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MetaboNews

This month in metabolomics

November, 2023

Vol 13, Issue 11

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

METABOLOMICS SOCIETY

TMIC
The Metabolomics Innovation Centre

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- **Caroline Johnson**
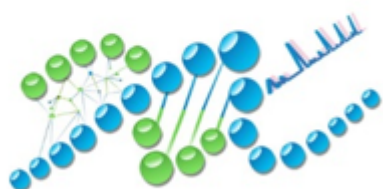
Metabolomics Society News

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

Conference Corner

Welcome to Osaka 2024!

The Metabolomics Society along with the Scientific Organizing Committee are delighted to extend this invitation to you to attend **Metabolomics 2024**, the 20th Annual Conference of the Metabolomics Society, in Osaka, Japan. The conference will be held June 16-20, 2024 at the ATC Hall.

Metabolomics 2024
Osaka, Japan
ATC Hall (Asia Pacific Trade Center)

June 16 – 20
www.metabolomics2024.org

We invite you to join us at the breathtaking venue on the shores of Osaka Bay, where the heart of Japan's third-largest metropolis beats with excitement. Conveniently accessible from Kansai International Airport, Itami Airport, and just a swift 2.5-hour ride on the shinkansen (high-speed train) from the bustling capital city of Tokyo, Osaka is the gateway to a world where tradition seamlessly intertwines with the modern and referred to as the "Kitchen of Japan".

Call for Workshops – NOW OPEN!

We are busy planning the conference agenda and eager for your input on pre-conference workshops. The workshops will provide a terrific venue to discuss a wide range of important topics and practical aspects of metabolomics, and may include hands-on learning opportunities.

You can submit your workshop application online.

Sponsorship Opportunities – NOW AVAILABLE!

We look forward to partnering with your organization to continue the success of bringing together all the major international organizations involved in human, plant, microbial, animal, and environmental metabolomics.

This is the prime event for metabolomics researchers from around the world, where established experts and the rising stars of the future will present their work. The conference will attract a high proportion of senior scientists with top-level purchasing authority.

Professor Eiichiro Fukusaki of Osaka University warmly welcomes your participation in this conference and is grateful for your partnership. Prof. Fukusaki is Co-chair of the Scientific Organizing Committee (SOC) for the 2024 meeting, along with Sastia Prama Putri.

The website will be continually updated, check back often for updates. Follow **@MetabolomicsSoc** on X to stay current and meet new peers before the event!

Members' Corner

Board of Directors

Dear Society Members,

The Board of Directors met yesterday for our monthly meeting. At the forefront of our minds was next year's Metabolomics Society meeting, which we will be holding in Osaka at the ATC Hall. This is a modern event venue by Shakisima Bay, and our annual conference will be held from 16th to 20th June. The co-chairs Professor Eiichiro Fukusaki and Associate Professor Sastia Prama Putri are getting excited about the meeting and the conference committee led by Natasa are highly enthusiastic for a brilliant conference. Please bookmark those dates and we hope to see you in Japan in 2024. If you are interested in holding a workshop, the call for proposals is open through December 20. Visit the conference website to submit: www.metabolomics2024.org

We also learned about plans for the Early-Career Members Network from Silvia, and we are delighted to have her and the EMN support the Metabolomics Society. There are great things ahead (watch this space).

The Society often helps support our International Affiliates and this week we are proud to be supporting The Scottish Metabolomics Network Symposium 2023, which is being held in East Kilbride (http://scottishmetabolomics.net/events).

Finally, as you are aware, the Board of Directors also strive to support our early career networks. Yesterday, we unanimously agreed to sponsor the European School of Metabolomics, which will be held in Granada, Spain from 22nd to 26th April 2024. This training forum, with opportunities for networking and fun, looks fantastic and you can learn more about this event here: https://www.eusm2024.com.

All the very best.

Roy Goodacre, University of Liverpool, UK

President, Metabolomics Society

[Early-career Members Network (EMN)](#)

EMN Webinar Series
The EMN would like to once again thank Dr. Msizi Mhlongo and Ms. Pfano Maphari for their insightful and brilliant talks on Metabolomics at the forefront of plant-microbe interactions and phytochemistry in our October webinar.

The next EMN webinar will occur on the 12th of December 2023 at 14:00 UTC. Prof. David Fridecký (Head of the Department of Clinical Biochemistry, University Hospital Olomouc, Czech Republic) and his PhD. student Barbora Pisklákavá. They will talk about using metabolomics for routine diagnostics of inborn metabolic disorders, pharmacometabolomics, and therapeutic monitoring.

