Program is an opportunity for self-identified Aboriginal undergraduate students to gain practical research and laboratory experience while working with a UBC Okanagan faculty member or postdoctoral fellow.

DVC Scholarship for Continuing Students – 500 CAD September 2017

Deputy Vice-Chancellor scholarships (DVC) are awarded to continuing domestic undergraduate students entering second, third or fourth year at UBC's Okanagan campus. Scholarships are based on academic achievement in the previous year.

Kelowna Medical Imaging Bursary – 1,000 CAD June 2016

Awarded through the Central Okanagan Bursary and Scholarship Society to a student entering a Bachelor of Science program based on academic performance in secondary school.

Graduation Program Examination Scholarship – 1,200 CAD June 2016

Awarded to students who scored in the top percentile in their provincial examinations.

SD #23 District Award Scholarship – 1,000 CAD June 2016

Awarded to a student that excels or has a certain passion/interest in a particular area of interest that is also pursuing that interest or subject.

Interior Savings Bursary – 1,000 CAD June 2016

Awarded to a local student, and banking member at Interior Savings Credit Union entering an accredited post-secondary institution.

TEACHING EXPERIENCE

University of British Columbia, Kelowna November 2022
Guest Lecturer, CHEM 412: Methods in Metabolomics

- Invited to deliver two 1.5-hour guest lecture to UBC Okanagan's Methods in Metabolomics course delivered by Dr. Susan Murch.
- Course is offered to senior undergraduate and graduate students in chemistry and biochemistry.
- Discussed my research at UBC Okanagan, specifically HormonomicsDB, and ongoing research program at the University of Alberta.
- Spoke on my personal interests in metabolomics and graduate school.

University of British Columbia, Kelowna August 2022
Guest Lecturer, Metabolomics Professional Course/Micro-credential

- Invited to deliver a 2-hour guest lecture to UBC Okanagan's Metabolomics Professional Course/Micro-credential delivered by Dr. Susan Murch.
- Discussed my research at UBC Okanagan and ongoing research program at the University of Alberta.
- Spoke on my personal interests in metabolomics and important skills needed for metabolomics.

University of Alberta, Edmonton September 2021 to December 2021
Graduate Teaching Assistant, Chemistry

- Taught two lab sections biweekly of CHEM 10X: Introductory University Chemistry.
- Guided students through performing experiments pertaining to the lab.
- Marked lab reports and returned them in a timely fashion.

University of British Columbia, Kelowna September 2020 to December 2020
Teaching Assistant, Chemistry

- Taught two lab sections per week for CHEM 211: Introduction to Analytical Chemistry with an average of 20 students per lab.
- Reviewed topics covered in lecture such as standard curves, chromatography, and instructed in procedure in the multiple experiments performed per week.
- Marked lab reports and returned them in a timely fashion.

University of British Columbia, Kelowna September 2019 to December 2019
Teaching Assistant, Chemistry

- Taught one lab section for CHEM 1X1: Principles of Chemistry I with 20 students.
- Reviewed topics covered in lecture and instructed in procedure in the experiments.
- Lab reports were marked and returned in a timely fashion as well as exams.

University of British Columbia, Kelowna September 2018 to December 2018
Teaching Assistant, Chemistry

- Taught all students in CHEM 220: Atomic Structure and Molecular Bonding with 42 students.
- Reviewed topics covered in lecture such as orbitals, orbital hybridization, molecular bonding, and molecular orbital theory.
- Marked lab reports and returned them in a timely fashion.

University of British Columbia, Kelowna September 2017 to April 2021
Tutor, Chemistry Course Union

- Assisted undergraduate students in chemistry courses in learning concepts to succeed in exams and cultivate an interest in the field through holding office hours and hosting study sessions for exams.

SERVICE TO THE COMMUNITY AND OUTREACH

Metabolomics Quality Assurance & Quality Control Consortium (mQACC)
Graduate Student Member (December 2023 to Present)

- mQACC was established to address key quality assurance (QA) and quality control (QC) issues in untargeted metabolomics.
- Member of Best Practices Working Group and Gas Chromatography Working Group.

Graduate Student Curriculum Committee
Graduate Student Member (July 2023 to July 2024)

- Providing a graduate student perspective on current and future courses in the chemistry department.
- Discussing current program requirements.

4th Annual Metabolomics Association of North America Conference
Student Volunteer (August 2022 to September 2022)

- Assisting in planning conference, including organizing materials for attendees and sponsors.
- Assisting in AV and conference room set up.
- Tours of TMIC facilities at the University of Alberta campus.

Analytical Chemistry Visiting Speaker Series
Chair, Student Organizing Committee (July 2022 to February 2023)

- Working with a team of faculty members in the analytical division at the University of Alberta to organize guest lecturers.
- Communicate with analytical graduate students and guide in the selection process of visiting speakers.

