MetaboNews

March 2022 Vol 12, Issue 3

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The MetaboNews Team

The Metabolomics Innovation Centre 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



Metabolomics 2022: Valencia, Spain - June 19-23

Hosted by the Metabolomics Society Registration and abstract submission are open Website: <u>Metabolomics2022.org</u>

Abstract submission for oral presentations is now closed. Poster abstracts will continue to be accepted through May 16, 2022. We look forward to seeing your latest findings!

Save your space and register soon! Discounted early-bird registration ends on April 4th.

Visit us online at <u>https://www.metabolomics2022.org</u>/. The website will be continuously updated, with our pre-conference workshop topics, speakers and networking events. We can't wait to see you all in beautiful Valencia!

Members' Corner

Early-Career Members Network (EMN)

EMN Expert Opinion

Spring comes and Expert Opinion is back with the March 2022 edition! This month we present to you Dr Shuichi Shimma who shares his experience in the development of mass spectrometry imaging for biological samples. For more details, follow the link to <u>Dr. Shuichi Shimma's interview</u>.



March 2022 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

Membership Enquiries membership@metabolomicssociety.org

EMN Webinar Series

The EMN would like to thank once again Professor Kati Hanhineva and Dr. Ville Koistinen for their excellent presentations on foodomics, explaining its meaning and pipeline from farm to fork and beyond, and also shedding light on the effect of processing on the phytochemical content of food. If you missed our latest webinars, the recordings are now available on <u>EMN Webinars 2022</u> website. Stay tuned for announcements sent over email and posted on our social media platforms for the upcoming webinar!

Tasks Groups Corner

Metabolomic Epidemiology Task Group

The Metabolomic Epidemiology Task Group hosts the second webinar in our series:

Title: Insights into Chronic Disease: Perspectives from a Biochemist and an Epidemiologist on Metabolomics from the Nurses' Health Study

Date: Thursday, March 24, 2022 11:00 a.m. – 12:00 p.m. US Eastern Time 4:00 p.m. – 5:00 p.m. Central European Time

Register Here

Speakers:

Dr. Heather Eliassen, ScD, Brigham and Women's Hospital and Harvard Medical School

Dr. Clary Clish, PhD, Broad Institute of MIT and Harvard University

Dr. Heather Eliassen

Heather Eliassen is co-PI of the Nurses' Health Study and Nurses' Health Study II cohorts, Director of the BWH/Harvard Cohorts Biorepository, Associate Director of the Channing Division of Network Medicine (CDNM), and Director of the Chronic Disease Epidemiology unit in the CDNM.

Professor Eliassen's research focuses on the association between lifestyle factors, biomarkers of lifestyle and hormones, and cancer risk and survival. In particular, she has dedicated a large proportion of her research to the role of metabolomics in the risk of breast and ovarian cancers. In analyses of a priori hypothesized lipid classes of metabolites, Professor Eliassen observed several significant associations between circulating sphingomyelins and subsequent ovarian cancer and, in analyses of circulating branched-chain amino acids, observed opposite associations with breast cancer risk depending on menopausal status, with inverse associations among premenopausal women but positive associations among postmenopausal women. She has also identified metabolites associated with higher risk of ovarian and breast cancers.



Professor Eliassen received her ScM and ScD in Epidemiology from the Harvard School of Public Health.

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Dr. Clary Clish

Clary Clish is an expert in the development and application of technologies for the systematic analysis of endogenous metabolites in biological specimens. His lab works in collaboration with groups, from both within the Broad Institute and the external research community, on projects that range in scope from metabolic phenotyping of model systems to large human cohort studies. Contributions from the platform have included the discovery of plasma metabolic signatures that indicate future risk of developing diabetes in the Framingham Heart Study Offspring cohort, 4-12 years before clinical diagnosis of type 2 diabetes, as well as the discovery of early indicators of pancreatic cancer in humans years before clinical diagnosis.

Prior to joining the Broad Institute, Clish held senior and executive management positions in the biotechnology industry from 2001-2008, including vice president of discovery at Gene Logic Inc. and director of metabolite biochemistry at Beyond Genomics Inc. From 1997-2001, Clish was a postdoctoral fellow and instructor in the laboratory of Dr. Charles Serhan at the Center for Experimental Therapeutics and Reperfusion Injury at Brigham & Women's Hospital. In the Serhan laboratory, his work focused on understanding the roles of lipid mediators in acute inflammation and its resolution. Along with Serhan, Clish discovered and characterized a new class of anti-inflammatory lipid mediators that have since been named "resolvins."