ECR Voices
EMN will continue to highlight early-career researchers in metabolomics on our Twitter (@EMN_MetSoc) and Facebook pages. If you would like to be featured or would like your student/postdoc to be featured, please reach out to us via email (info.emn@metabolomicssociety.org).

International Affiliates' Corner

Réseau Français de Métabolomique et Fluxomique (RFMF)

Visit: http://www.rfmf.fr/

Save the Date

The RFMF's next annual meeting will be held at the *Palais du Grand Large* in the beautiful town of Saint-Malo in Brittany from June 3 to 6, 2024. Around 250 international attendees, mostly French-speaking, are expected. This year's event will focus on sustainable development and energy transition, ecology and the environment... More details on the speakers and the program will be announced shortly. In the meantime, save the date!
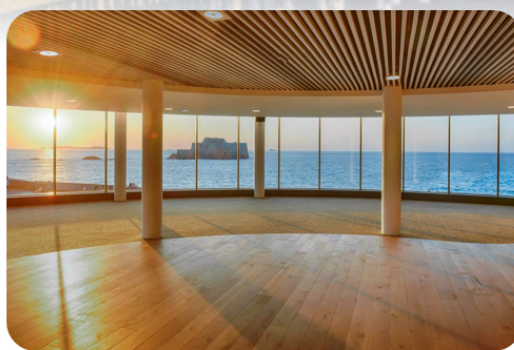
The RFMF webinars are also starting up again. The next one on Data processing is scheduled for 7 December, 2-3:30 pm (GMT+1).

Join the 8th RFMF webinar!
7 December 2023, 2-3:30pm (GMT+1)
Data processing
Chaired by Pascal De Tullio & Amandine Rocher
To join the webinar: https://meet.goto.com/936480437

KEYNOTE Speaker

02.00 pm

"So Many Incredibles tools for LC-HRMS data annotations"

Yann GUITTON
Oniris Laberca – Nantes (France)

2.45 pm

"Pitfalls and open-source solutions for mass spectrometry imaging data analysis"

Melanie FÖLL,

Institute for Surgical Pathology - Freiburg (Germany)
Khoury College of Computer Sciences - Boston, USA

3.00 pm

"Data Processing for Molecular Networks"

Nicolas ELIE,
Institut de Chimie des Substances Naturelles – Gif sur Yvette (France)

3.15 pm

"Exploitation of NMR for metabolism analysis using isotope profiling and 13C-Fluxomics approaches"

Edern CAHOREAU,
Plateforme MetaToul-MetaboHUB – Toulouse (France)

Latin American Metabolic Profiling Society (LAMPS)

Visit: https://jwist.github.io/lamps/

LAMPS Podium: An Online Platform for Sharing Cutting-Edge Metabolomics Research

The LAMPS network is thrilled to announce the LAMPS Podium, which is our inaugural online event scheduled to be held on November 24 at 11:00 GMT-3. LAMPS Podium is

designed to provide a virtual platform for scientists to showcase their results from research projects in the field of metabolomics, and foster interactive discussions. The event's online format makes it accessible to a global audience. In our first edition, we will host speakers from Brazil, Colombia, Uruguay, and Spain. Each 5-minute presentation will be followed by a 5-minute interactive Q&A session, allowing the online audience to engage with the speakers directly. The program will feature a total of 8 online selected presentations, covering diverse areas in the metabolomics field. The LAMPS Podium event aims to be a unique opportunity for sharing knowledge, and networking in our region. We look forward to your online participation. For more information and updates, please follow us on our social media accounts.

Polish Society of Metabolomics

Visit: https://ptmet.pl/

The Polish Proteomics Society and the Polish Society of Metabolomics invite you to a lecture titled "Urinary Profiling of Phase II Metabolites using Integrated Library-Guided Analysis." The lecture will be given by Pawel K. Lorkiewicz from the Mass Spectrometry and Bioanalytical Core at the Center for Cardiometabolic Science at the University of Louisville School of Medicine.
The online event will be held on Thursday, December 14, 2023, at 4 pm CET, via the TEAMS platform.

Meeting Details:
- **TEAMS Meeting** ID: 323 463 384 827
- **Passcode:** 5c6MjJ

Please feel free to circulate the information among any colleagues who may be interested.
We are looking forward to your participation.

