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#### The MetaboNews Team

The Metabolomics Innovation Centre  
[metabolomics.innovation@gmail.com](mailto:metabolomics.innovation@gmail.com)



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

## Metabolomics Society News

### Conference Corner



#### [Join us in Valencia!](#)

As we are making our final plans for the 18<sup>th</sup> Annual Conference of the Metabolomics Society in Valencia, we could not be more enthusiastic to have our first in-person meeting since 2019. Make sure to join us in the magnificent city of Valencia to experience its thriving cultural and culinary scenes all while enjoying the latest updates in the metabolomics field. There is still time to save your spot and **[register online](#)**.

The conference will feature 23 sessions across the metabolomics field as well as a dedicated vendors' session where you will find the latest technological advancements from industry representatives. This year we will hold 13 workshops on a broad range of topics, some of which are still available for sign-up as part of the registration process. Sixteen plenary and keynote talks along with the detailed scientific program can be viewed on our **[website](#)**.

We will also be hosting several **networking** and other events throughout the conference including a Career Night and Job Fair, the Metabolomics Society Town Hall meeting and the Early Career Members Network.

Don't miss out on our **conference dinner** which will be held at Veles e Vents, an iconic building at the Marina of Valencia! Join us for a beautiful evening filled with dinner, drinks, old and new friends, and of course a sunset over the Mediterranean! We are very excited to welcome you to Spain in June!



METABOLOMICS SOCIETY  
EARLY-CAREER MEMBERS NETWORK

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](mailto:info@metabolomicssociety.org)

Membership Enquiries

[membership@metabolomicssociety.org](mailto:membership@metabolomicssociety.org)

## Call for Locations and Chairs for Metabolomics 2024

The Metabolomics Society is developing plans for the **2024 International Meeting** and would like to hear from members interested in helping to host or chair the meeting. The 2024 meeting will take place in the Asia-Pacific region. If you are interested in proposing a location, chair, or scientific organizing committee for the 2024 meeting, please answer the short survey provided at the [link here](#).

## Members' Corner

### Early-career Members Network (EMN)

#### **EMN Professional Career Development Workshop**

The phrase "alternative career paths" is no longer applicable when the majority of PhD scientists are entering these roles. In this year's EMN Professional Development Workshop, we'll discuss prominent career paths outside of academia and lesser-known career paths PhD metabolomics scientists have chosen to pursue. Don't miss out on our Professional Career Development Workshop in Valencia 2022. For more details follow the link [here](#).

#### **Expert Opinion**

This month's expert opinion of the EMN presents Dr. Luke Whiley, (Twitter: @lukewhiley) who kindly shares his experience on employing metabolomics in neurodegenerative diseases. Find out more here: [Luke Whiley - Metabolomics Society Wiki](#).

**NEW**

## MEGA Assays for Rapid Metabolomics Analysis

*Comprehensive* *Quantitative* *LC-MS-based*

### Highlights

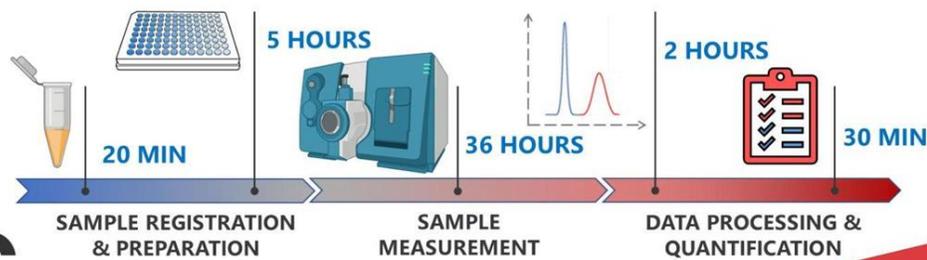
- Fully quantitative
- High throughput (96-well plate compatible)
- Up to 21 chemical families, including:
  - Amino acids
  - Organic acids
  - Vitamins
  - Lipids

### Clinical Biomarker Assay

- Quantifies up to 900 metabolites and ratios
- Validated for blood, serum and plasma

### Microbiome Metabolism Assay

- Quantifies up to 900 metabolites and ratios in fecal material, and up to 350 metabolites and ratios in urine
- Validated for urine, fecal extract and more



[info@metabolomicscentre.ca](mailto:info@metabolomicscentre.ca)

## Task Groups' Corner

### Precision Medicine and Pharmacometabolomics Task Group

#### **Dried blood spot collection and analysis to study mammalian metabolism: past, present, future**

Online workshop on July 6<sup>th</sup>, 2022

Please register [here](#).