Clish received his BSc from McGill University in chemistry and biological sciences and his PhD from Portland State University.

Abstract:

The Metabolomics Society's Metabolomic Epidemiology Task Group presents their second webinar featuring two leaders in their fields—Dr. Clary Clish, Director of Metabolite Profiling at the Broad Institute of MIT and Harvard, and Dr. Heather Eliassen, Associate Director of the Channing Division of Network Medicine at Brigham and Women's Hospital and Professor of Nutrition and Epidemiology at the Harvard TH Chan School of Public Health. They discuss their experiences of conducting metabolomic epidemiology studies from conception to publication within the Nurses' Health Study and Nurses' Health Study II, led by Dr. Eliassen, are two ongoing cohorts of more than 230,000 women initiated in 1976. In collaboration with the Broad Institute, nearly 30 metabolomic epidemiology studies have been published from these cohorts to date. As such, Drs. Clish and Eliassen are ideally positioned to share their insights and experience regarding study design, necessary considerations for leveraging archived biospecimens for metabolomics, data analysis strategies, and results interpretation. As a reflection of their more than 10 years working together, they will furthermore describe the importance of communication between the lab and epidemiologists in creating the highest quality science possible when bringing together these diverse but highly complementary fields.

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Diversity, Equity and Inclusion in the Metabolomics Society - New Task Group

Recognizing that discrimination, racism, and other forms of structural inequality are widespread issues in science, the Metabolomics Society is committed to increasing diversity in our field by implementing diversity and inclusion into our activities and organizational culture. Productive, innovative, and impactful scientific communities depend on a rich diversity of perspectives, backgrounds, and experiences. The Metabolomics Society has launched a dedicated Task Group focused on helping to further cultivate a community where all members feel welcome and secure and that all voices are heard and respected.

The purpose of this Task Group is to develop and promote strategies and best practices within the realms of racial, social, sexual, and gender diversity. We welcome participation from all members of the Metabolomics Society. If you are interested in getting involved, please contact Candice Ulmer (czulmer@gmail.com) by April 4.

International Affiliates' Corner

Metabolomics Association of North America (MANA)

WomiX Womxn's Week 2022

WomiX Womxn's Week is March 21-March 25, 2022. Come celebrate Women's Month with WomiX. Fill out this short form to help us prepare for our weeklong events on social media: <u>WomiX Featuring You</u>



M

WomiX Womxn's Week 2022 (cont'd)

March 21, 2022: Feature a metabolomics scientist

March 22, 2022: Let us know - What is your favorite aspect of metabolomics?

March 23, 2022: Blast your favorite female scientist

March 24, 2022: Let us know - How do you inspire the next generation of scientists?

March 25, 2022, at 11 am PT: End the week by celebrating Dr. Susan Murch who has been awarded the 2022 WomiX Mentorship Award. <u>Register here</u>.

Dr. Murch will share stories and lessons learned from being a mentor to more than 60 students (honors BSc, MSc, and Ph.D.) and >1100 undergraduates at UBC at this celebration lecture!

WomiX Committee

Are you interested in joining the WomiX Committee? We have 2-3 seats to fill this year! If you are interested, please submit your <u>committee application here.</u>

Other News

Call for Nominations – Honorary Fellows and Career Medals Deadline: March 25

2022 Honorary Fellows of the Metabolomics Society

An Honorary Fellowship is a significant lifetime award granted by the Metabolomics Society to exceptional members of our community. Commissioned in 2012, and with up to two awards each year, the Board of Directors welcomes nominations from members for these Fellowships, with a closing date of March 25, 2022.

See <u>Honorary Fellowships – Metabolomics Society</u> for further details. The Board will consider only complete nomination packages, and these consist of the four items mentioned on the web page.

Metabolomics Society Career Medals

We are excited to continue the Society awards which seek to recognize the outstanding contributions of individuals to the field of metabolomics through the presentation of up to two Metabolomics Society medals. These awards are open to all Society members who meet the eligibility criteria. While research contributions are of primary importance, other contributions, including the teaching of metabolomics and/or service to the field or the Society will also be strongly considered. There will be up to two medals awarded each year in the following categories:

- The Metabolomics Society Medal is for mid-career members of the Society and is open to those members who have been awarded a PhD 10-15 years prior to the closing date for nominations in each round. In 2022, this means your PhD must have been awarded between 2007 and 2012.
- The President's Award recognizes outstanding achievements in metabolomics. It is available for Society members who have been awarded a PhD no more than 5-10 years prior to the closing date for nominations in each round. In 2022, this means your PhD must have been awarded between 2012 and 2017.

