Communications and Publications Division (CPD) of the IFCC
Editor: Katherina Psarra, MSc, PhD
IFCC Office, Via C. Farini, 81
20159 Milano, Italy
E-mail: enews@ifcc.org

International Federation of Clinical Chemistry and Laboratory Medicine

N° 3 – March 2022

In this issue

EDITORIAL

Message from the eNews Editor

by Katherina Psarra
eNews Editor

Katherina Psarra, MSc, PhD

Dear colleagues,

We are at the beginning of spring, but well, we don't yet see it, neither in the weather, although trees and wildflowers have already blossomed, nor in spirit (the war has prevented it).

But spring is here for the IFCC. The division chairs have met with the Board for the new strategic plan. (Committee and working group chairs have participated too). A formidable, a springly plan full of activities, full of energy, has been prepared for IFCC and its members. Our president, Prof Khosrow Adeli, is introducing it to us in his message written for this issue. The IFCC virtual platform, planned to be created, is also introduced in his message.

In this issue we learn about new and older IFCC task forces and WG: IFCC Working Group on Flow Cytometry, IFCC Task Force on Outcome Studies in Laboratory Medicine (TF-OSLM), IFCC Working Group on Metabolomics, IFCC's Task Force on Ethics (IFCC TF-E), introduce themselves and their members, and present their plans or their recent work. It is important to come in touch with them, as new opportunities and ideas and perhaps new collaborations may arise.

Compared to the first eNews of 2022, this issue is smaller. But it is full of energy and photos, and easy to peruse.

Welcome to the IFCC spring, dear colleagues!

Katherina Psarra

IFCC President's message – March 2022

Prof. Khosrow Adeli
PhD, FCACB, DABCC, FAACC

by Khosrow Adeli
IFCC President

Greetings to you all in the IFCC family! I hope everyone has had a successful start to the new year, and like myself, are looking forward to the year ahead, with many exciting activities planned for our community.

The XXIV IFCC-EFLM EuroMedLab Congress is fast-approaching, taking place in the beautiful city of Munich from April 10-14, 2022. I encourage you all to register and participate in the outstanding scientific program, featuring innovative and diverse educational opportunities that incorporate the best of clinical laboratory medicine and in vitro diagnostics. So far, over 900 novel abstracts have been submitted, which will surely stimulate scientific exchange and advancements in the field of clinical chemistry and laboratory medicine. In addition to outstanding symposia, poster presentations, and much more, attendees will also have the opportunity to take advantage of an excellent social program that incorporates many attractions in Munich.

As previously mentioned, IFCC Global Lab Medicine Week (GLMW) will be formally launched during the EuroMedLab Congress, to celebrate the pivotal role of laboratory medicine and laboratory professionals in both public health and patient care. Following recent calls for nominations, we received a huge response for National Society Champions in regions around the world as well as IFCC Corporate Member Representatives for this program. We have also hired a marketing company to facilitate the worldwide promotion of this program. Together, involved parties will help raise awareness of the 2022 focus/theme: "The Laboratory's Vital Role in the Global Fight Against the COVID-19 Pandemic".

In addition to these exciting events and advancements, IFCC has been in communication with several companies to develop an IFCC virtual platform for future activities. The past two years have demonstrated the importance of incorporating virtual options for maximum participation and productivity, and this new virtual platform will allow us to offer many virtual and hybrid events at a reasonable cost for years to come. Additionally, we are engaged in a search for a new IT partner to redevelop/upgrade the current IFCC website and associated platforms as well as provide ongoing technical and operational support, for which requests for proposals will be sent out shortly. We expect these updates to be of great value and look forward to making improvements to the IFCC community experience.

Should you want to learn more about any of these announcements, please feel free to email me at president@ifcc.org with your feedback, questions, or concerns.

Till next time,
Khosrow

Second Egyptian Workshop on Cytometry in Cairo (Egypt)

by Dr. Claude Lambert (FR)
Chair, IFCC Working Group on Flow Cytometry

The 2nd International Joint Conference of Al-Azhar Faculties of Medicine in Cairo(Egypt)

Group of participants from different university hospitals in Egypt

On 8-9 of December 2021 the second Egyptian workshop on cytometry was held under the umbrella of IFCC and Al-Azhar Faculty of Medicine in Cairo (Egypt).

The workshop was organized by dr. Reham Hammad from Al-Azhar Faculty of Medicine.

The course addressed the basic principles of cytometry as well as few applications like phenotyping of T cells, apoptosis and cell death, cell cycle and proliferation, diagnosis of lymphoproliferative disorders and acute leukemia.