The collection of human biofluids for both small-scale and large-scale (epidemiological) studies traditionally involves collection by a trained professional at a clinic or hospital and entails time and cost requirements for the patient (time and costs to travel to clinic/hospital) and the healthcare professional (time, salary costs, sample processing costs). An alternative is to collect dried biofluid samples at the patient's home by the patient followed by posting to the healthcare professional. Of all biofluids, the collection and storage of whole blood as dried blood spots is the most well developed and most frequently applied (for example, in screening for inborn errors of metabolism). However, the collection and study of dried blood spots in other biomedical/clinical application areas is limited even though the methods and technologies for collection and study are available. In this workshop we will disseminate current knowledge and insights and discuss future applications to both educate the community on the use of dried blood spots and drive forward future applications.

#### **Workshop plenary speakers:**

- Dr. Katja B Prestø Elgstøen, Oslo University Hospital, Norway
- Dr. Albert Koulman, University of Cambridge, UK
- Dr. Lauren Petrick, Icahn School of Medicine at Mount Sinai, USA
- Dr. Konstantinos Petritis, Centers for Disease Control and Prevention, USA

**Opportunity for Early Career Researcher presentations – submit your abstract [here](#).**

## International Affiliates' Corner

### Metabolomics Association of North America (MANA)

Visit <https://metabolomicsna.org>

### 4<sup>th</sup> Annual MANA Conference

The Co-Chairs of the **4<sup>th</sup> Annual MANA Conference**, Drs. David Wishart, Liang Li, and Christoph Borchers, invite proposals for hosting instructional workshops as part of the conference. If you are interested in organizing an instructional workshop, please contact Dr. Paulina de la Mata at the University of Alberta ([delamata@ualberta.ca](mailto:delamata@ualberta.ca)) for more details. The deadline for receiving workshop proposals is June 15.

The conference will be held **September 16-18, 2022, in Edmonton, Alberta, Canada**. As a reminder, MANA offers a number of awards associated with the conference, and attendees can apply for these during registration. The list of awards, their descriptions, and eligibility criteria can be found [here](#).

#### **Travel and Childcare Grants for MANA 2022**

- **Travel Grant:** This award is intended to support the MANA 2022 conference participant in travelling to Edmonton, Alberta, Canada, and attendance is required. Each award includes \$600 and a certificate; only a limited number of awards will be given. Apply through the abstract submission portal on the MANA 2022 website.
- **Childcare Grant:** MANA ECM is devoted to supporting the attendance of early-career parents at MANA 2022. To lower the barrier for parents attending the conference, up to 20 attendees will be selected for reimbursements of up to \$250 toward childcare costs for MANA 2022. Fill out the [application form](#) by May 31, 2022.

### Early-Career Members

#### **1. MANA ECM Committee 2022 Election - now accepting applications!**

The ECM is now accepting applications for the 2022 council. There are five open positions: 3 officer positions and 2 at-large council member positions. Applications will be accepted until close of business on **Wednesday, June 29, 2022**. Applications will be compiled and voted on by the MANA ECM community. Eligibility criteria: We welcome applications from MANA early-career members who are within 10 years of receiving their terminal degree and graduate students conducting their PhDs. The successful applicants must be members of MANA. We look forward to receiving your nomination. [Submit your application today](#).

## 2. MANA ECM Virtual Job Fair: Aug 5, 2022, 9am PT (12pm ET)

As an employer or recruiter, you'll get the opportunity to meet potential candidates. As someone in the market, this is a great opportunity for you to directly talk with employers/recruiters and network! MANA ECM will help employers and potential candidates meet effortlessly in a virtual capacity via Zoom! [Register today.](#)

## 3. MANA ECM getting ready for the 4th Annual MANA Conference on September 16-18, 2022, in Edmonton, Alberta, Canada

- Hope you can join us during MANA 2022. MANA ECM has an array of great in-person events planned, including a social night hosted by ECM & WomiX, coffee breaks with fellow ECM, Meet the Experts, and so much more!
- Volunteers will be needed for upcoming events. If you'll be attending MANA 2022 and would like to volunteer, add your name to our volunteer list here: [sign-up sheet.](#)

## WomiX

### 1. Congratulations to Professor Susan Murch on receiving the 2022 WomiX Mentorship Award!

This award recognizes the extraordinary efforts of a womxn in metabolomics who has demonstrated strong mentorship and leadership skills and has made a large impact on other researchers in our field. Dr. Susan Murch is one of the female pioneers in the field of metabolomics. She first published in the field in 2004 using untargeted metabolomics studies to better understand natural product metabolism in the medicinal plant *Scutellaria baicalensis*. She has gone on to train many of the next generation of metabolomics scientists. Dr. Murch stands out as an exceptional mentor because she champions female scientists in her lab group and inspires their interest in the field. Her approach is to assess what each of her students and mentees needs and to develop personalized learning plans and approaches for each trainee. She never hesitates to find creative and supportive ways to provide the help needed.