In order to be more inclusive, the Metabolomics Society made changes to the medals procedure. To facilitate applications, the membership eligibility criteria has evolved from 3 consecutive years of membership to

- being a member of the Metabolomics Society for at least one (1) year during the prior three (3) years immediately preceding the year of award nomination (2019, 2020, or 2021); and
- being a current member of the Society.

See <u>Career Medals - Metabolomics Society</u> for further details about Society career medals. The nomination closing date is March 25, 2022.

T A B F

Marynka Ulaszewska-Tarantino, PhD



Biography

Product Manager, Spectral Libraries, Thermo Fisher Scientific

Former Senior Researcher, San Raffaele Scientific Institute, Proteomics and Metabolomics Facility (PROMEFA), Milan, Italy

Marynka is devoted to metabolomics and is passionate about mass spectrometry-based structure elucidation. She dedicated several years to nutri-metabolomics research at Fondazione Edmund Mach and continued with diverse applications, such as nutritional strategies in managing various diseases, at San Raffaele Scientific Institute. She is fascinated about interactions between host metabolism and gut microbiota. She has just undertaken a new, challenging, and exciting role as Product Manager for Spectral Libraries at Thermo Fisher Scientific. Her full bio can be found at her LinkedIn profile. (The interview answers were provided while at her role at PROMEFA.)

Interview Q&A

How did you get involved in metabolomics?

I started my adventure with mass spectrometry at the University of Almeria (Spain), in a European Union Reference Laboratory (EURL) at the very beginning of my scientific career. That was the moment when I understood that mass spectrometry would be my future. Analysis of small molecules and structure elucidation for metabolites and transformation products is enjoyable and relaxing to me.

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

The most exciting part of metabolomics is when you successfully annotate a compound. I am not talking about when a known compound fits a hit from the library, but a *real* unknown. It's a very satisfying feeling when all the puzzle pieces suddenly fit together and reveal an interesting story behind the study design. For example, in a recent study, my group, along with international collaborators, identified advanced glycation end products (AGEs) that form in heat-treated skimmed milk powder (HSMP). (See <u>Molecular Nutrition & Food</u> <u>Research, 65, e2001049 (2021)</u>, and Figure 1.)

I am also fascinated by how food impacts our metabolome. Nutritional science is amazing science where metabolomics is revealing the keys to understanding how to prevent certain diseases. Considering that nutrition is crucial for the success of any therapy, we get a field full of relevant, unexpected and beautiful unknown unknowns waiting to be discovered. For instance, my group, in yet another international collaboration, performed an untargeted metabolomics study relating to apple intake. It



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showed further directions to explore, such as the effects of apple intake on health and microbial metabolic activity. (See *European Journal of Nutrition*, **59**, 3691 (2020), and Figure 2).

Whatkeymetabolomicsinitiativesareyoupursuingatyour research centre or institute?

metabolomics А key initiative ongoing at PROMEFA is definitely the creation of a software pipeline called margheRita for untargeted metabolomics from **SWATH** analysis, where an important part is dedicated to the downstream analysis. Crucial steps in clinical applications included in the pipeline are sample clustering, metabolite correlation analysis, and pathway analysis (using databases like KEGG and BioCyc). There will also be an in-house spectral library created using five different chromatographic conditions, which will be freely available in .msp format for annotations at а Metabolomics Standards Initiative (MSI) (See confidence level 1. https://bioc2021.bioconductor.org/ proteomicsmetabolomics/paper42/.)









What is happening in your country in terms of metabolomics?

There are many different initiatives in Italy today about metabolomics and also about technologies. We have METABONET <u>http://metabonet.it/</u> (also called the

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Figure 2: From untargeted metabolomics study on apple intake. Top: Tyrosine human-microbiota catabolism. Bottom: Excerpt of heatmap showing pairwise correlations between urine metabolites and gut microbiota.

Italian Metabolomics Network), an online network where scientists from different disciplines involved in metabolomics can meet, discuss, and exchange knowledge. METABONET acts as an umbrella for interdisciplinary collaborations, training, and exchanges between participants.