NIEHS Exposome Workshop
Participant (July 2022 to September 2022)

- Participating in all 5 virtual workshops hosted by the National Institute of Environmental Health Sciences (NIEHS).
- Attended break out rooms and engaged in discussions about exposomics and metabolomics relating to human health.
- Preparing a "group authorship" publication to be submitted to *Exposome* highlighting the current state of exposomics.

Research Panel for CHEM 299 class
Panelist (November 2021)

- Presented as a panelist for of the CHEM 299 (Research Opportunity Program in Chemistry) class at the University of Alberta to talk to students about my research path from undergrad to graduate school.

Metabolomics Association of North America (MANA) Journal Club
Attendee and Presenter (April 2021 to Present)

- The MANA runs a weekly journal club for its student members to present recently published metabolomics papers to other students and faculty members. I attended each of the weekly journal clubs and also presented a paper to the audience during one of the meetings.

UBCO Chemistry Course Union (CCU)
The CCU is the largest course union on the UBC Okanagan campus with over 400 members who pay an annual fee to join. Each year, the CCU hosts social, mentoring, and academic events such as: Pub Nights, Midterm Study Sessions, career panels, one-to-one tutoring and so on.
Treasurer (April 2018 to April 2019; April 2020 to April 2021)

- Responsible for the management of student dues, expenses, reconciling accounts and reporting to the membership.

President (April 2019 to April 2020)

- As the leader of the CCU executive, I was responsible for making decisions organization of events. I created a career panel event that brings professional chemists to talk with graduating students. I was the CCU liaison with faculty members regarding projects and events. I led the team that hosted the WCUCC meeting in Kelowna.
- During my tenure as president the CCU received national recognition from the Chemical Institute of Canada placing first in both the "2020 Student Chapter Merit Award" and the "2021 Student Chapter Merit Award" competitions.

Tutor (September 2017 to April 2021)

- Provided resources and support to undergraduate students in chemistry courses to help them to understand the concepts required to succeed in courses and to cultivate an interest in the field.

2019 Western Canadian Undergraduate Chemistry Conference
The WCUCC is an annual research conference planned by undergraduates for undergraduate researchers from across western Canada to present their research work. In a normal year, the host institution has about a year to organize the conference but in 2019, exceptional circumstances at another campus created an extraordinary circumstance. We organized the 2019 WCUCC conference with 48 abstracts with 55 student attendees from BC, Alberta, and Manitoba in less than 3 months.
Host & Chair, Local Organizing Committee, (April 2019 to June 2019)

- Responsible for overseeing all aspects of the conference.
- Spearheaded planning the conference in 3 months rather than the typical year allotted to the host.
- Raised more than $12,000 in funding and in-kind sponsorship in less than 3 months.
- Coordinated a team of 8 student volunteers, 2 faculty members, and graduate student judges.

MENTORING AND SUPERVISORY EXPERIENCE

The Harynuk Lab, University of Alberta, Edmonton September 2021 to April 2025

- *Seoin Wang* (May 2023 to April 2025): Working on processing and preparing samples from the mom's and babies cannabis study.
- *Gwen Nguyen* (May 2023 to April 2025): Developing a new file format for compressing and storing GC×GC-TOFMS data files.
- *Mason Bly, Yuxi Chen, Steven Heung, Kynan Sorochan, Zihan Wang* (January 2023 to April 2023): Supervised 5 capstone students in computer science on a project using artificial intelligence and machine learning to develop an algorithm to determine the number components in a chromatogram region.
- *Stephanie Vertelo Porto* (February 2023 to June 2023): Using GC×GC-TOFMS to explore differences in Canadian craft pilsner beers. I trained Stephanie in how to use GC, GC×GC-TOFMS, how to design experiments for metabolomics, and how to process metabolomics data. Stephanie is a visiting student from Brazil on a research exchange to learn more about GC.
- *Benjamin Ambrose* (September 2022 to December 2022): Using GC×GC-TOFMS breath-based metabolomics, we are exploring and uncovering the specific mechanisms of lactose intolerance in lactose intolerant individuals. Benjamin is responsible for assisting me in preparing ethics, recruiting participants, collecting samples, performing untargeted analysis, and processing data. Benjamin is on a research exchange, through a Killam Scholarship, from the University of Arizona.
- *Sebastian Dosoftei* (April 2022 to September 2022): Working on the development of a dynamic headspace (DHS) GC×GC-TOFMS method for the analysis of urine and breastmilk volatile metabolites. Worked with Sebastian to prepare and abstract and poster for an internal conference in August 2022.