2. Do you have helpful tips, external events, job postings, etc. you'd like to share with other WomiX members? Submit helpful information to

the **WomiX RoundUP**, a quarterly email that helps members stay connected with other members. Send in content [here!](#)

3. If you'd like to join WomiX, [sign-up here](#). All are welcome to join!

## Netherlands Metabolomics Centre (NMC)

Visit [www.metabolomicscentre.nl/](http://www.metabolomicscentre.nl/)

## **Metabolomics & the Microbiome Meeting 2022 September 22, 2022**

The Netherlands Metabolomics Centre is happy to announce the first edition of Metabolomics & the Microbiome on September 22, 2022. The hybrid meeting will be organized at DSM in Delft, the Netherlands, and allows for remote participation. With this meeting, we want to set the scene and initiate discussions on how metabolomics can contribute to answering complex biological questions in microbiome research and in monitoring health, with the main focus on mammalian health. We will cover its potential and the pitfalls/limitations, and foster new (public-private) collaborations.

For the hybrid program we invited (inter)national keynote speakers / thought leaders both from industry and academia. The meeting will be opened by Patricia Malarkey, Chief Science Officer of DSM. Other confirmed speakers who will present at the event are Frank Xu (DSM, USA), Jeroen Raes (KU Leuven), Sofia Kirke Forslund (MDC Berlin), Sebastiaan Tims (Danone Nutricia, NL), Jonathan Swann (Imperial College London, UK), and John Rawls (Duke University, USA). For more information and the preliminary program, visit the [website](#).



## Metabolomics South Africa

Visit [www.metabolomics-sa.co.za](http://www.metabolomics-sa.co.za)

Metabolomics South Africa (MSA) is on a mission to promote the growth and development of the field of metabolomics, particularly in South Africa (and, by extension, in Africa). For 2022, MSA has planned different activities that include online journal clubs, webinars, training workshops, and a symposium. The online journal clubs are organized and hosted by

Dr Shayne Mason (North-West University, NWU) along with the MSA communication subcommittee (Anza Ramabulana, Kekeletso Chele, and Chanel Pretorius, all PhD Candidates, University of Johannesburg). The MSA online journal clubs started on the 7<sup>th</sup> of April and are currently on the 4<sup>th</sup> episode; and topics covered so far included (i) an introduction to NMR presented by Dr Shayne Mason (NWU) and Prof Gerhard Prinsloo (UNISA), (ii) an introduction to LC-MS and GC-MS presented by Dr Fidele Tugizimana (UJ), and (iii) MSc student presentations by Chandré Liebenberg (NWU) on characterising the serum immunometabolic profile of HIV/TB co-infection using untargeted GCxGC-TOF-MS analyses and flow cytometric cytokine measurements. Kgalaletso Othibeng (UJ) also presented her research on investigating the effects of biostimulants on maize plants under normal and stress conditions. The attendance of these online JCs has been increasing with an average of 70 attendees at each session from different institutions in SA. These journal clubs offer a

platform to grow the MSA community while bringing experts and students together. The introductory (training) metabolomics workshop hosted on the 12<sup>th</sup> of May included content on (i) the considerations for designing a metabolomics experiment by Dr Mari van Wyk (NWU), (ii) GC and UPLC considerations in a metabolomics study by Dr Wilma Augustyn (TUT), and (iii) data handling and mining topics by Dr Maxleene Sandasi (TUT). The workshop was hosted in partnership with the African Centre for Gene Technologies (ACGT), North-West University (NWU), and Tshwane University of Technology (TUT). The workshop was well attended by roughly 90 attendees from different institutions in SA. The MSA community is growing, and various online platforms have been created for networking and sharing news and information: (i) MSA forum: <https://nmrnwu.wixsite.com/msaforum>; social media platforms: Twitter (@Metabolomics\_SA) and [MSA YouTube channel](#). Communication committee: [metabolomicssouthafrica@gmail.com](mailto:metabolomicssouthafrica@gmail.com).

## MANA 2022

September 16-18, 2022 - Edmonton, Alberta, Canada

### Plenary Speakers

- Dr. Philip Britz-McKibbin
- Dr. Nadja Cech
- Dr. Russell Jones
- Dr. Yamilé López Hernández
- Dr. Laura-Isobel McCall
- Kathryn McCauley, MPH

[Workshops](#)

[Networking](#)

[Awards](#)

[Events](#)

### Revised Deadlines

Oral Abstracts - June 15  
Poster Abstracts - July 15

Check [MANA2022.net](http://MANA2022.net)  
for themes

# SpOtlight



## The Quantitative Metabolomics Database (QMDB) A new reference database for human metabolomics

M. Gordian Adam, Alice Limonciel

biocrates life sciences ag, Innsbruck, Austria

Reference values are among the most powerful tools in laboratory medicine for clinical decision-making. Quantitative metabolomics reference data support and challenge metabolic biomarker signatures and play a crucial role in evaluating epidemiological cohort studies (1). However, these reference values can be hard to find; most broad metabolomic profiling methods either fail to yield absolute concentrations or offer limited comparability between laboratories.