MetaboInterview

Caroline Johnson

Associate Professor
Department of Environmental Health Sciences
Yale School of Public Health
Caroline Johnson Lab

Biography

Dr. Caroline Johnson, is an Associate Professor in the Department of Environmental Health Sciences at Yale School of Public Health. She obtained her PhD in Analytical Chemistry from Imperial College London in the UK and held Postdoctoral appointments

at the National Cancer Institute/NIH, MD, and The Scripps Research Institute, CA, USA. Her lab's research focus is to develop a deeper understanding of sex-specific differences in metabolism that influence colorectal cancer etiology, progression, and response to therapeutics. In addition, her research integrates metabolomics analysis with studies on environmental exposures, birth cohorts, early-onset cancers, and microbiome, to understand biological responses to exposures in various contexts. Her lab has developed several analytical and bioinformatic protocols to enable a comprehensive analysis of the metabolome using high resolution mass spectrometry. Dr. Johnson was a recent member on the Board of Directors of the Metabolomics Society and Chaired the Membership Committee. Her most recent awards include the Metabolomics Society 2023 Career Medal and the WomiX 2023 Mentorship Award.

How did you get involved in metabolomics?

During my undergraduate studies at Keele University (1997-2000), I recall my biochemistry professors drawing intricate pathways of fatty acid metabolism and carnitine shuttle on the chalkboard. It was in that time that I became deeply fascinated by metabolism and metabolic pathways. However, it wasn't until 2005, when I began my PhD studies at Imperial College London, that I learned about the field of metabolomics and the application of analytical platforms such as mass spectrometry and NMR spectroscopy to study metabolism. With my training in analytical chemistry, I subsequently began a postdoc position in cancer metabolomics, at the National Cancer Institute in MD, USA. In one of my first experiments, I recall being quite amazed by the power of metabolomics. During this study, we found new urinary metabolites of vitamin E in individuals who had taken dietary supplements. Considering this vitamin was discovered in the 1920s I was surprised that we were able to find these novel metabolites so rapidly and clearly. During my staff scientist position at The Scripps Research Institute in 2012 I began to apply metabolomics to examine the role of non-genetic factors in colorectal cancer such as the microbiome. This drove me to continue my research in colorectal cancer, using metabolomics as a tool to find new discoveries related to tumor growth and drug resistance.

What are some of the most exciting aspects of your work in metabolomics?

Our main area of focus in my lab is understanding the role of environmental and genetic factors on colorectal cancer etiology and progression. We have identified female patient-specific metabolism, wherein elevated asparagine production in their tumors associates with poorer outcomes for those patients and is mediated by nutrient availability and estrogen receptor signaling. In another study, we show that tumors from male patients with KRAS mutations have decreased ferroptosis (an iron-dependent type of cell death), which associates with poorer survival. As male and female colorectal cancer patients

have different incidences and mortality from the disease, and now we see sex-specific metabolic differences, this highlights the need for studies and targeted therapies by sex of the patient.