PlantSMART Lab, UBC, Kelowna January 2018 to March 2025

Instructed one graduate student and three undergraduate students how to prepare growth medium and techniques for aseptic plant tissue culture. Mentored one undergraduate student, one graduate student, and one post-doctoral fellow on how to maintain and use the UPLC-MS/MS system in the laboratory to perform screening and quantification. Maintains a working relationship with the PI, Dr. Murch, and continues to consult and mentor students on data handling and UHPLC-MS analyses.

The Chemistry Course Union, UBC, Kelowna April 2018 to April 2021

Mentored other executive members and "sub-executives" to teach them about the role of treasurer and president to prepare the organization for a smooth succession between academic years. Also mentored tutors to help with improving their tutoring skills. Have written reference letters for applications and served as a verifier for members medical school applications.

Big White Ski Club, Kelowna November 2014 to April 2021

Coached with the Big White Ski Club for 7 consecutive seasons, mainly focusing on coaching the U12 program. Coached approximately 20 athletes, aged 10 – 11 each season with two to four other coaches. Ensured the safety of athletes while developing skiing skills and encouraging the adoption of a healthy lifestyle through regular exercise and proper nutrition. Additionally mentored five junior coaches on how to be an effective and professional coach to provide the most enjoyable and fulfilling environment to the athletes. A number of athletes continued onto coaching themselves, playing collegiate sports, or racing at the national level. One previous athlete of mine was named to the BC Ski Team in spring 2022.

Gallaghers Canyon Golf Club, Kelowna March 2015 to September 2018

Staff in guest services at Gallaghers Canyon Golf and Country Club in Kelowna for four seasons. Gallaghers is one of the top golf destinations in Canada, consistently ranked in the top 100, and also hosts an annual stop on the Canadian PGA tour. I was employed as the guest services manager during my last season (March to September 2018) where I was responsible for a team of 12 employees. My duties included the maintenance of a fleet of 75 golf carts, producing monthly budgets for salaries and expenditures, and ensuring my team conducted themselves in a respectful and professional manner to best represent the facility.

PUBLICATIONS

Note: ‡ Denotes equal authorship

REFEREED PUBLICATIONS

18) Ninfa Vera de Bilbao, **Ryland T. Giebelhaus**, Ryan P. Dias, Maria Elena Ferreira, Miguel Martinez, Lorea Velasco Carneros, Seo Lin Nam, A Paulina de la Mata, Jean Didier Marechal, Ahissan Innocent Adou, Gloria Yaluff, Elva Serna, Muriel Sylvestre, Susana Torres, Alicia Schinini, Ricardo Galeano, Alain Fournet, James J. Harynuk, and Gerardo Cebrian Torrejon. "Exploring the Anti-Chagas Activity of *Zanthoxylum chiloperone*'s Seedlings Through Metabolomics and Protein–Ligand Docking". *Plants*, **2025**, *14*(6), 954.

17) Mohamed Shaheen, Chelsea McDougall, Leona Chan, Rose Franz, Karen Wong, **Ryland T. Giebelhaus**, Gwen Nguyen, Seolin Nam, A. Paulina de la Mata, James J. Harynuk, Sepideh Pakpour, Huiping Xu, and Dina Kao. "Impact of Fecal Microbiota Transplant Formulation, Storage Conditions, and Duration on Bacterial Viability, Functionality, and Clinical Outcomes in Recurrent *Clostridioides difficile* patients". *Microorganisms*, **2025**, *13*(3), 587.

16) Seo Lin Nam, Kieran Tarazona Carrillo, **Ryland T. Giebelhaus**, A. Paulina de la Mata, Olle M. de Bruin, Evgueni Doukhanine, and James J. Harynuk. "Evaluation of solution chemistries for stabilizing feces in metabolomics studies using GC×GC-TOFMS". *Metabolomics*, **2025**, **21**, 31.

15) Ming Kei Chung, John S House, Farida S Akhtari, Konstantinos C Makris, Michael A Langston, Khandaker Talat Islam, Philip Holmes, Marc Chadeau-Hyam, Alex I Smirnov, Xiuxia Du, Anne E Thessen, Yuxia Cui, Kai Zhang, Arjun K Manrai, Alison Motsinger-Reif, Chirag J Patel, and Members of the Exposomics Consortium (**Ryland T. Giebelhaus** (as a member)). "Decoding the exposome: data science methodologies and implications in exposome-wide association studies (ExWASs)", *Exposome*, **2024**, 4(1).