This year marks 20 years since biocrates life sciences was founded with the goal of providing metabolomics solutions with full quantitation and improved reproducibility. Thanks to standardized workflows, measurement data can now be compiled in a reference database that is available to all scientists in metabolomics, not just those working with biocrates technology. The [Quantitative Metabolomics Database \(QMDB\)](#), launched earlier this month, is the next step in making metabolomics accessible for clinical research and facilitating the translation of results.

### The samples behind the database

The QMDB provides concentration ranges in human plasma based on sample analysis using the biocrates [MxP® Quant 500 kit](#). The samples were obtained from

>1000 healthy human subjects, covering different age categories and mostly Caucasian and African American ethnicities (see Table 1), originating from epidemiological studies in collaboration with the [National Institutes of Health \(NIH\)](#). In this context, “healthy” means that the participants underwent a medical screening and were assessed as free from current or chronic physiological or psychological illnesses. Donors from included NIH studies adhered to the “IDEAL” standard established by NIH scientists (2).

Category	Distribution
Sex distribution	47% male, 53% female
Mean age	64.9 years
Mean body mass index (BMI)	26.5
Ethnicity   racial origin	65% White   Caucasian, 26% Black or African American, 8% Unknown

**Table 1:** Selected demographic information of the QMDB samples.

### Adapted to your needs

One of the QMDB's strengths is its filter options menu, which enables users to define subgroups of the healthy population for calculations and generate results with customized reference ranges (Figure 1). Users can set an age range and BMI range, and filter by sex and/or ethnicity/race. They can restrict sample selection based on fasting status at time of donation as well as lifestyle factors including fitness, alcohol consumption, and smoking behavior. Users can also restrict certain metabolites or metabolite classes in the display options, so they can focus on metabolites of interest. Selected filters can be saved for the next visit or for easy comparison with saved subpopulations.

1. Select the matrix of interest (currently only human EDTA plasma)
2. Select filter options to specify a subpopulation (optional)
3. Generate the metabolite concentration range table with one click
4. Export the results in your preferred format

All MxP® Quant 500 metabolite ranges are displayed in a sortable table which provides descriptive statistical calculations (Figure 2). The table can be exported as text, comma separated values (CSV), or Excel file, and includes a summary of selected filter criteria. The QMDB comes with an Excel template, so users can easily employ the export file to draw boxplots showing concentration distribution (Figure 3). The Excel template allows for direct side-by-side comparison of QMDB-derived concentration ranges with the user's own data or with different exported QMDB subsets.

The database also provides the mean and the standard deviation, which can be generated from logarithmically transformed concentration values to establish normal distribution. This enables the user to perform comparative statistics and discover significant concentration differences.

### A growing resource for the community

Data will be added regularly to the QMDB for even more accurate ranges over time, increasing the reliability of concentration ranges for those working with granular filters. We encourage laboratories that use biocrates kits and have healthy human groups in

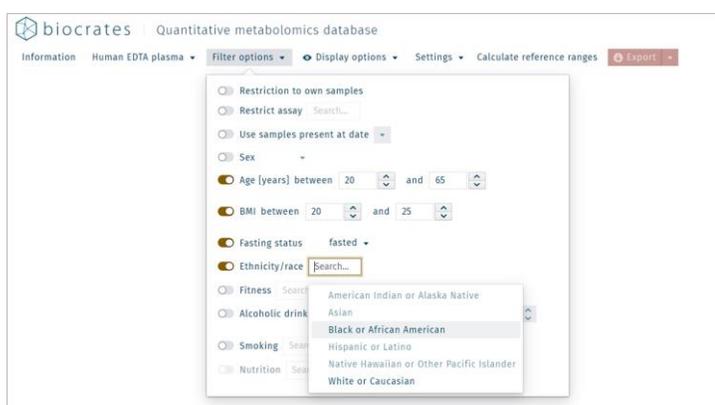


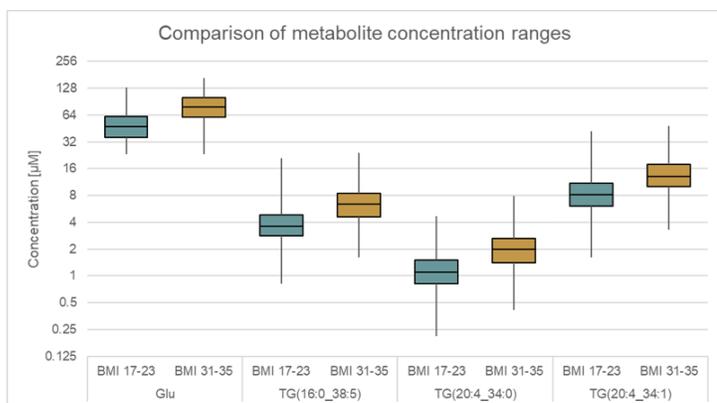
Figure 1: Screenshot of the QMDB user interface with filter options.