However, over the past year, we initiated another area of research, to examine the role of environmental chemicals in colorectal cancer, specifically Perfluoroalkyl substances (PFAS) chemicals. We have found that when PFAS are applied to colorectal cancer cell lines at environmentally relevant doses, i.e., at levels found in household drinking water, they increase cell growth, and more so in cell lines derived from females. We also see alterations to proteins and metabolites that we are examining to elucidate possible mechanisms. Interestingly, when colorectal cancer cells are dosed with PFAS at levels previously observed in individuals with occupational exposure (firefighters or those that work in fluorochemical manufacturing), the cells migrate and exhibit alterations to metabolites involved in epithelial-mesenchymal transition (**Figure 1** shows study outline). These findings indicate a metastatic phenotype, which we confirmed by performing scratch assays and measuring proteins linked to metastasis. We also investigated metabolic pathways and signaling networks that were altered by high PFAS exposure and revealed changes to immune-related pathways in addition to pro-metastatic signaling. This work has been recently accepted for publication in *Environmental Science & Technology*, and we are looking to expand on this work further.
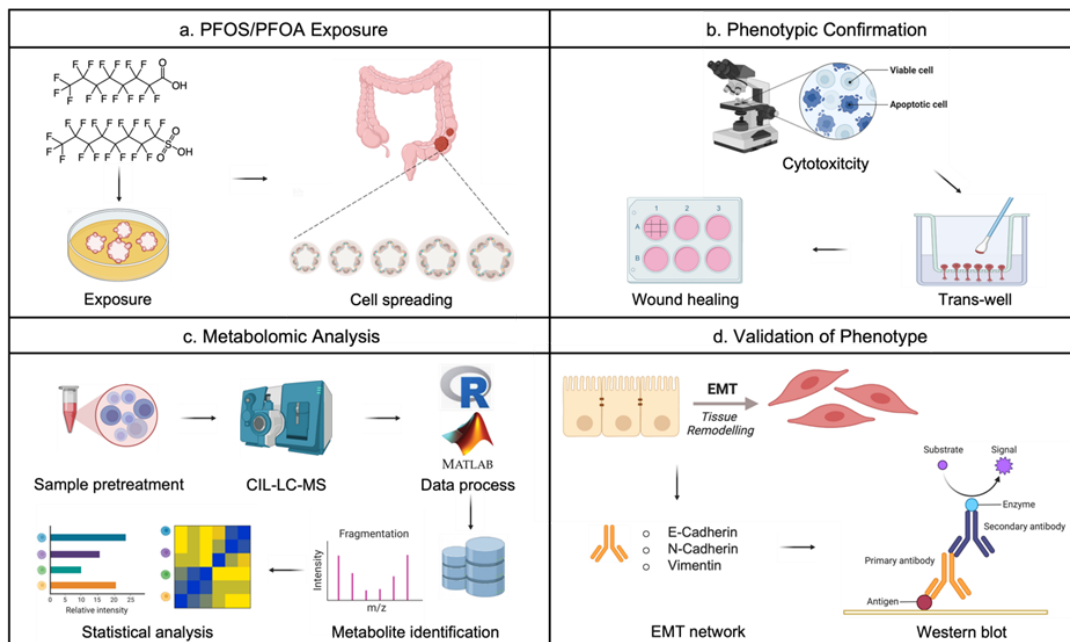

Figure 1: *Overview of PFAS exposure study on colorectal cancer metastasis*

What key metabolomics initiatives are you pursuing at your research centre or institute?

As a faculty member at Yale School of Public Health, I have been working with MPH and PhD students to integrate epidemiological approaches into metabolomics. As we work mostly with samples from humans, there are a multitude of factors that can affect the associations between the metabolite levels and outcomes. Therefore, in all our human studies (in our laboratory or with collaborators), we integrate this design into our approach. One example of this is a recent publication in _Environmental Health Perspectives_ from lead author and recent Ph.D. graduate Dr. Ana Rosen Vollmar, where she identified relationships between parabens and diet-related metabolites, revealing the exposure source of these chemicals. Importantly she integrated untargeted metabolomics data with environmental exposure information and epidemiological adjustment for confounders to reveal those robust associations. Previous studies had indicated that parabens may alter metabolism, particularly pathways related to endocrine disruption, but we found this was not the case after adjustment and highlights the importance of considering confounding factors when examining human metabolomics data.

What is happening in the US in terms of metabolomics?

I have seen a large growth in the number of students interested in the field of metabolomics which has been exciting! This is evident by the large student representation at the recent annual Metabolomics Association of North America conference in MO, and in general through the interest in our research from students at my institution. The development of certain fields such as metabolomic epidemiology, microbial metabolomics, and others I think has driven this. The value of metabolomics is being recognized in a growing number of fields.

How do you see your work in metabolomics being applied today or in the future?

I'm a big fan of the untargeted approach. In many of my studies, this approach has helped to uncover new findings that have contributed to the resolution of long-standing clinically relevant problems. For example, we recently identified an important signaling pathway involved in drug resistance, that was published in _Cancer Letters_. For over a decade, it had been observed that patients with tumors that occur on the right side of the colon (cecum and ascending colon) have low efficacy to anti-Epidermal Growth Factor Receptor (EGFR) therapy; a drug given as part of a combination chemotherapy to metastatic colorectal cancer patients with KRAS wildtype tumors. As shown in Figure 2, we integrated metabolomics and RNA-seq data obtained from the analysis of liver metastasis tissues that have metastasized from right-sided compared to left-sided (descending to rectosigmoid) primary colorectal cancers and identified a key signaling network linked to anti-EGFR resistance via elevated Transcription Growth Factor Beta