14) Jonathan P. Mochel, Jessica Ward, Debosmita Kundu, Thomas Blondel, **Ryland T. Giebelhaus**, A. Paulina de la Mata, Chelsea A. Iennarella-Servantez, Seo Lin Nam, James J. Harynuk, Jan Suchodolski, José Joaquín Cerón, Agnes Bourgois-Mochel, Faiez Zannad, and Karin Allenspach. "Preclinical Modeling of Metabolic Syndrome to Study the Pleiotropic Effects of Novel Antidiabetic Therapy Independent of Obesity". *Scientific Reports*, **2024**, **14,** 20665.

13) **Ryland T. Giebelhaus**, Gwen Nguyen, Sheri A. Schmidt, Seoin Wang, Ewenet Y. Mesfin, Seo Lin Nam, A. Paulina de la Mata, and James J. Harynuk. (2024). "GC×GC-TOFMS Analysis of Fecal Metabolome Stabilized Using an At-Home Stool Collection Device". *Applied Biosciences*, **2024**; *3*(3).

12) Stephanie L. Bishop, Julia T. Solonenka, **Ryland T. Giebelhaus**, David T.R. Bakker, Isaac T. S. Li, and Susan J. Murch. (2023). "Microbial community composition affects non-protein amino acid production in cyanobacteria and freshwater organisms collected from Lake Winnipeg". *Toxins*, **2024**, *16*(4).

11) Thomas Head‡, **Ryland T. Giebelhaus**‡, Seo Lin Nam, A. Paulina de la Mata, James J. Harynuk, and Paul R. Shipley. "Discriminating Extra Virgin Olive Oils from Common Edible Oils: Comparable Performance of PLS-DA Models Trained on Low-Field and High-Field 1H NMR Data". *Phytochemical Analysis*, **2024**, 1-8.

10) Seo Lin Nam, **Ryland T. Giebelhaus**, Kieran Tarazona Carrillo, A. Paulina de la Mata, and James J. Harynuk. "Evaluation of normalization strategies for GC-based metabolomics". *Metabolomics*, **2024**, 20(22).

9) Nuttanee Tungkijanansin, **Ryland T. Giebelhaus**, Sheri A. Schmidt, Thumnoon Nhujak, Kaywalee Chatdarong, Pattama Torvorapanit, James J. Harynuk, and Chadin Kulsing. (2023). "Identification of Coronavirus Disease Marker Compounds in Sweat with Comprehensive Two Dimensional Gas Chromatography Using Multiloop Splitter-Based Non-cryogenic Artificial Trapping Modulation System". *Journal of Chromatography Open*, **2024**, 100113.

8) Valendy Thesnor, Roland Molinié, **Ryland T. Giebelhaus**, A. Paulina de la Mata, James J. Harynuk, David Bénimélis, Muriel Sylvestre, Yvens Cheremond, Patrick Meffre, Gerardo Cebrián-Torrejón, and Zohra Benfodda. "Antibacterial activity and untargeted metabolomics profiling of *Acalypha arvensis* Poepp". *Molecules,* **2023**, *28*, 7882.

7) **Ryland T. Giebelhaus**, A. Paulina de la Mata, and James J. Harynuk. "Region of Interest Selection for GC×GC-TOFMS Data using a Pseudo Fisher Ratio Moving Window with Connected Components Segmentation", *Journal of Chromatography Open*, **2023**, 100104.

6) **Ryland T. Giebelhaus**, Kieran Tarazona Carrillo, Seo Lin Nam, A. Paulina de la Mata, Paul Hui, Juan F. Araneda, and James J. Harynuk. "Detection of Common Adulterants in Olive Oils by Bench Top 90 MHz ^{1}H Nuclear Magnetic Resonance and Partial Least Squares Regression", *Journal of Food Composition and Analysis*, **2023**, 105465.

5) **Ryland T. Giebelhaus,** Laura Biggs, Susan J. Murch, and Lauren A.E. Erland. "Untargeted and targeted metabolomics to understand plant growth regulation and evolution in Wollemi pine (*Wollemia nobilis*)", *Botany,* **2023,** 101(9): 377-390.

4) Katharina Völlmecke, Rowshon Afroz, Sascha Bierbach, Lee Josefine Brenker, Sebastian Frücht, Alexandra Glass, **Ryland Giebelhaus**, Axel Hoppe, Karen Kanemaru, Michal Lazarek, Lukas Rabbe, Longfei Song, Andrea Velasco Suarez, Shuang Wu, Michael Serpe, and Dirk Kuckling. "Hydrogel Based Biosensors", *Gels*, **2022**, *8*(12), 787.

3) **Ryland T. Giebelhaus**, Michael D. Sorochan Armstrong, A. Paulina de la Mata, and James J. Harynuk. "Untargeted Region of Interest Selection for GC-MS Data using a Pseudo F-Ratio Moving Window", *Journal of Chromatography A*, **2022**, *1682*, 463499.