We also have the Italian Mass Spectrometry Society (IMaSS) (<u>http://imass.it/</u>), a non-profit organization whose primary objective is the promotion of research in the field of mass spectrometry. An important part of its activity is

dedicated to metabolomics. I warmly invite everyone to watch a series of webinars on its YouTube channel organized within the last year and which is freely available: https://www.youtube.com/channel/UCaTcco2ACzVbro0Sj WNHfnQ.

Being a member of IMaSS is a great opportunity to meet experts and scientists, not only from academia, but also from industry and different institutes, to enable one to gain a holistic perspective on the technique from complementary angles. MetaboInterview | Marynka Ulaszewska-Tarantino

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

My main activities today are related to meticulous structure elucidation processes. I wish to find a good solution in the near future that will make these activities faster while maintaining reliability.

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

The revolution in metabolomics is happening today. We are all witnesses of amazing progress in this field: singlecell spatial metabolomics, metabolomic epidemiology, huge clinical cohorts undergoing metabolomic analysis. I feel that these are the areas with the greatest impact on our population today.

What do you see as the greatest barriers for metabolomics?

There are two critical issues I face frequently. One of them is related to annotation and structure elucidation. I strongly believe we need more freely-available spectral databases/libraries to bolster discovery of unknown unknowns, and at the same time publications of spectral data by scientists must follow FAIR rules (FAIR stands for findable, accessible, interoperable, and reproducible). Community efforts in implementing FAIR rules for metabolomics demonstrate very well this need: we need FAIR chemical spectral data and chemical structures to correctly and effectively reuse them.

The second barrier that I find very frustrating is convincing decision makers to invest time and money into metabolomics. This is directly connected to the below question about funding.



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

Initiatives such as defining and implementing FAIR guidelines for metabolomics data are a good way to advance metabolomics in general. The organization of events addressed to a very wide audience, from medical doctors to chemistry students, from nutritionists to biostatisticians, to experts in other omics fields is fundamental for popularizing metabolomics and showing its potential. It is also a way to make people speak the same language – the language of metabolomics.

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

I face hesitancy and doubts especially from clinicians on whether or not to include metabolomics in their research. It is easier to get them on board for genomics, but metabolomics remains a black box for many of them. I hope that this situation will change in the near future with publications with spectacular results (such as those by Lai et al., Mack et al., Gantner et al., He et al., Falegan et al.), where metabolomic profiling is revealed to be key in understanding health and disease.

What role can metabolomics standards play?

Standardization in metabolomics is an absolute requirement if we wish to see more clinical applications and comparative results around the world. This process involves all steps of a metabolomics experiment from study design, through sample preparation and data analysis, to validation of compounds. This part is under rapid development and huge progress is being made every single day. It is a great source of inspiration for my everyday work.

Do you have any other comments that you wish to share about metabolomics?

Dear Metabolomics and Mass Spec Enthusiasts:

Please share your MS/MS data. This is the most straightforward and quick way to ensure scientific progress.

Recent Publications

Recently published papers in metabolomics

- <u>A Novel Approach for Monitoring the Volatile Metabolome in Biological Samples from Ruminants through</u> <u>Miniaturized Liquid-Liquid Extraction and Multiclass Gas Chromatography Analysis.</u>
- <u>Alterations in gut microbiota and metabolites associated with altitude-induced cardiac hypertrophy in rats during hypobaric hypoxia challenge.</u>
- <u>CpxA Phosphatase Inhibitor Activates CpxRA and Is a Potential Treatment for Uropathogenic Escherichia coli in a</u> <u>Murine Model of Infection.</u>
- Integrated Microbiomic and Metabolomic Dynamics of Fermented Corn and Soybean By-Product Mixed Substrate.
- Lanthanum and cerium disrupt similar biological pathways and interact synergistically in Triticum aestivum as revealed by metabolomic profiling and quantitative modeling
- Machine learning discovery of missing links that mediate alternative branches to plant alkaloids.
- <u>Metabolic Adaptations in an Endocrine-Related Breast Cancer Mouse Model Unveil Potential Markers of Tumor</u> <u>Response to Hormonal Therapy.</u>
- Metabolomic analysis and oxidative stress response reveals the toxicity in Escherichia coli induced by organophosphate flame retardants tris(2-chloroethyl) phosphate and triphenyl phosphate
- <u>Metabolomics in Exercise and Sports: A Systematic Review</u>
- <u>Metabolomics Perspectives: From Theory to Practical Application (Book by author Jacopo Troisi)</u>
- Non-target analysis and stability assessment of reference materials using liquid chromatography-high-resolution mass spectrometry.
- Omics approaches in bioremediation of environmental contaminants: An integrated approach for environmental safety and sustainability.
- <u>Single cell mass spectrometry analysis of drug-resistant cancer cells: Metabolomics studies of synergetic effect of combinational treatment.</u>
- The study of human serum metabolome on the health effects of glyphosate and early warning of potential damage.
- <u>Time Course Metabolite Profiling of Fusarium Head Blight-Infected Hard Red Spring Wheat Using Ultra-High-Performance Liquid Chromatography Coupled with Quadrupole Time of Flight/MS.</u>
- UPLC-MS/MS-Based Serum Metabolomics Signature as Biomarkers of Esophagogastric Variceal Bleeding in Patients
 With Cirrhosis.