The workshop included formal lectures in the morning and practical work in the afternoon. Lectures were done by Reham Hammad from Al-Azhar Faculty of Medicine as well as Eman Kandil (National Cancer Institute, Egypt) and new young talented biologists Doaa Aly and Samar Mohammed (Al-Azhar Uni.), Randa Osman (NCI, Egypt).

Practicals included alternatively cell labelling and analysis on a cytometer in the lab with the precious help of Ebrahim Ali.

Opening ceremony (L-R): Prof. Dr. Hesham Farhood and Prof. Dr. Amal Abdelaleem, AL-Azhar University with Dr. Claude Lambert, organizer of the IFCC Workshop on Cytometry

Article continued on next page

The other part included fluorochrome spectra analysis with compensation calculation and electronic data analyses on video projector.

The number of participants was limited to make practical work possible especially in the context of the pandemic risk and the need to keep social distancing.

Twenty-six participants came from different university hospitals in Egypt including the Russian Egyptian university and Assuit from far south of Egypt. Few were experienced in cytometry diagnosis while others were beginners.

The workshop was very friendly and highly participative. Lectures raised lots of questions and discussions. After the end of the workshop attendees expressed their deep satisfaction and their regret it was too short.

The next annual workshop is planned at the end of 2023 and will last longer.

Parcetical part of the course in the lab: cell labelling and analysis on a cytometer

IFCC's Committee on Kidney Disease (C-KD): an update

by Dr. Joe El-Khoury
Chair, Committee on Kidney Disease
Director, Clinical Chemistry Laboratory
Yale-New Haven Health
Associate Professor of Laboratory Medicine
Yale School of Medicine
USA

Dr. Joe El-Khoury (US)

Laboratory testing for kidney diseases is rapidly evolving. In 2021 alone, we saw two major changes affecting how we use laboratory testing to detect and diagnose Chronic Kidney Disease (CKD) and Acute Kidney Injury (AKI). In the US, new race-free equations to estimate glomerular filtration rate (eGFR) have been developed and endorsed by the National Kidney Foundation and the American Society of Nephrology. Medical centers nationwide are facing increased pressure to move away from the traditional equations that use race (mainly Black vs Non-Black) that have been demonstrated to cause racial inequities in access to advanced care.

The effect on the rest of the world remains unclear, with some countries already using race-specific coefficients that were developed by their own scientists. The new race-free equations present an opportunity to standardize laboratory practice worldwide, as long as the equations perform well in other populations.

Article continued on next page

Dr. Joris Delanghe (Belgium)

Dr. Michele Mussap (Italy)

Dr. Pradip Datta (US)

Dr. Graham Jones (Australia)

On the AKI front, the AACC Academy released a new guidance document titled "The Laboratory Investigation of Acute Kidney Injury" providing 13 key recommendations to physicians and clinical laboratories involved in AKI testing. Of these, the recommendation to implement a new definition for AKI, called AACC AKI 20/20 (for 20 umol/L or 20% change), is the most significant one.

This definition, based on biological and analytical variation data and correlated with poor clinical outcomes, directly challenges the existing consensus based KDIGO definition. In addition, the emergence of structural AKI biomarkers, like TIMP2.IGFBP7, NGAL and L-FABP, receiving regulatory approvals in various countries presents a major paradigm shift, one that clinical laboratories worldwide are not ready for.

All of these developments provide opportunities for the IFCC Committee on Kidney Disease (C-KD) to advise on and to support the international laboratory medicine community via the expertise of our membership.

The IFCC C-KD's primary aim is to promote, support and co-ordinate international activities related to laboratory testing in Kidney Diseases.

This international committee is newly chaired by Dr. Joe El-Khoury (US) and consists of four members: Drs. Joris Delanghe (Belgium), Michele Mussap (Italy), Pradip Datta (US), and the newly appointed Graham Jones (Australia), a WASPaLM Nominee: Dr. John Eckfeldt (US), and a consultant: Dr. Flavio Alcantara (Brazil). The committee also has 22 corresponding members, of which 20 are nominated by their National Societies, and 2 are nominated by Corporate Members. The committee is pleased to welcome Dr. Aparna R. Bitla, from the Association of Medical Biochemists of India, as our newest corresponding member.

More detailed information about our corresponding members and committee objectives can be found on the IFCC committee's website: https://www.ifcc.org/ifcc-education-division/emd-committees/task-force-on-chronic-kidney-disease/.

Snibe Diagnostic

MAGLUMI® X3

Save Your Space without Compromise

* Compatible with Small and Medium-sized Hospitals and Labs

All Balanced and Strong

Small but strong

The throughput is up to 200 tests/hour, and the throughput per unit area is 294 T/h/m². Compatible with all MAGLUMI® reagents with perfect compatibility (166 parameters).