2) **Ryland T. Giebelhaus**, Lauren A.E. Erland, and Susan J. Murch. "HormonomicsDB: a novel workflow for the untargeted analysis of plant growth regulators and hormones", *F1000Research*, **2022**, *11*:1191.

1) Lauren A.E. Erland, **Ryland T. Giebelhaus**, Jerrin M.R. Victor, Susan J. Murch, and Praveen K. Saxena. "The Morphoregulatory Role of Thidiazuron: Metabolomics-Guided Hypothesis Generation for Mechanisms of Activity", *Biomolecules,* **2020***, 10*(9), 1253.

CONFERENCE PRESENTATIONS AND ABSTRACTS

Note: Presenter identified with *

44) **Ryland T. Giebelhaus***, A. Paulina de la Mata, Matthew S. Hicks, and James J. Harynuk, 2025, "GC×GC-TOFMS metabolomics and exposomics for studying the impact of fetal and neonatal cannabis exposures" (Talk), *16th Multidimensional Chromatography Workshop (MDCW)*, Liege, Belgium, February 3rd-5th.

43) **Ryland T. Giebelhaus***, Sheri A. Schmidt, Seolin Nam, A. Paulina de la Mata, Paul R. Shipley, and James J. Harynuk, 2024, "Exploring Feature Selection for Chromatography Based Untargeted Metabolomics Data" (Poster), *TMIC Metabolomics Day 2024*, Edmonton, Canada, November 15th.

42) **Ryland T. Giebelhaus***, Robin J. Abel, A. Paulina de la Mata, and James J. Harynuk, 2024, "Developing new signal processing workflows for untargeted GC×GC-MS data", (ACS Rising Stars in Analytical Chemistry Invited Talk), *ACS Fall 2024*, Denver, USA, August 18th-22nd.

41) **Ryland T. Giebelhaus***, Seo Lin Nam, A. Paulina de la Mata, Nicholas Twells, Lara Mahal, and James J. Harynuk, 2024, "Metabolomic and Glycomic Study of Temporal Changes in Human Breast Milk", (Poster), *The 20th Annual Conference of the Metabolomics Society*, Osaka, Japan, June 16th-20th.

40) A. Paulina de la Mata*, **Ryland T. Giebelhaus**, Chelsea McDougall, Dina Kao, and James J. Harynuk, 2024, "Metabolomics Approaches to Demonstrate the Stability of Fecal Microbiota Transplant Products", (Poster), *The 20th Annual Conference of the Metabolomics Society*, Osaka, Japan, June 16th-20th.

39) Seo Lin Nam*, **Ryland T. Giebelhaus**, Gwen Nguyen, Sheri A. Schmidt, Seoin Wang, Ewenet Mesfin, A. Paulina de la Mata, James J. Harynuk, 2024, "GC×GC-TOFMS Analysis of Stool Metabolome Stabilization Using an At-Home Stool Collection Device", (Poster), *5th Annual Canadian Metabolomics Conference (CanMetCon) 2024*, Vancouver, Canada, April 25th-26th.

38) Gwen Nguyen*, **Ryland T. Giebelhaus**, A. Paulina de la Mata, and James J. Harynuk, 2023, "Utilization of Parquet File Format for Efficient Storage of Comprehensive Two-Dimensional Gas Chromatography Mass Spectrometry Data" (Poster), *University of Alberta Summer Research Poster Symposium*, Edmonton, Canada, August 10th.

37) **Ryland T. Giebelhaus**, Robin J. Abel, A. Paulina de la Mata, and James J. Harynuk*, 2023, "Developing Novel Workflows for Denoising and Processing GC-MS and GC×GC-TOFMS Data" (Poster), *The 19th Annual Conference of the Metabolomics Society,* Niagara Falls, Canada, June 18th-22nd.

36) **Ryland T. Giebelhaus*,** A. Paulina de la Mata, Matthew S. Hicks, and James J. Harynuk, 2023, "Untargeted GC×GC-TOFMS metabolomics and exposomics to understand the impact of fetal and neonatal cannabis exposures" (Poster), *The 19th Annual Conference of the Metabolomics Society,* Niagara Falls, Canada, June 18th-22nd.

35) **Ryland T. Giebelhaus***, Seo Lin Nam, A. Paulina de la Mata, and James J. Harynuk, 2023, "GC×GC-TOFMS Exposomics to Track Breast Milk and Baby's Urinary Metabolites in the First Month of Life" (Invited Talk), *4th Annual Canadian Metabolomics Conference (CanMetCon) 2023,* Niagara-on-the-Lake, Canada, June 15th-16th.