(TGF-β). We confirmed that this protein was significantly increased in the liver tumors that had metastasized from the right-sided colorectal cancers. We are currently examining tumors from the colon directly to determine whether a similar phenotype is seen, however, the ultimate application of findings from our metabolomics studies is to drive treatment strategies for colorectal cancers and uncover mechanisms of drug resistance in patients thus improving their clinical outcomes.
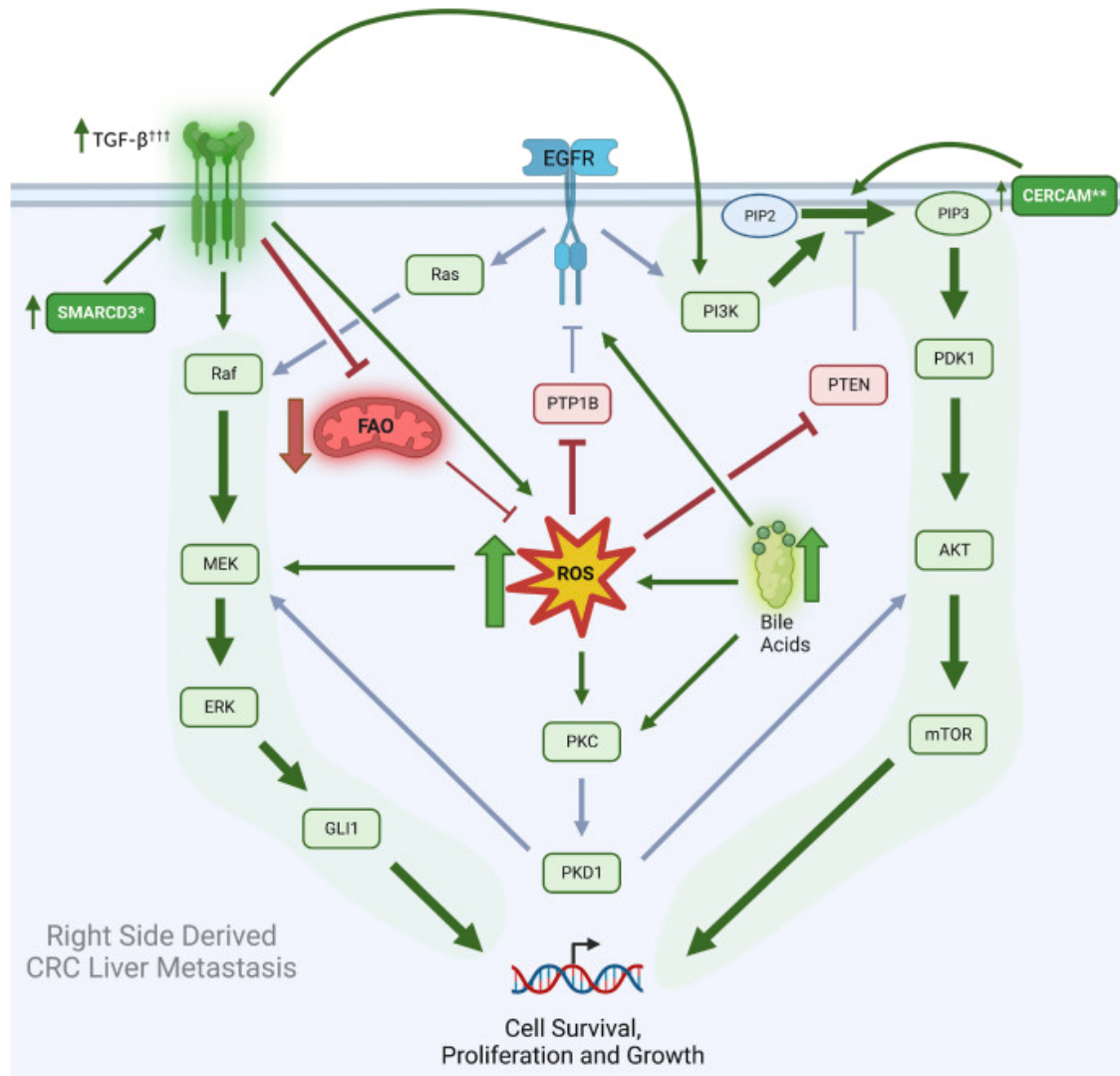

Figure 2: Potential mechanisms of anti-EGFR resistance in right-sided colorectal cancer liver metastasis, identified through untargeted metabolomics and RNA-Seq as shown in Cancer Lett. 2023 Oct 10:574:216384 data.

As you see it, what are metabolomics' greatest strengths?