### Ready-to-use reference ranges

The concentration ranges of interest can be obtained in four simple steps:

Metabolite	Class ↑	Median [µM]	Mean [µM]	Min [µM]	Max [µM]	1st quartile [µM]	3rd quartile [µM]	Interquartile range [µM]	Standard deviation	% of samples > LOD	Typical LOD [µM]	No of samples
Alanine	Amino Acids	309	347	286	446	286	446	160	87	100	2.4	3
Arginine	Amino Acids	67	70	52	90	52	90	38	19	100	0.99	3
Asparagine	Amino Acids	63	63	60	66	60	66	6.6	3.3	100	0.52	3
Aspartic Acid	Amino Acids	11	10	4.8	16	4.8	16	11	5.4	100	1	3
Cysteine	Amino Acids	71	68	56	77	56	77	21	11	100	0.1	3
Glutamine	Amino Acids	768	755	637	860	637	860	223	112	100	3.5	3
Glutamic Acid	Amino Acids	71	66	40	87	40	87	48	24	100	2.7	3
Glycine	Amino Acids	319	290	216	334	216	334	118	65	100	4.7	3
Histidine	Amino Acids	87	89	85	93	85	93	8	4.2	100	1.1	3
Isoleucine	Amino Acids	84	84	82	86	82	86	4.1	2	100	0.76	3
Leucine	Amino Acids	144	148	137	163	137	163	26	14	100	1.1	3
Lysine	Amino Acids	201	197	187	204	187	204	17	9.2	100	1.4	3
Methionine	Amino Acids	32	31	24	37	24	37	13	6.4	100	0.81	3
Phenylalanine	Amino Acids	65	65	60	72	60	72	12	6.2	100	0.87	3
Proline	Amino Acids	203	204	180	229	180	229	49	25	100	2.1	3
Serine	Amino Acids	100	109	96	131	96	131	35	19	100	1.6	3
Threonine	Amino Acids	122	130	118	149	118	149	31	17	100	0.92	3
Tryptophan	Amino Acids	71	70	59	80	59	80	21	11	100	0.79	3
Tyrosine	Amino Acids	77	86	64	117	64	117	53	28	100	0.5	3
Valine	Amino Acids	217	221	216	231	216	231	14	8.2	100	1	3

Figure 2: Screenshot of the QMDB concentration range table displayed with several active filters and restricted to proteinogenic amino acids.



**Figure 3:** Screenshot of the comparative boxplots generated with the QMDB Excel template from exports of QMDB concentration range tables from two subsets with different filters for BMI, restricted to proteinogenic amino acids.

their projects to confer the right to use their data for the reference database. Contributors will have the added advantage of being able to filter and compare their own data with the total reference database. [Please reach out to us](#) if you would like to do this.

### Conformity with other control datasets

Scientific experts at biocrates have shown that the metabolite ranges provided in the QMDB reflect typical concentration ranges within the healthy population. This was evaluated by comparing the metabolomes of QMDB donors to those of healthy control groups in several other published and unpublished datasets. These evaluations used principal component analysis (PCA), univariate statistics, metabolomics-based sample quality markers, and outlier analysis. Accordingly, QMDB values may be used both as a reference in studies without a healthy control group, and to validate that the metabolomic results of a healthy control group in a given study are typical for the targeted subpopulation. An application note on the results of this validation assessment will be available shortly at [biocrates.com/quantitative-metabolomics-database](https://biocrates.com/quantitative-metabolomics-database).

### Multiple applications

Established metabolite concentration ranges from healthy individuals support scientific research in several ways:

- When conducting studies with small healthy control groups, users may employ the concentration ranges to confirm that the results

obtained with their control group are typical and representative of the general healthy population.

- In studies without any healthy control group, the QMDB-derived ranges may serve as a reference, for example, in observational studies.
- In studies comparing different treatments, users may investigate which treatment is more successful at returning the metabolism closer to healthy conditions.
- In intervention studies, the reference ranges may support identification and exclusion of outliers or participants that did not follow the study protocol.

The concentration ranges provided by the QMDB can also be helpful when planning a study:

- As the healthy range is already pre-established, it would be possible to use smaller control groups whose results could be backed up by the reference ranges.
- It is also feasible to use the concentration ranges for *in silico* studies, comparing different subgroups within the healthy population.

Therefore, the QMDB is a powerful research tool for scientists applying biocrates technology and for other laboratories measuring metabolites with mass spectrometry.

### Getting started with the QMDB

As a powerful, quantitative metabolomic reference database that can provide representative concentration ranges occurring in the healthy population and customized subpopulations, the QMDB helps to harness the full potential of standardized metabolomics, with major implications for the future of human health research.

You can access the QMDB via the [biocrates webshop](#). [Find out more about the QMDB](#) and start using it today.