34) **Ryland T. Giebelhaus***, Ryan P. Dias, A. Paulina de la Mata, and James J. Harynuk, 2023, "Profiling and Characterizing the Volatile Exposome with Wristband-Based Passive Samplers and GC×GC-MS" (Poster), *4th Annual Canadian Metabolomics Conference (CanMetCon) 2023,* Niagara-on-the-Lake, Canada, June 15th-16th. **1st Place Poster**

33) Kieran Tarazona Carrillo*, Naëma S. Béziat, **Ryland T. Giebelhaus**, Gerardo Cebrián-Torrejón, Olivier Gros, A. Paulina de la Mata, and James J. Harynuk, 2023, "Environmental exposures evaluated with crab gills and algae samples from Caribbean aquatic ecosystems" (Talk), *4th Annual Canadian Metabolomics Conference (CanMetCon) 2023,* Niagara-on-the-Lake, Canada, June 15th-16th. **3rd Place Talk**

32) A. Paulina de la Mata*, Trevor A. Johnson, Dylan B. Long, Seo Lin Nam, **Ryland T. Giebelhaus**, and James J. Harynuk, 2023, "Evaluation of Extraction Systems for Soil and Shale Samples by GC×GC-TOFMS" (Poster), *4th Annual Canadian Metabolomics Conference (CanMetCon) 2023,* Niagara-on-the-Lake, Canada, June 15th-16th.

31) Stephanie Vertelo Porto*, Ryan Dias, **Ryland T. Giebelhaus**, Seo Lin Nam, A. Paulina de la Mata, and James J. Harynuk, 2023, "GC×GC-TOFMS analysis of Canadian Pilsner Beer volatile profile and its impact in tasting" (Poster), *20th International GC×GC Symposium,* Canmore, Canada, May 28th–June 1st.

30) Kieran Tarazona Carrillo*, Naëma S. Béziat, **Ryland T. Giebelhaus**, Gerardo Cebrián-Torrejón, Olivier Gros, A. Paulina de la Mata, and James J. Harynuk, 2023, "Environmental exposures evaluated with crab gills and algae samples from Caribbean aquatic ecosystems" (Poster), *20th International GC×GC Symposium,* Canmore, Canada, May 28th–June 1st.

29) **Ryland T. Giebelhaus*,** Benjamin Ambrose, Sebastian Dosoftei, A. Paulina de la Mata, and James J. Harynuk, 2023, "A Tale of Three Peaks: Exploration of Triplet Peaks of Creatinine in Human Urine Samples in GC×GC-TOFMS with NMR and Multiway Decomposition" (Poster), *20th International GC×GC Symposium,* Canmore, Canada, May 28th–June 1st.

28) **Ryland T. Giebelhaus*,** Sebastian Dosoftei, A. Paulina de la Mata, and James J. Harynuk. 2023, "Fluids three-ways: Comparison of dynamic head space, solid phase microextraction, and derivatization for the untargeted GC×GC-TOFMS metabolomics and exposomics of urine and human breastmilk" (Poster), *20th International GC×GC Symposium,* Canmore, Canada, May 28th–June 1st.

27) **Ryland T. Giebelhaus*,** Robin J. Abel, Mason Bly, Yuxi Chen, Steven Heung, Kynan Sorochan, Zihan Wang, A. Paulina de la Mata, and James J. Harynuk, 2023, "Developing Novel Workflows for Processing GC×GC-TOFMS Data" (Invited Talk), *20th International GC×GC Symposium,* Canmore, Canada, May 28th–June 1st. **1st Place Talk | Richard D. Sacks Award.**

26) **Ryland T. Giebelhaus,** Robin J. Abel, Seo Lin Nam, A. Paulina de la Mata, and James J. Harynuk*, 2023, "Employing the Fast Fourier Transform to Denoise, Smooth, and Enhance GC×GC-TOFMS Data" (Presentation), *20th International GC×GC Symposium,* Canmore, Canada, May 28th–June 1st.

25) Susan J. Murch*, **Ryland T. Giebelhaus**, and Lauren A.E. Erland, 2023, "HormonomicsDB: A tool to understand plant growth regulators", *Joint Canadian Society of Plant Biologists Western Regional Meeting and UVic Forest Biology Symposium*, Victoria, Canada, May 1st-2nd.

24) **Ryland T. Giebelhaus***, Sebastian Dosoftei, A. Paulina de la Mata, and James J. Harynuk, 2022, "Fluids three-ways: Comparison of dynamic head space, solid phase microextraction, and derivatization for the untargeted GC×GC-TOFMS metabolomics of urine and human breastmilk", *The 4th Annual Metabolomics Association of North America Conference,* Edmonton, Canada, September 16th—18th.