Metabolomics Events

The Association of Biomolecular Resources Facilities (ABRF) Metabolomics Research Group invites individuals interested in "Compound Identification" to participate in the MRG 2022 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.

March 30, 2022

West Coast Metabolomics Centre: Online Guest Lecture Seminar Online Learn More Here

Overview

Justin van der Hooft, PhD, will be presenting "Recent Advances in Mass Spectral Embedding and Network-based Metabolomics Approaches that Enhance Natural Product Discovery" on March 30, 2022, @ 10am PT <u>Register Here</u> <u>WCMC YouTube Channel</u>



March 31, 2022

Bits & Bites #4 Online Learn More Here

Overview

These courses hosted by the UC Davis West Coast Metabolomics Center are great for grad students, postdocs, and other STEM professionals. The 4th course is "Introduction to the GNPS Ecosystem - Tools, Visualizations, and Data" on March 31 with Dr. Mingxun Wang. Bits & Bites is an online course series that features in-depth topics in untargeted metabolomics. Each short course can be taken individually, or you can select multiple Bites. You will gain a deeper insight into current software, methods, and pitfalls. We've added multiple fundamental courses for those interested in learning the advantages and disadvantages of such topics as Mass Spectrometry, Lipidomics, Metabolism, and Gas Chromatography-MS in Metabolomics.

April 7-8, 2022

Course Data Analysis for Metabolomics Wageningen, Netherlands Learn More Here

Overview

Metabolomics experiments based on mass spectrometry (MS) or nuclear magnetic resonance (NMR) produce large and complex data sets. This course will introduce approaches to process and analyze data and design high-quality experiments. Through hands-on workshops and lectures highlighting the different concepts you will get a thorough basis for tackling the challenges in metabolomics data analysis.

April 11, 2022

X-omics Festival Online or Nijmegen, Netherlands (Hybrid) <u>Learn More Here</u>

Overview

The fourth edition of the X-omics Festival: "The future of multi-omics research is now!" Register before April 1, 2022.



April 12, 2022

MANA SODAMeet 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.

April 27, 2022

West Coast Metabolomics Centre: Online Guest Lecture Seminar Online Learn More Here

Overview

Frances Platt, PhD, will be presenting "Understanding the complexity of metabolomics in the lysosomal disorders: insights from Niemann-Pick disease type C" on April 27, 2022 @ 10am PT.

Register Here WCMC YouTube Channel

May 13 - 16, 2022

2nd Metabolism in Health and Disease Conference

Cancun, Mexico Learn More Here

Overview

Topics will span diverse areas such as cancer metabolism, organismal metabolism in disease, metabolic pathway engagement in cell function, metabolites as signaling molecules, mitochondrial biology, nutrient sensing, metabolism in tissue homeostasis and repair, neurometabolism, and metabolism in host-microbe interactions.



May 29 - June 2, 2022

19th International GCxGC Symposium Online <u>Learn More Here</u>

Overview

While we had planned to host the meeting in beautiful Canmore, Alberta, we are now moving to a fully virtual event. The technical program includes 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.

June 19 - 23, 2022

18th Annual Conference of the Metabolomics Society Valencia, Spain <u>Learn More Here</u>

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.