### References

1. Geffré A, Friedrichs K, Harr K, Concordet D, Trumel C, Braun J-P. Reference values: a review. *Vet Clin Pathol* 2009; 38(3):288–98.
2. Schrack JA, Knuth ND, Simonsick EM, Ferrucci L. "IDEAL" aging is associated with lower resting metabolic rate: the Baltimore Longitudinal Study of Aging. *J Am Geriatr Soc* 2014; 62(4):667–72.

## Recent Publications

### Recently published papers in metabolomics

- [BioTransformer 3.0—a web server for accurately predicting metabolic transformation products](#) (Open access)
- [Clostridium sporogenes uses reductive Stickland metabolism in the gut to generate ATP and produce circulating metabolites](#)
- [Compartmentalized metabolism supports midgestation mammalian development](#) (Open access)
- [Edible insects in the metabolomics era. First steps towards the implementation of entometabolomics in food systems](#)
- [Integrated fecal microbiome-metabolome signatures reflect stress and serotonin metabolism in irritable bowel syndrome](#) (Open access)
- [Mass spectrometry-based metabolomic analysis as a tool for quality control of natural complex products](#)
- [Mass spectrometry-based “omics” technologies for the study of gestational diabetes and the discovery of new biomarkers](#) (Open access)
- [Metabolomic Biomarkers in Blood Samples Identify Cancers in a Mixed Population of Patients with Nonspecific Symptoms](#) (Open access)
- [Metabolomics identify landscape of food sensory properties](#)
- [Microbial metabolomics: From novel technologies to diversified applications](#)
- [Mitochondrial electron transport chain is necessary for NLRP3 inflammasome activation](#) (Open access)
- [Precise Metabolomics Reveals a Diversity of Aging-Associated Metabolic Features](#)
- [Predictive metabolomics of multiple Atacama plant species unveils a core set of generic metabolites for extreme climate resilience](#) (Open access)
- [Proteomics and metabolomics approach in adult and pediatric glioma diagnostics](#) (Open access)
- [Selective autophagic degradation of ACLY \(ATP citrate lyase\) maintains citrate homeostasis and promotes oocyte maturation](#)
- [Unchecked oxidative stress in skeletal muscle prevents outgrowth of disseminated tumour cells](#)



# Metabolomics Events

**The Association of Biomolecular Resources Facilities (ABRF) Metabolomics Research Group invites participants to its 2022 “Compound Identification” study**

[Learn More Here](#)

## Overview

Consistent and accurate compound identification is a major challenge for LC-MS-based metabolomics. A combination of accurate mass MS1, MS2 fragmentation, and retention time (RT) of external standards is frequently used to provide a high-confidence, though unconfirmed, compound identification. However, given this information it is unclear how much compound identification success will vary from lab to lab. The aim of this study is to quantify inter-personal and inter-lab variability of compound identification. The target population of this study are PIs, trainees, and professional staff of metabolomics laboratories. Responses are due July 1.

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## May 29-June 2, 2022

**19th International GCxGC Symposium**

Venue: Online

[Learn More Here](#)

## Overview

While we had planned to host the meeting in beautiful Canmore, Alberta, Canada, we are now moving to a fully virtual event. The technical program includes the 2022 John B. Phillips and Scientific Achievement Award Lectures, 3.5 full days of live talks, posters and discussion sessions, and opportunities to contribute virtual talks and posters. Registration has been [extended to May 27](#).

## June 14, 2022

### MANA SODAMeet

Venue: Online

[Learn More Here](#)

#### Overview

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), we will have two speakers present on software or data they would like to share with the community, emphasizing how these software/data are used.

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## June 15, 2022

### West Coast Metabolomics Center: Online Guest Lecture Seminar

Venue: Online

[Learn More Here](#)

#### Overview

**Michelle L. Reyzer, PhD**, of Vanderbilt University will be presenting on “MALDI Imaging Mass Spectrometry for Small Molecule Analyses”. [Register here](#). Check out the [WCMC on YouTube](#).

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## June 18-23, 2022

### HPLC 2022

Venue: San Diego, California, USA

[Learn More Here](#)

#### Overview

The HPLC symposia are the longest-running, largest, and most recognized international chromatographic conference series in the world. The symposium covers all aspects of separations and analyses carried out in liquid phase.

The goal of HPLC 2022 is to bring together scientists at all professional levels involved with all aspects of liquid-phase separations from fundamental research to practice, to provide a dynamic program with cutting-edge presentations and engaging scientific sessions, and to offer wide opportunities for training, networking, and informal discussion. Scientists and researchers will present the latest trends and issues in areas such as column technologies, 3D-printing, 2D-LC, capillary LC, micro- and nanofluidics, sample preparation, theory of the chromatographic separation processes, mass spectrometry detection, and a myriad of other topics related to liquid-phase separations and analyses.