Convenient and efficient

No-pause loading/unloading of reagents/samples/reaction cups without waiting or interrupting tests. Intuitive indicator lights make no need to check reagents and consumables frequently.

Low failure rate and accurate result

The single reaction cup can avoid light pollution and increase cuvette utilization, its integrated packaging can avoid the stuck of the cuvette, cuvette blockage and scratches.

Cost-efficient and intelligent

TEFLON-coated pipetting needle is equipped with independent washing unit to avoid carry-over (Small workload analyzer have higher consumable costs when using disposable Tips).

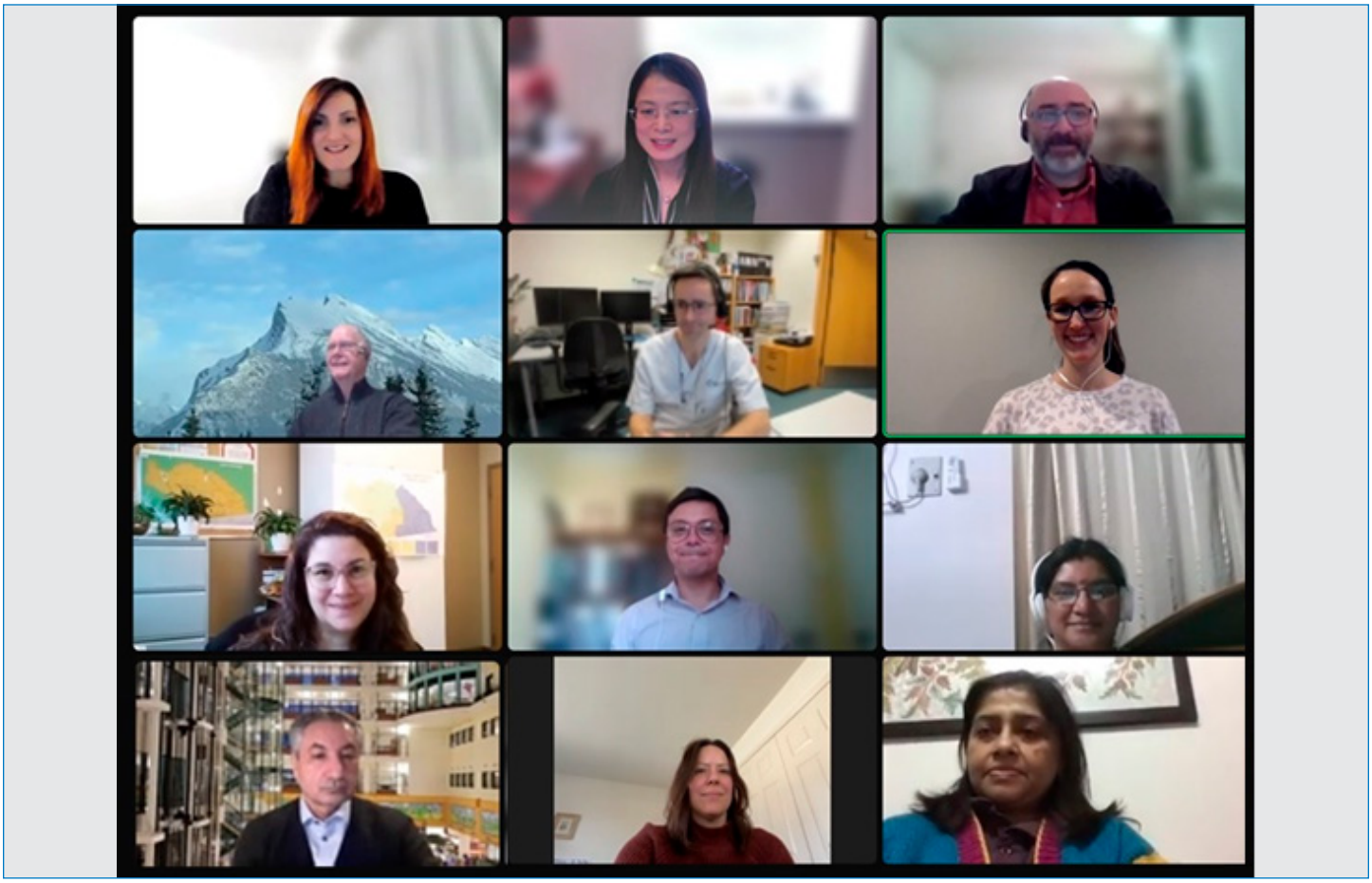
Excellent performance

The comprehensive advanced design of MAGLUMI® X3 ensures excellent performance, such as the latest intelligent washing technology and bidirectional temperature control measurement.