First, its application within numerous fields to improve biological insight. In the case of chronic diseases that affect a large number of individuals globally, many of these are driven by or involve metabolic alterations. For example, obesity, diabetes, cancer, and cardiovascular diseases. Metabolomics is an essential tool to investigate metabolism, therefore it can discover new mechanisms of the drivers of chronic diseases or provide

in-roads for new targeted therapeutics. Secondly, it really is the only tool that can assess both large scale genetic and non-genetic effects on metabolism. Thus, the amount of data and biological insight that can be generated just from one metabolomics experiments can provide much greater insight than examining genetics alone.

What do you see as the greatest barriers for metabolomics?

Being within the field of cancer metabolism, biomarker discovery hasn't proved to be very fruitful. This is partly due to experimental design, statistical robustness (including power), models chosen to study the disease, and lack of accounting for variability between humans. Within our lab, we have seen large differences in the cancer metabolome by the type of colorectal cancer cells chosen for the study. Also, in patient tumors, we have seen metabolite differences according to the sex of the patient, location of the tumor within the colon, stage of the tumor, molecular subtype of the tumor, and treatment before surgery. Another factor that dampens the findings from some studies is the lack of validation, which is not always carried out but is necessary, however, one of the barriers to this is access to biobanks of samples that have been adequately retrieved and stored for metabolomics analysis. Therefore, biomarker studies, especially for heterogeneous diseases need more careful thought. In 2017 we published a Review in *Human Genomics* discussing issues encountered with biomarker studies including analytical bias, biological variance, and reproducibility which describes this in more detail.

What improvements, technological or otherwise, need to take place for metabolomics to really take off?

I feel like metabolomics has already taken off, but one area that is growing and particularly interesting to me is spatial metabolomics. Mass spectrometry imaging techniques are necessary for heterogeneous diseases such as cancers. Many of our studies see an interplay between tumor cells and microenvironment, thus analysis of a bulk tumor isn't the most effective way forward which doesn't allow for cell-specific analysis. Integrating spatial metabolomics data with other imaging data could enable greater investigation of the biology within these tissues, in addition to observing where drugs have direct effects within tissues.

How does the future look in terms of funding for metabolomics?

Within the USA there are funding opportunities from both the National Institutes of Health (NIH) and foundations that focus on specific diseases. Many have spoken before about the NIH Common Fund's Metabolomics program and the subsequent centers that have enriched metabolomics in the US. So the future looks consistent for now.

What role can metabolomics standards play?

Standards are of course essential for metabolite identification. Some of the important areas of growth have been in microbial metabolite identification, for which it is very difficult to still identify them. A recent preprint describes the [MicrobeMASST](#) tool, which was presented at the MANA conference in MO, and shows an important step towards achieving this goal of annotating microbial metabolites. I also think that the eventual synthesis of these chemicals is important so that we can test their causal effects on various systems.

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The Metabolomist Podcast

Thank you for your support. The Metabolomist podcast for Season 2 is now completed.
Get ready and stay excited for Season 3 coming in 2024!
Click on the image to browse all the episodes

THE METABOLOMIST

New episode
Epidemiology & Asthma

❞ We are performing a BMI-matched analysis with over 100,000 people. This may be specific to the question of BMI, but for the most part fasting status doesn't influence our results. We were somewhat surprised, but also reassured to find this out.

—Rachel Kelly

LISTEN NOW

Recent Publications

Reviews:

- [Designed Nanomaterials-Assisted Proteomics and Metabolomics Analysis for In Vitro Diagnosis](#)
- [Plant Metabolomics: An Overview of the Role of Primary and Secondary Metabolites against Different Environmental Stress Factors](#) (Open access)
- [Sample preparation strategies for mass spectrometry analysis in human exposome research: Current status and future perspectives](#) (Open access)
- [Shaping the tumor immune microenvironment of SCLC: Mechanisms, and opportunities for immunotherapy](#) (Open access)

Articles:

- [Advances in Algomics technology: Application in wastewater treatment and biofuel production](#)
- [Divergent Skeletal Muscle Metabolomic Signatures of Different Exercise Training Modes Independently Predict Cardiometabolic Risk Factors](#)
- [DrugBank 6.0: the DrugBank Knowledgebase for 2024](#) (Open access)
- [Effects of Sample Dilution on Nuclear Magnetic Resonance-Derived Metabolic Profiles of Human Urine](#)
- [High dietary fructose promotes hepatocellular carcinoma progression by enhancing O-GlcNAcylation via microbiota-derived acetate](#)
- [Integrated multi-omics analysis reveals the positive leverage of citrus flavonoids on hindgut microbiota and host homeostasis by modulating sphingolipid metabolism in mid-lactation dairy cows consuming a high-starch diet](#) (Open access)
- [LC-MS-Based Metabolomics for Dietary Biomarker Discovery in a Cohort of Pregnant and Lactating Women and Their Infants](#) (Open access)
- [Machine Learning Analysis of Long Covid Multiomics Reveals Clinical Phenotypes and Prognostic Biomarkers](#)
- [Metabolomic alterations in healthy adults traveling to low-pollution areas: A natural experiment with ozone exposure](#)
- [Metabolomics Biomarkers for Fatty Acid Intake and Biomarker-Calibrated Fatty Acid Associations with Chronic Disease Risk in Postmenopausal Women](#)
- [Microbiome and metabolome features in inflammatory bowel disease via multi-omics integration analyses across cohorts](#) (Open access)
- [Untargeted metabolomics revealed the regulatory effect of Maillard reaction products of ovalbumin with different degrees on the metabolism of colitis mice](#) (Open access)
- [Urinary Paraben Concentrations and Associations with the Periconceptional Urinary Metabolome: Untargeted and Targeted Metabolomics Analyses of Participants from the Early Pregnancy Study](#) (Open access)
- [Utilization of Aspergillus niger strain to leach rare earth elements based on untargeted metabolomics analysis](#)

Metabolomics Events

Bits & Bites # 09: Metabolomics for Epidemiologists *New course*

December 7, 2023

Venue: Online

Learn More Here

This last, 9th course (for 2023) is taught by Dr. Oliver Fiehn from UC Davis, and no prior knowledge or software is required. The tuition is $175.

Short description of the course: In this comprehensive course, delve into the pivotal role of metabolomic data in modern epidemiology. Epidemiologists increasingly use metabolomic data in large human cohort studies that focus on public health problems and risk factor analyses. Classically, only a few variables were used in epidemiological analyses which were then stratified by multiple adjustments to find robust associations with phenotypes. Now, GWAS

analyses have led the way for metabolite-wide association studies. How robust are metabolite data? What are the best normalization strategies? How should we deal with missing data, QC pools, and blanks? How can different studies be combined to increase power? Which identifiers could be used, and what is good coverage for metabolomic studies? These questions will be discussed in this short course to provide an overview of metabolomics including realistic goals and considerations for study designs, and metabolite coverage from commercial providers versus core facilities.

Imperial College London Metabolomics training course: Hands-on Data Analysis for Metabolic Profiling
December 4 – 8, 2023

Venue: Online

Learn More Here

This 5 day course provides a comprehensive overview of data analysis for metabolic profiling studies focussing 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. To fully benefit from this course, attendees will ideally have a basic knowledge of analytic chemistry techniques.

The deadline for applying is **November 24.**

For more information and to register, click here.

MANA SODAMeet

December 12, 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. SODAMeets is 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.

Metabolomics in Life Science
January 30 – 31, 2024

Venue: Umeå University, Sweden

Learn More Here

The Metabolomics in Life Science conference will highlight the latest advancements, breakthroughs, and applications in the field of NMR- and MS- based metabolomics research in Sweden/the Nordics and beyond. Bringing together researchers from around the world, the conference will serve as a platform for participants to share their knowledge, present research findings, and engage in insightful discussions in the metabolomics area. Attendees can expect presentations covering many aspects of metabolomics, from precision medicine, plant metabolomics to the use of advanced computational/AI strategies within the field. The wide range of techniques and application areas aims to spark interesting scientific discussions, high-light synergies between different technologies/application domains and form new collaborations.

The conference is a joint effort between two SciLifeLab units located in Umeå, the Swedish NMR Centre (SNC) and the Swedish Metabolomics Centre (SMC). Check out more information at the conference website.

- Registration and abstract submission opens: **October 23, 2023**
- Early bird registration deadline: **December 15, 2023**
- Abstract submission deadline: **December 8, 2023**
- Registration deadline: **December 22, 2023**

World Critical Care and Anesthesiology Conference 2024 (WCAC24)
March 09 – 10, 2024

Venue: Bangkok, Thailand

Learn More Here

World Critical Care and Anesthesiology Conference 2024 (WCAC24) is the 6th Edition educational event which is designed to advance knowledge and expertise in critical care and anesthesiology that rotates between continents and is organized in collaboration with national and international Anesthesiology and Critical Care societies and associations. The conference is targeted to the international Critical Care Medicine community as well as other healthcare professionals involved in multidisciplinary critical care surgical challenges; For every community, there continues to be a need for surgical and medical teams to evaluate and treat severely injured patients. Check out more information at the conference website.