## June 19-23, 2022

### 18<sup>th</sup> Annual Conference of the Metabolomics Society

Venue: Valencia, Spain

[Learn More Here](#)

#### Overview

The meeting will be co-organized with the Spanish Society for Metabolomics (SESMET) and the Spanish Network for Metabolomics. Building on the success of previous years, the conference will present the latest advances in the field covering the major scientific themes of technological advances, bioinformatics, metabolomics applications in health and disease, exposomics, and a focus on metabolomics in agriculture, plants, food, and nutritional sciences. The scientific program will include plenary and keynote talks, parallel scientific sessions, poster sessions, sponsored luncheons, and other networking events.

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## July 3-9, 2022

### 14<sup>th</sup> Mass Spectrometry School in Biotechnology and Medicine

Venue: Dubrovnik, Croatia

[Learn More Here](#)

#### Overview

Whether you are a new researcher, just starting out, or an experienced scientist who needs to find out more about how mass spectrometry has advanced, this is the school for you. The MSBM program is taught through a combination of lectures, workshops, and tutorials. Registration deadline for academics is June 3 and for industry professionals June 18. Vendor sponsorship opportunities are available until July 3.

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## July 11-15, 2022

### Hands-on Data Analysis for Metabolic Profiling

Venue: London, UK

[Learn More Here](#)

#### Overview

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.

## July 15, 2022

### Symposium: Stable Isotope-Resolved Metabolomics: From Bench to Bedside

Venue: Kentucky, USA

[Learn More Here](#)

#### Overview

Hear and meet speakers who use advanced techniques to investigate metabolism in different biological systems including the immune system, the brain, and cancer. There will also be poster sessions and exhibitor tables.

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## August 5, 2022

### MANA Early-Career Members (ECM) Virtual Job Fair

Venue: Online

[Learn More Here](#)

#### Overview

Hiring new members? Looking for a new position? Gathering information for the next step in your career? Join the ECM Virtual Job Fair!

As an employer or recruiter, you'll get the opportunity to meet potential candidates. As someone who is in the market, this is a great opportunity for you to meet potential employers from different tracks (i.e., Academia, Industry, or Government/Nonprofit). We will help employers and potential candidates meet effortlessly in a virtual capacity via Zoom! Using Breakout Rooms, we'll set up and manage interviews and/or informal meetings.

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## August 7-12, 2022

### Gordon Research Conference on Lipidomics

Venue: Newry, Maine, USA

[Learn More Here](#)

#### Overview

In this Gordon Conference series, we will highlight recent developments in standardization, omics integration, and state-of-the-art technologies and their impact on applications to study human health and disease. The time is critical to set the future cornerstones in how to powerfully, adequately, and transparently define the lipidomics rules of new and existing platforms in basic research, and most importantly, in a regulatory environment. Overall, the

future of lipidomics in the clinical and biological realms will be discussed at this conference, aligning with other ongoing consortia, with an anticipated active involvement of researchers across all important arenas (academic, industry, government) and different stages of their career (established and young scientists). Applications for this meeting must be submitted by **July 10, 2022**.

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## August 22-September 2, 2022

### International Summer Sessions in Metabolomics

Venue: Online or Davis, California, USA (Hybrid)

[Learn More Here](#)

#### Overview

This course at UC Davis has been completely redesigned for a hybrid format and will also be recorded for the participants to view at a later time. All software training has transitioned to a virtual machine environment so training can be done from any location. Virtual machines are hosted by Amazon Web Services and can be accessed using either a PC or a Mac computer. Every unit is taught using interactive tools such as polling, using the annotation tool, utilizing non-verbal feedback, live questions, and group work.

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## September 6-9, 2022

### The 2<sup>nd</sup> Nordic Metabolomics Conference (2022)

Venue: Copenhagen, Denmark

[Learn More Here](#)

#### Overview

The conference aims to highlight and discuss the latest metabolomics research in the Nordic countries and abroad, and we are proud to present an outstanding scientific program.

The meeting will start with a session dedicated to early-career scientists, followed by an opening keynote lecture and a welcome reception at Copenhagen Town Hall. We have invited outstanding speakers from Europe including the Nordic countries. The meeting will also host a panel debate and a session dedicated to our sponsors. The majority of talks will be based on submitted abstracts.

Early-bird registration, abstract submission, and travel grant submission deadline is June 30.

## September 8-9, 2022

### Bits & Bites #7: Identification of unknown compounds in untargeted metabolomics using freely available software

Venue: Online

[Learn More Here](#)

#### Overview

This 10-part short course series will feature in-depth topics in untargeted metabolomics such as Bayesian statistics, a deeper look into MS-DIAL, fundamental courses in mass spectrometry, lipidomics, and so many others. Each short course can be taken individually or you can select multiple Bites. Participants will gain a deeper insight into current software, methods, and pitfalls. Each session starts promptly at 9 a.m. (Pacific Time) and will take approx. 4 hours. The courses will be conducted in a highly interactive manner, with the use of freely available software and databases. The tuition is \$150 USD per Bite.