23) **Ryland T. Giebelhaus***, Sebastian Dosoftei, A. Paulina de la Mata, and James J. Harynuk, 2022, "Fluids three-ways: Comparison of dynamic head space, solid phase microextraction, and derivatization for the untargeted GC×GC-TOFMS metabolomics of urine and human breastmilk" (Poster), *The 4th Annual Metabolomics Association of North America Conference,* Edmonton, Canada, September 16th—18th.

22) A. Paulina de la Mata*, Kieran Tarazona Carrillo, **Ryland T. Giebelhaus**, and James J. Harynuk, 2022, "Study of the Metabolome of Meconium by GC×GC-TOFMS using different injection techniques" (Poster), *The 4th Annual Metabolomics Association of North America Conference,* Edmonton, Canada, September 16th—18th.

21) Thomas Head*, **Ryland T. Giebelhaus**, A. Paulina de la Mata, Paul Shipley, and James J. Harynuk, 2022, "Discrimination of Extra-Virgin Olive Oil Samples from Other Botanical Oils using Machine Learning Algorithms Trained on Low-Field Benchtop NMR Spectra." (Poster), *The 4th Annual Metabolomics Association of North America Conference,* Edmonton, Canada, September 16th—18th. **Early Career Member | Best Poster Award**

20) Sebastian Dosoftei*, **Ryland T. Giebelhaus**, A. Paulina de la Mata, and James J. Harynuk, 2022, "Urine 3 Ways: Comparing Urine Metabolomics Sampling using Derivatization, Dynamic Headspace, and Solid-Phase Microextraction" (Poster), *Undergraduate Research Symposium,* Edmonton, Canada, August 26th.

19) A. Paulina de la Mata*, Kieran Tarazona Carrillo, **Ryland T. Giebelhaus**, and James J. Harynuk, 2022, "Metabolome of Meconium by GC×GC-TOFMS" (Poster), *18th International Conference of the Metabolomics Society,* Valencia, Spain, June 19th – 23rd.

18) **Ryland T. Giebelhaus***, Michael D.S. Armstrong, A. Paulina de la Mata, and James J. Harynuk, 2022, "Region of Interest Selection for GC-MS and GC×GC-TOFMS Data with a Pseudo Fisher Ratio Moving Window", *105th Canadian Chemistry Conference and Exhibition,* Calgary, Alberta, June 13th – 17th.

17) **Ryland T. Giebelhaus,** Lauren A.E. Erland, and Susan J. Murch*, 2022, "Hydrophilic interaction chromatography for quantification: Current challenges and future directions", *105th Canadian Chemistry Conference and Exhibition,* Calgary, Alberta, June 13th – 17th.

16) A. Paulina de la Mata*, Kieran Tarazona Carrillo, Ryan P. Dias, and **Ryland T. Giebelhaus**, 2022, "Biofluids, Biosolids and Food Analysis with Different Types of Sample Introduction for GC×GC-TOFMS: How GERSTEL Changed Our Lab Life" (Poster), *19th International GC×GC Symposium,* Online, May 29th to June 2nd.

15) **Ryland T. Giebelhaus***, Michael D.S. Armstrong, A. Paulina de la Mata, and James J. Harynuk, 2022, "Region of Interest Selection for GC×GC-TOFMS Data using a Pseudo Fisher Ratio Moving Window with Watershed Segmentation" (Poster), *19th International GCxGC Symposium,* Online, May 29th – June 2nd. **1st Place Poster | Richard D. Sacks Award.**

14) **Ryland T. Giebelhaus***, A. Paulina de la Mata, Ryan P. Dias, Matt S. Hicks, and James J. Harynuk, 2022, "The development of new analytical tools to better understand the impact of fetal and infant cannabis exposure" (Poster), 2022, *University of Alberta Faculty of Medicine 2022 Pediatric Research Day*, Edmonton, Alberta, April 20th.

13) **Ryland T. Giebelhaus***, Michael D.S. Armstrong, A. Paulina de la Mata, and James J. Harynuk, 2022, "Region of Interest Selection for GC-MS Data with a Pseudo Fisher Ratio Moving Window", *13th Winter Symposium on Chemometrics,* Online, February 28th – March 4th.

12) James J. Harynuk*, Michael D.S. Armstrong, and **Ryland T. Giebelhaus**, 2022, "Towards fully automated processing of GC×GC-TOFMS data", *13th Multi-dimensional chromatography workshop,* Online, January 31st – February 2nd.

11) **Ryland T. Giebelhaus***, Lauren A.E. Erland, and Susan J. Murch, 2021, "A Snapshot in Time: Metabolomic comparison of the living fossil *Wollemia nobilis* and *Araucaria heterophylla*" (Poster), *The 3rd Annual Metabolomics Association of North America Conference,* Online, October 18 – 21st.