www.snibe.com | sales@snibe.com

IFCC Task Force on Outcome Studies in Laboratory Medicine (TF-OSLM): the kick-off meeting

by Dr. Zhen Zhao
Chair, IFCC Task Force on Outcome Studies in Laboratory Medicine (TF-OSLM)
Associate Professor of Clinical Pathology and Laboratory Medicine
Director, Central Lab and Clinical Chemistry Services
New York-Presbyterian/Weill Cornell Medical Center
New York, US



The IFCC Task Force on Outcome Studies in Laboratory Medicine (TF-OSLM) was formed in October, 2021. The important mission of the task force is to enhance the visibility of Laboratory Medicine through outcome studies. On January 24, 2022, the newly created task force, chaired by Dr. Zhen Zhao from the United States, got together for their first meeting in a virtual conference call. Dr. Khosrow Adeli, the IFCC president, gave a kick-off speech to share the vision of the task force and provide history of previous efforts led by IFCC and international partners to promote Laboratory Medicine. The taskforce members discussed roadmap and timelines, as well as major milestones to help move things forward. Specifically, the TF-OSLM will take two pronged approaches led by two subcommittees, which had two subsequent virtual meetings on February 10 and 11, 2022.

The first subcommittee will lead the effort to identify existing peer reviewed, high quality publications that demonstrate the value of laboratory medicine in healthcare overall and create a repository/database of publications that is accessible by members of IFCC. This subcommittee members include C. I. Suárez Sánchez

Article continued on next page

(Member, CL), J. A. Snyder (Corp. Rep./Siemens, US), C. Strain (Corp. Rep./Abbott, CA), K. Rodriguez-Capote (Corr. Member, CSCC), M.M.Suchitra (Corr. Member, AMBI), E. Koldberg Amundsen (Corr. Member, NSMB) and Z. Zhao (Chair, US).

The second subcommittee will lead the effort to develop a funded research program for investigators in hospitals located around the world to conduct new retrospective and prospective research with outcomes that assess the value of laboratory medicine in healthcare overall. The taskforce could help centres in setting up studies to properly collect such data (common study protocols and formats) and publish their findings. This subcommittee members include M A. Serdar (Member, TR), C. I. Suárez Sánchez (Member, CL), V. Gounden (Member, SA), E. M. Simbaqueba Sánchez (Corp. Rep./IL-Werfen, US), M. Banerjee (Corr. Member, ACBI) and Z. Zhao (Chair, US).

Together, the task force will develop publications, presentations, webinars and other communications materials to help IFCC members use this data to effectively promote the critical value of laboratory medicine in healthcare to key stakeholders. The Taskforce will also closely coordinate with other IFCC groups involved in related activities, including CPD, C-VPLM, TF-CM and others, as required.

For further information about the TF activities, please visit: https://www.ifcc.org/executive-board-and-council/eb-task-forces/task-force-on-outcome-studies-in-laboratory-medicine-tf-oslm/.

View of the IFCC Working Group on Metabolomics: from research to clinical diagnostics & prognostics

by E. Fux
Chair, IFCC Working Group on Metabolomics
A. Bendt, D. Di Natale, D. Friedecky, J. Ivanisevic, J. Otvos
Members, IFCC Working Group on Metabolomics

Metabolomics is a discipline where one or several analytical techniques, such as mass spectrometry (MS) or nuclear magnetic resonance (NMR), are used to measure a large set of metabolites present in a biological sample. Primary metabolites involved in cellular function, maintenance, differentiation, growth and death are of particular interest for biologists and clinicians. The high chemical diversity of metabolites, in addition to the wide concentration range in which they are present in biological samples (spanning at least 11 orders of magnitude), has led to the division of the discipline into several subcategories including, for example, lipidomics, volatomics, steroidomics, and eicosanomics.

Two methodological approaches have been taken:

1) untargeted metabolomics, a data-driven and hypothesis-generating approach involving comprehensive profiling of as many metabolites as possible to enable disease-associated patterns to be deduced for potential clinical use, and

2) targeted metabolomics, involving analysis of a selected set of chemically characterized and biochemically annotated metabolites from a single or multiple pathways that are associated with a particular pathology or clinical condition of interest.

Comprehensive metabolic profiling, using metabolomics, has become widely accepted as a dynamic and sensitive measure of the phenotype at the molecular level, placing the technology at the forefront of biomarker and mechanistic discoveries related to pathophysiological processes.

The recently formed IFCC Metabolomics Working Group has started to survey existing applications in clinical diagnostics and prognostics with the aim of enhancing awareness and defining requirements for the translation

Article continued on next page

to clinics. Although metabolomics is in relatively widespread use in clinical research, the complexity of the approach has so far prevented clinical translation of most of the potential applications.