The 7<sup>th</sup> course is “Identification of unknown compounds in untargeted metabolomics using freely available software”, taught by Dr. Arpana Vaniya. Compound identification is known as the bottleneck in metabolomics. However, there are many approaches one may consider while tackling this challenge (e.g., mass spectral library search, *in silico* fragmentation tools, database searching). This short course will provide an overview of the current status of compound identification in metabolomics. Participants will learn how to use freely available *in silico* fragmentation tools MS-FINDER and SIRIUS+CSI:FingerID, and apply those skills to some unknown challenges.

In session 2, participants will continue learning additional tools and compound identification approaches. In this short course, participants will learn how to use web-based tools such as MetFrag and CFM-ID and learn how to use MassBank of North America in NIST MS Search. Participants will get a chance to practise on unknown challenges.

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## September 9-10, 2022

### 2022 World Endocrine & Obesity Conference

Venue: Online or Bangkok, Thailand (Hybrid)

[Learn More Here](#)

#### Overview

The 2022 World Endocrine & Obesity Conference (2022WEOC) in collaboration with Thyroid Federation International is scheduled for September 9-10, 2022, in Bangkok, Thailand, and will run as a hybrid conference model allowing virtual/digital and physical platforms. Their focus is to bring together leading experts, researchers, and clinicians to exchange and share their experiences of various treatment procedures on endocrine care and obesity.

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## September 11-15, 2022

### Metabolism in Action - From Genome to Function

Venue: Hillerød, Denmark

[Learn More Here](#)

#### Overview

The goal of this meeting is to bring together leading experts with the brightest post-doctoral and doctoral students, to create an inspiring, international, and open environment to explore the influence of molecular and tissue-specific regulation of metabolism. Abstract submission deadline is June 1, 2022.

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## September 16-18, 2022

### 4th Annual MANA Conference

Venue: Edmonton, Alberta, Canada

[Learn More Here](#)

#### Overview

The 4<sup>th</sup> Annual Conference of the Metabolomics Association of North America (MANA) will be hosted by the University of Alberta and The Metabolomics Innovation Centre (TMIC), and the organizers have developed an engaging preliminary program. Check out the website for program information, speakers, events, registration, awards, and more.

## October 14, 2022

### 4<sup>th</sup> MANA Fall Symposium

Venue: Online

[Learn More Here](#)

#### Overview

The 4<sup>th</sup> Fall Symposium of the Metabolomics Association of North America is entitled “We are what we eat: Metabolomics leading the way for nutritional research”.

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## October 25-27, 2022

### 2nd International Diabetes and Metabolic Surgery Summit

Venue: Tel Aviv, Israel

[Learn More Here](#)

#### Overview

The focus of IDMSS 2022 will be the relationship between obesity and type 2 diabetes and their associated complications and the beneficial results obtainable from metabolic/bariatric surgery. The Summit will bring together many of the world experts in the fields of metabolic surgery and medicine. The range and scope of the program are a must for all clinicians caring for patients suffering from metabolic diseases.

# Metabolomics Jobs

If you have a job to post, please email the MetaboNews team at [metabolomics.innovation@gmail.com](mailto:metabolomics.innovation@gmail.com).

## Jobs Offered

Job Title	Employer	Location	Posted	Closes	Source
Research Associate/Fellow: Mass Spectrometry Research Officer	University of Nottingham	Nottingham, United Kingdom	17-May-2022	27-May-2022	<a href="#">University of Nottingham</a>
Operations Manager (TMIC-The Metabolomics Innovation Centre)	University of Alberta	Edmonton, Alberta, Canada	14-April-2022	Until filled	<a href="#">University of Alberta</a>
Research Technician (Mass Spectrometry)	University of Alberta	Edmonton, Alberta, Canada	5-April-2022	Until filled	<a href="#">University of Alberta</a>
Postdoc in Mass Spectrometry	University of Alberta	Edmonton, Alberta, Canada	1-Mar-2022	Until filled	<a href="#">University of Alberta</a>
Bioinformatic Scientist, Omics (research programmer) (Contractor)	Denali Therapeutics	Remote / South San Francisco, California, USA		Until filled	<a href="#">Denali Therapeutics</a>
Postdoc in Metabolomics/ Exposomics	University of Vienna	Vienna, Austria	4-Feb-2022	Until filled	<a href="#">University of Vienna</a>
Postdoctoral Research Associate (Sumner Lab)	University of North Carolina at Chapel Hill	Kannapolis, North Carolina, USA	12-Jan-2022	Until filled	<a href="#">University of North Carolina Careers</a>
Various Positions	Various	Various (within North America)	Various	Various	<a href="#">Metabolomics Association of North America</a>

## Jobs Wanted

This section is intended for very highly-qualified individuals (e.g., lab managers, professors, directors, executives with extensive experience) who are seeking employment in metabolomics.

We encourage these individuals to submit their position requests to the MetaboNews team at [metabolomics.innovation@gmail.com](mailto:metabolomics.innovation@gmail.com). Upon review, a limited number of job submissions will be selected for publication in the Jobs Wanted section.