10) **Ryland T. Giebelhaus*,** Lauren A.E. Erland, and Susan J. Murch, 2021, "HormonomicsDB: A new tool for analysis of plant growth regulators" (Poster), *IUPAC | CCCE 2021,* Online, August 17th. **1st Place Undergraduate Poster in Analytical Division.**

9) **Ryland T. Giebelhaus*,** Lauren A.E. Erland, Thu-Thuy T. Dang, and Susan J. Murch, 2021, "Are all kratom products created equal? Metabolomics of *Mitragyna speciosa* and commercial kratom products" (Poster), *60th Anniversary Meeting Phytochemical Society of North America*, Online, July 25th – 30th.

8) **Ryland T. Giebelhaus***, Lauren A.E. Erland, and Susan J. Murch, 2021, "A Snapshot in Time: Metabolomic comparison of the living fossil *Wollemia nobilis* and *Araucaria heterophylla*" (Poster), *The 17th Annual Conference of the Metabolomics Society*, Online, June 22 – 24th.

7) Lauren A.E. Erland*, **Ryland T. Giebelhaus**, and Susan J. Murch, 2021, "Cranberry as a source of novel phytomelatonin natural health products", *Natural Health Products Research Society Virtual Conference,* Online, June 7 – 9th & 14 – 16th.

6) **Ryland T. Giebelhaus*,** Thu-Thuy T. Dang, and Susan J. Murch, 2021, "Are all kratom products created equal? Metabolomics of *Mitragyna speciosa* and commercial kratom products" (Poster), *UBC Okanagan Undergraduate Research Conference*, Online, April 14th. **2nd Place Poster at Conference.**

5) **Ryland T. Giebelhaus*,** Lauren A.E. Erland, and Susan J. Murch, 2020, "HormonomicsDB: A new tool for analysis of plant growth regulators" (Poster), *The 16th Annual Conference of the Metabolomics Society,* Online, October 27 – 29th.

4) **Ryland T. Giebelhaus*,** and Susan J. Murch, 2020, "HormonomicsDB: A new tool for analysis of plant growth regulators", *UBC Okanagan 2020 Undergraduate Research Awards Symposium,* Online, September 17.

3) **Ryland T. Giebelhaus*,** and Susan J. Murch, 2020, "HormonomicsDB: A new tool for analysis of plant growth regulators", *The 2nd Annual Metabolomics Association of North America Conference,* Online, September 14 – 16.

2) Lauren A.E. Erland*, **Ryland T. Giebelhaus**, Jerrin M.R. Victor, Susan J. Murch, and Praveen K. Saxena, 2020, "The Morphoregulatory Role of Thidiazuron: Metabolomics-Guided Hypothesis Generation for Mechanisms of Activity" (Poster), *The 2nd Annual Metabolomics Association of North America Conference,* Online, September 14 – 16.

1) **Ryland T. Giebelhaus*,** and Susan J. Murch, 2019, "Validation and Application of an Underivatized Method to Detect Glyphosate and its metabolite AMPA in Food Samples", *UBC Okanagan 2019 Undergraduate Research Awards Symposium,* Kelowna, BC, September 17 – 18.

PRESS

MetaboInterview: CanMetCon 2023 Awardees July 2023

- Featured in an article and video interview in the July issue of MetaboNews discussing my poster which won First place at the CanMetCon 2023 meeting. (http://www.metabonews.ca/Jun2023/MetaboNews_Jun2023.pdf)

Doctoral Research Award: Canada Graduate Scholarships June 2023

- The Metabolomics Innovation Centre (TMIC) press release announcing my Canadian Institutes of Health Research (CIHR) Canadian Graduate Scholarship – Doctoral (CGS-D). (https://metabolomicscentre.ca/doctoral-research-award-canada-graduate-scholarships/)

Interview with TMIC Young Scientists October 2022

- The Metabolomics Innovation Centre (TMIC) press release interviewing young researchers who gave talks at the 2022 Metabolomics Association of North America (MANA) conference. (https://metabolomicscentre.ca/tmic-young-scientists/)
- This was an interview where I discussed my comprehensive two-dimensional gas chromatography metabolomics research at The Metabolomics Innovation Centre to explore the exposome and metabolome in urine and breast milk samples. This was an in-person interview transcribed into text for publication on-line.

PROFESSIONAL AFFILIATIONS

American Chemical Society (ACS) 2024 to Present
Graduate Student Member

Metabolomics QAQC Consortium (mQACC) 2023 to Present
Member

Metabolomics Association of North America 2020 to Present
Member

Metabolomics Society 2020 to Present
Member

Chemical Institute of Canada 2019 to Present
Member