There are, however, several examples whereby an initially broad metabolite profiling approach has led to the identification of sets of biomarkers which were subsequently quantified by (targeted) multiplexed assays. Derived metabolite concentrations were then combined into simple multimarker scores to facilitate their use for medical decision-making.

One example is the Diabetes Risk Index (DRI) multimarker score (1-100) that combines the levels of two branched-chain amino acids (valine and leucine) that are associated with insulin resistance and obesity with 6 simultaneously-measured lipoprotein subclass and size parameters that comprise the Lipoprotein Insulin Resistance Index (LP-IR) [a,b]. The DRI test is performed on serum and plasma specimens using the clinically-deployed Vantera® NMR clinical analyzer (https://www.labcorp.com/tests/123855/diabetes-risk-index-dri) and is used to help clinicians make therapeutic decisions based on a patient's glucose-independent risk of developing type 2 diabetes.

Another good example of this approach is an LC-MS based assay used as risk stratifier for primary and secondary prevention of atherosclerotic cardiovascular disease. Based on abundant published data, which included lipidomics approaches [c], risk scores using the concentrations of circulating ceramides have been developed and adapted for routine clinical practice (CERT1 Assay) [d].

Both examples demonstrated the great potential of a metabolomics biomarker discovery approach and its subsequent translation into a multiplexed assay based on NMR and mass spectrometry. To the best of the working group's knowledge there are, to the present date, no examples of the use of untargeted metabolomics workflow for routine clinical diagnostics. However, given the fast development of data analytics, further applications of pattern-recognition based untargeted metabolomic profiling might be foreseen, especially in the field of volatolomics, such as breath analysis, for example. Here, pattern recognition and machine learning algorithms are particularly useful to rapidly (e.g., in real-time) correlate metabolic profiles to specific end-point phenotypes or clinical outcomes.

---

[a] Flores-Guerrero JL, Gruppen EG, Connelly MA, et al. A newly developed diabetes risk index, based on lipoprotein subfractions and branched chain amino acids, is associated with incident type 2 diabetes mellitus in the PREVEND cohort. J Clin Med. 2020,9,2781;doi:10.3390/jcm9092781.

[b] Dugani SB, Vinayaga Moorthy M, Li C, et al. Association of lipid, inflammatory, and metabolic biomarkers with age at onset for incident coronary heart disease in women. JAMA Cardiol. 2021;6:437-47. Doi:10.1001/jamacardio.2020.7073.

[c] Published online 2013 Nov 15. Kirill Tarasov, Kim Ekroos, Matti Suoniemi, Dimple Kauhanen, Tuulia Sylvänne, Reini Hurme, Ioanna Gouni-Berthold, Heiner K. Berthold, Marcus E. Kleber, Reijo Laaksonen, and Winfried März, J Clin Endocrinol Metab. 2014 Jan; 99(1): E45–E52 doi: 0.1210/jc.2013-2559 PMCID: PMC3928964 PMID: 24243630.

[d] Hilvo M, Vasile VC, Donato LJ, Hurme R and Laaksonen R (2020) Ceramides and Ceramide Scores: Clinical Applications for Cardiometabolic Risk Stratification. Front. Endocrinol. 11:570628. doi: 10.3389/fendo.2020.570628.

Article continued on next page

Working Group on Metabolomics

Chair: Dr Elie Fux
Group Head Global Analytics,
Roche Diagnostics, Penzberg - Germany

Dr Anne Bendt
Deputy Director & Principal Investigator, Singapore Lipidomics Incubator (SLING), Life Sciences Institute - National University of Singapore

Dr Corrado Di Natale
Professor, Department of Electronic Engineering, University of Rome - Italy

Dr David Friedecky
Associate Professor
Laboratory for Inherited Metabolic Disorders,
Department of Clinical Biochemistry,
University Hospital Olomouc- Czech Republic

Dr Julijana Ivanisevic
Head of Metabolomics Unit, Faculty of Biology and Medicine, University of Lausanne - Switzerland

Dr James Otvos
Strategic Director, Labcorp,
Morrisville - USA

ELIE FUX, Chair

Dr. Fux is a bioanalytical chemist with more than 15 years expertise in mass spectrometry and separation science. He received an MSc degree in Chemistry from the Basel University and a PhD in analytical Chemistry from the Dublin Institute of Technology before completing a post-doctoral training in the US FDA in the field of phycotoxins. In 2011, he then joined metanomics, a BASF group company based in Berlin, which has pioneered the discipline of Metabolic Functional Genomics and industrial metabolomics. Dr. Fux held several R&D leadership roles at metanomics where he supervised high throughput analysis and method development activities of targeted and untargeted metabolomics. In 2017, Dr. Fux joined the R&D of Roche diagnostics in Munich to focus on the development of in-vitro diagnostics assays. He is now responsible for mass spectrometry applications including metabolite profiling. Since 2021, Dr. Fux has taken the leadership of a new IFCC working group focusing on metabolomics applications within the emerging technology vision.