June 20 - 24; September 20-23, 2022

CliMetabolomics

Versailles & Bordeaux, France; Leipzig & Saale, Germany Learn More Here

Overview

CliMetabolomics is a Franco-German research workshop that aims to better understand the plasticity of plants and to develop sustainable plants adapted to climate change. CliMetabolomics offers training in analytical tools and an innovation management method for early career scientists. The workshop lasts two weeks and consists of seminars, discussions, and many practical courses. The first week is in France and the second is in Germany. Registration is open until April 15.



July 3 – 9, 2022

4th Mass Spectrometry School in Biotechnology and Medicine Dubrovnik, Croatia <u>Learn More Here</u>

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.

August 7 - 12, 2022

Gordon Research Conference on Lipidomics Newry, Maine, USA <u>Learn More Here</u>

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**. Apply early to avoid disappointment! The conference chair is currently developing their detailed program, which will include the complete meeting schedule, as well as the titles of talks for all speakers. The detailed program will be available by **April 7, 2022**.

August 22 - September 2, 2022

International Summer Sessions in Metabolomics Online or Davis, California (Hybrid) <u>Learn More Here</u>

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.

September 9 - 10, 2022

2022 World Endocrine & Obesity Conference Online or Bangkok, Thailand (Hybrid) <u>Learn More Here</u>

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 platform. Their focus is to bring together leading experts, researchers, clinicians to exchange and share their experiences of various treatment procedures on endocrine care and obesity. To register and view more information, visit the website: <u>https://endocrine.episirus.org/</u>.

September 16 - 18, 2022

4th Annual MANA Conference Edmonton, Alberta, Canada Learn More Here

Overview

We are very excited to announce that the 4th Annual MANA conference will take place September 16-18, 2022, on the campus of the University of Alberta in Edmonton, Alberta, Canada. The conference will be hosted by the University of Alberta and The Metabolomics Innovation Centre (TMIC), and the organizers have developed an engaging preliminary program. Stay tuned for more information and available travel and career development awards.

October 25 - 27, 2022

2nd International Diabesity and Metabolic Surgery Summit Tel Aviv, Israel Learn More Here

Overview

The focus of the forthcoming 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. This Summit is therefore vital to increase the international knowledge of these procedures and stimulate the investigation and development of new and more effective treatments. The Summit will bring together many of the world experts in the fields of metabolic surgery and medicine. A wide range of related topics will be presented, discussed, and debated. 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 <u>metabolomics.innovation@gmail.com</u>.

Jobs Offered

Job Title	Employer	Location	Posted	Closes	Source
Postdoc in Mass Spectrometry	University of Alberta	Edmonton, Alberta, Canada	1-Mar- 2022	Until filled	<u>University of</u> <u>Alberta</u>
Postdoc in Computational Mass Spectrometry and Metabolomics	Leibniz-Institut für Analytische Wissenschaften	Dortmund, Germany	23-Feb- 2022	31-March- 2022	<u>ISAS</u>
Postdoc in Metabolomics	Leibniz-Institut für Analytische Wissenschaften	Dortmund, Germany	23-Feb- 2022	31-March- 2022	<u>ISAS</u>
Bioinformatic Scientist, Omics (research programmer)- Contractor	Denali Therapeutics	Remote / South San Francisco, California, USA		Until filled	<u>Denali</u> <u>Therapeutics</u>
Postdoc in Metabolomics/ Exposomics	University of Vienna	Vienna, Austria	4-Feb- 2022		<u>University of</u> <u>Vienna</u>
Postdoctoral Research Associate (Sumner Lab)	University of North Carolina at Chapel Hill	Kannapolis, North Carolina, USA	12-Jan- 2022	Until filled	<u>University of</u> <u>North Carolina</u> <u>Careers</u>
Various Positions	Various	Various (within North America)	Various		<u>Metabolomics</u> <u>Association of</u> <u>North America</u>

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 <u>metabolomics.innovation@gmail.com</u>. Upon review, a limited number of job submissions will be selected for publication in the Jobs Wanted section.





Do you have an interesting story you would like to share with the metabolomics community? <u>Fill out this form</u> to learn more about contributing a Spotlight Article to MetaboNews.

Would you like to share your personal metabolomics story? <u>Fill out this form</u> to be featured in one of our Metabolnterviews.

Do you have a new publication that the metabolomics community should hear about? <u>Fill out this form</u> to have your publication featured in MetaboNews.

Are you searching for a highly qualified individual for your organization? <u>Fill</u> <u>out this form</u> to post your job in MetaboNews.





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Have any questions?

Contact your MetaboNews team at metabolomics.innovation@gmail.com