- Abstract Submission Deadline: **November 30, 2023**
- Speaker and Presenter's Registration Deadline: **December 30, 2023**

European school of Metabolomics
April 22 – 26, 2024

Venue: Granada, Spain

Learn More Here

After the success of EUSM 2022, the European School of Metabolomics will hold it's 2nd conference in Granada, Spain. The school is designed to bring together early stage researchers to discuss current technology as well as scientifc obstacles being faced in the labs. Invited speakers from Europe will provide lectures on general MS, NMR, fluxomics, bioinformatics and data processing. Workshops will include topics such as single cell metabolomics, issues with publishing and dealing with PhD life. As a smaller scale conference, EUSM 2024 provides opportunities to network with other young scientics in metabolomics and create lasting connections. Check out more information at the conference website.

- Registration is **open**

NIST SRM 1950 Beyond the Certificate of Analysis: mQACC Call to Provide Qualitative and Quantitative Data

Certified reference materials (CRM) values provide a known and standardized reference point against which the results of a metabolomic study can be compared. However, the certification of hundreds of individual metabolites is a cumbersome and time-consuming process. The Standard Reference Material (SRM) 1950, Metabolites in Frozen Human Plasma, is by far the most used reference material by the metabolomics community. NIST SRM 1950 provides certified and/or reference values for select metabolites and lipids such as fatty acids, electrolytes, vitamins, hormones, and amino acids. The metabolomics community would greatly benefit from consensus values and identification of metabolites and lipids in SRM 1950 that are not tied to a single analytical platform or method. This increases the accuracy, reliability, harmonization, and meaningful comparisons of metabolomic studies utilizing the material. Additionally, having more values and information available for SRM 1950 metabolites and lipids would allow researchers to investigate a broader range of analytes in their studies, which in turn could lead to a better understanding of the underlying biology of the metabolic processes. To that end, the Reference and Test Materials Working Group of mQACC is actively collecting information on qualitative identifications and quantitative values of metabolites and lipids in NIST SRM 1950 beyond those listed on the NIST Certificate of Analysis. Any data from instrumental platforms with compound identification (LC-MS, GC-MS, NMR) are welcome to participate. The data was combined in order to produce a publicly available database of community-generated 1) consensus concentration values for quantified metabolites and lipids of critical interest within the community and 2) compounds identified but not quantified in SRM 1950.

More information and an example reporting form can be found at
https://www.mqacc.org/srm1950.

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
Canada Research Chair (CRC) Tier 2 in Metabolomics	Schulich School of Medicine and Dentistry, Western University	London, ON, Canada	[Western University](#)
Experimental Officer in Metabolomics	University of Birmingham	Birmingham, UK	[University of Birmingham, Phenome Centre Birmingham](#)
Research Associate	Computational Metabolomics, Leibniz Institute of Plant Biochemistry	Halle, Germany	[Leibniz Institute of Plant Biochemistry](#)
Postdoctoral Fellow	Second Affiliated Hospital of Chongqing Medical University Chongqing	China	[Metabolomics Society](#)
Chemical Biologist/Ecologist	The Monell Chemical Senses Center	Philadelphia, PA, USA	[The Monell Chemical Senses Center](#)
ORISE Postdoctoral Fellowship in Pharmacology/Toxicology	National Center for Toxicological Research U.S. Food and Drug Administration	Jefferson, AR, USA	[Metabolomics Society](#)
ORISE Postdoctoral Fellowship in Neuroscience/ Neurotoxicology	National Center for Toxicological Research U.S. Food and Drug Administration	Jefferson, AR, USA	[Metabolomics Society](#)
Doctoral Candidate Position	Exosomes Lab & Metabolomics Platform, CICbioGUNE	Derio, Basque Country, Spain	[Metabolomics Society](#)
Postdoctoral Research Scientist Position in	Britz-Mckibbin Lab at McMaster University	Hamilton, ON, Canada	

Exposomics			[TMIC website](#)
Post-Doctoral Fellow	Department of Medical Microbiology & Immunology, University of Alberta	Edmonton, AB, Canada	[University of Alberta Careers](#)
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 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](#)

MetaboNews Feedback Form

Thank you for being a part of MetaboNews! Your input means a lot to us, and we're eager to hear your thoughts on how we can improve our newsletter. We've put together a brief, anonymous survey with just two mandatory questions that won't take more than a minute of your time. Your feedback is invaluable, so please take a moment to share your opinions with us.

[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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