JULIJANA IVANISEVIC

Julijana Ivanisevic is a Metabolomics group leader and Senior Lecturer at the Faculty of Biology and Medicine, University of Lausanne, Switzerland. Julijana joined UNIL in 2015 following a postdoctoral experience at The Center for Metabolomics and Mass Spectrometry at The Scripps Research Institute in La Jolla, California. She received her PhD in chemical biology at the Aix-Marseille University, France, in 2011.

The focus of her Metabolomics team at UNIL is to advance the knowledge on molecular mechanisms that underlie metabolic health and onset of acquired cardiometabolic disorders. To this end, the team is

Article continued on next page

applying high-coverage quantitative MS-based approaches to metabolic phenotyping of human populations in collaboration with clinicians and statistical geneticists.

JIM OTVOS

Dr. Otvos received a PhD in comparative biochemistry from the University of California-Berkeley and postdoctoral training in molecular biophysics at Yale University. He spent the following 20 years in academia, first on the chemistry faculty of the University of Wisconsin-Milwaukee and then as Professor of Biochemistry at North Carolina State University during which time he developed new technology for measuring lipoprotein particles using nuclear magnetic resonance (NMR) spectroscopy. He then founded LipoScience, Inc. to enable clinical translation of the NMR blood testing technology and served on the Board of Directors and as Chief Scientific Officer overseeing analytical development and clinical research. Following LabCorp's acquisition of LipoScience in 2014, Dr. Otvos continues to oversee research devoted to development of novel NMR metabolomic assays addressing cardiovascular, diabetes, and inflammatory risk in collaboration with academic, government, and industrial clinical investigators.

Dr. Otvos maintains academic affiliations with NC State University (Adjunct Professor of Molecular and Structural Biochemistry) and the University of North Carolina at Chapel Hill (Adjunct Professor of Medicine). He has coauthored over 200 scientific publications, is a named inventor on over 20 patents, and has received several research awards from the American Association of Clinical Chemistry as well as the Christopher Columbus Foundation/Discover Magazine Award for Technological Innovation.

CORRADO DI NATALE

Corrado Di Natale is a full professor of Electronics at the University of Rome Tor Vergata. He has a background in Physics. His main research interests are in the fields of analytical chemistry, chemical sensors, biosensors, and artificial chemical senses with a special emphasis on volatolomics and in particular in breath analysis.

ANNE K BENDT

Dr. Anne K Bendt is Principal Investigator and Deputy Director at SLING, the Singapore Lipidomics Incubator, an internationally renowned R&D program in lipid research and technology development, anchored at the National University of Singapore. She focusses on the translation of mass spectrometry-based technologies into clinical applications, primarily for lipids and small molecules.

Anne is further passionate about training and education and has made substantial contributions to SLING's various workshops and their 'ic lipid' training course. She serves on the 'Clinical Lipidomics' steering committee within the International Lipidomics Society (ILS), as Editor for 'Journal of Mass Spectrometry and Advances in the Clinical Lab', and is Lead of the Lipidomics track for the Mass Spectrometry: Application to the Clinical Lab (MSACL) EU conference, where she is also co-instructor of 'Lipidomics 101', a short course for clinical lipidomics. Early 2019 Anne co-founded the global initiative 'Females in Mass Spectrometry' (FeMS), serving as co-chair on the Board.

She also recently got appointed to the newly founded 'Metabolomics' work group of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC).

DAVID FRIEDECKÝ

Dr. David Friedecký is an associate professor of analytical chemistry at the Department of Clinical Biochemistry, University Hospital and Faculty of Medicine and Dentistry, Palacký University in Olomouc, Czech Republic, where he is responsible for the newborn screening program, diagnosis of inborn errors of metabolism and therapeutic drug monitoring. David leads the clinical mass spectrometry group (www.massspec.group) with a focus on clinical applications of metabolomics and lipidomics and the development of advanced mass spectrometry methods for clinical diagnostics.

At Palacký University he teaches statistical methods and data handling as well as clinical biochemistry and pathobiochemistry of inherited metabolic disorders. He regularly co-organizes statistical courses within mass spectrometry schools and metabolomics workshops.

Ethical concerns in the use of residual biological material in the clinical laboratory

by Nilda E. Fink and Richard Davey
IFCC Task Force on Ethics (IFCC TF-E)

Nilda E. Fink

Richard Davey

In Laboratory Medicine, residual biological material is often employed for evaluation of new diagnostic methods and procedures. Materials obtained from clinical practice – patients' samples of blood, urine and other fluids and tissues – are commonly used for this purpose. International Organizations, National Societies and Governmental entities, among others, have been receptive to this situation and have taken various actions. We describe here some of these actions.

The IFCC's Task Force on Ethics (IFCC TF-E) contributed to the publication of papers for teaching purposes in a theme eJIFFC number in 2020; 31(4). In one of the articles titled "Ethics in Laboratory Medicine: Perspectives and Challenges in Resource Limited Settings", Sudip K. Datta commented that handling of leftover samples becomes a challenge in resource-constrained environments. To reduce turnaround time laboratories frequently allow add-on tests using these leftover samples and clearly the given patient must remain identified to facilitate result reporting. Here the informed consent process must also incorporate accommodations for this process as well as adhering to ethical code-guiding principles. When using remaining samples for study however, risk can be reduced by eliminating patient identification. If essential identifiable information is collected, such as age and sex of the sampled person, other personal identifiers may be removed and replaced with a code, de-identified or anonymized. Identifying information is thus not retained and cannot be accessed. The author added that "However, the process of informed consent should abide by the general principles of ethics. In normal circumstances mostly two options are explored for such initiatives regarding consent: (i) recontacting patients and get consent for each new research study, which is logistically difficult, time-consuming, and expensive, and hence often practically not feasible in resource constrained settings; or (ii) allow patients to give a broad consent that allows for future use of the samples." (eJIFCC. 2020;31(4):274-281. https://pubmed.ncbi.nlm.nih.gov/33376467/).

To this end recently IFCC's Webinar series included a TF-E organized webinar in which one of the speakers treated this aspect focusing on ethical concerns and requirements regarding the use of COVID-19 diagnostic samples for research. Federico Remes Lenicov began to describe different types of samples that enter into consideration. Later he pointed out ethical issues in the use of leftover samples and their associated personal data such as autonomy, the process of informed consent (IC), risks and benefits. Exemption of IC in some particular situations was considered such as the use for methods validation, Quality Control, secondary employment by investigators not involved in diagnostic sample processing, generation of databases with personal information and

Article continued on next page

collection of samples for COVID-19 Biobanks. Reformulation and caveats of the current IC process were also discussed. Finally other strategies and dilemmas about autonomy were presented (Remes Lenicov, F. Ethical concerns and requirements regarding the use of COVID-19 diagnostic samples for research'. Webinar; 2021; IFCC.)

https://www.ifcc.org/ifcc-news/2021-10-08-register-to-the-ifcc-live-webinar-20th-october-2021-ethical-dilemmas-in-laboratory-medicine-during-pandemic/.

Some years ago, a Governmental entity concerned about the use of residual samples was the Committee of Ministers of the European Council. It produced a new version of a Recommendation regarding the use of biological materials of human origin in clinical and biomedical research. This Recommendation stated that biological materials for study should only be collected, stored, and used in an organized manner and in conformity with the principles outlined (Council of Europe. Recommendation CM/Rec(2016)6 of the Committee of Ministers to member States on research on biological materials of human origin. 2016.

https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=090000168064e8ff.

This Recommendation acquires more value and relevance considering the need of employment of COVID19 patient samples.

In line with this concern the Italian Society of Clinical Biochemistry (SIBioC) made available this Recommendation and other relevant articles in Italian as part of the ethical issues in laboratory medicine that Biochimica Clinica, its official publication, published last year in 2021. Confidentiality and the right to defend the fundamental rights of people whose biological material is gathered and maintained for future research purposes are given special attention from an ethical point of view. The protection of vulnerable subjects, the implementation of control and safety measures, methods to facilitate public access to general information on the nature and purpose of collections of materials for research purposes, and the implementation of policies on the management of results relevant to people's health resulting from the use of their biological materials are all new aspects. (Sancesario G, Pezzati P. Ricerca sul materiale biologico: Ritorno al future. [Research on biological material: Back to the future] Biochimica Clinica. 2021;45(3):299-304.

https://moh-it.pure.elsevier.com/en/publications/research-on-biological-material-back-to-the-future (Italian version).

https://docs.biomedia.net/bc/2022/Pezzati.pdf (English version).

Another relevant aspect was pointed out in an opinion paper which referred to how the use of biological specimens and health information in research can speed up the understanding of numerous diseases as well as the efficacy of preventive, diagnostic, prognostic and therapeutic actions. Biological material however must be initially utilized for the diagnostic and analytical procedures mandated by the medical test request, and any subsequent usage requires external approval by an Ethics Committee and patient agreement (Banfi G. Utilizzo del materiale biologico residuo nel laboratorio clinico. [Use of residual biological material in the clinical laboratory] Biochimica Clinica 2021; 45(4):408-11.

https://bc.sibioc.it/bc/numero/bcnum/last (Italian version).

https://docs.biomedia.net/bc/2022/Banfi.pdf (English Version).

Finally, Mario Plebani in another excellent article highlighted the main aspects of Ethics in Laboratory Medicine. A relevant and particularly treated point was that the International Organization for Standardization (ISO) in the accreditation standard ISO 15189:2012 "Medical laboratories – Requirements for quality and competence" has dedicated a specific section to this issue. Section 4.1.1.3 of the document summarizes the ethical conduct expected of laboratories, including requirements for the pre-, intra- and post-analytical phases of the testing cycle. (Plebani M. L'etica in medicina di laboratorio nella terza era della medicina. [Ethics in laboratory medicine in the third era for medicine] Biochimica Clinica 2021; 45(2) 176-9.

https://bc.sibioc.it/bc/numero/bcnum/197 (Italian version).

Article continued on next page

https://docs.biomedia.net/bc/2022/Plebani.pdf (English Version).

In comparison to Annex C of the previous version of ISO 15189 (2007) some progress had been made but ongoing review has stalled. ISO attempts to review each Standard at five yearly intervals but its website reports, in 2022, ten years on from 2012, that ISO/DIS 15189 remains "Under development". (ISO – ISO/DIS 15189 – Medical laboratories — Requirements for quality and competence). Clearly, more efforts are needed by the community of Laboratory Medicine professionals to definitively install ethical principles in a more sustained way.

IFCC: THE YOUNG SCIENTISTS

IFCC WorldLab Seoul 2022 - Young Scientist Forum (June 25-26th)

by Dr. Santiago Fares Taie
Chair, IFCC Task force for Young Scientists
Laboratory of Endocrinology
Department of Clinical Chemistry
Laboratorio Bioquímico Mar del Plata
Rivadavia Argentina
sfarestaie@hotmail.com

~ Post-pandemic situation and Current Trends in Lab Medicine - Meeting the Future ~

Young Scientists (YS) are the future of laboratory medicine and make up the majority of the workforce of laboratory professionals. The YS's participation has been increasing during the last years due to increased support and visibility within the IFCC organization.

Article continued on next page

Future leaders need to be trained and encouraged to succeed in their role, ideally with the support of experienced leaders. To make this feasible, YS must have activities that encourage their participation, offer opportunities for training, and improve communication and networking.

For the first time, the IFCC TF-YS is organizing a **Young Scientist Forum** to be held as a satellite meeting one day before the IFCC WorldLab Seoul.

One of the TF-YS main activities is to organize sessions or symposiums during the congresses to promote YS participation and exchange. In this opportunity, we are going one step further organizing a one-and-a-half-day activity before the start of the WorldLab congress. This activity is designed as a FORUM to encourage the participation and exchange of YS in a completely different way. Participants will have the opportunity to interact between each other and with the speakers, having open discussions about the following themes:

- *The future transformation of Lab Medicine in a Time of «Disruptive Innovations»*
- *Training in our profession worldwide and networking*
- *Laboratory Management, Leadership & Teamwork*
- *Clinical Research - Best Practices for Today's Laboratory Scientists*

Each theme will have YS speakers giving lectures with TF-YS-designed activities to promote participation and debate among attendees for free and rapid exchange of ideas.

Moreover, we will be scheduling virtual laboratory visits to highlight different practices of laboratory medicine worldwide and to emphasize the themes that will be discussed in the FORUM.

Finally, we will have the opportunity to enrich ourselves with an on-site visit to a local laboratory in Seoul, so we can gain some perspective about different laboratory workflows and the larger role the clinical laboratory plays within the South Korean healthcare system. This is an enriching activity that has always had an excellent impact on our participants by serving as an inspiration for new ideas.

We believe that this FORUM is the perfect setting to create an environment for YS to exchange experiences, learn from other colleagues, and participate in the ongoing TF-YS activities & opportunities that improve networking. We are confident it will be an unforgettable experience for all the attending YS.

IFCC Information Guide on COVID-19 - March 2022 Updates

Click here and access the IFCC online resource about COVID-19 providing critical information on laboratory guidelines, biosafety, and other important resources to assist member societies worldwide and their clinical laboratories as they face the challenges posed by the COVID-19 outbreak.

The Sections on Molecular Testing - Antigen Testing - Serology Testing, as well as the Vaccines Section have been updated with new publications.

The page is updated continuously with the most recent information on a monthly basis.

IFCC Webinars

Sponsored by
Siemens Healthineers
Boston Children's Hospital

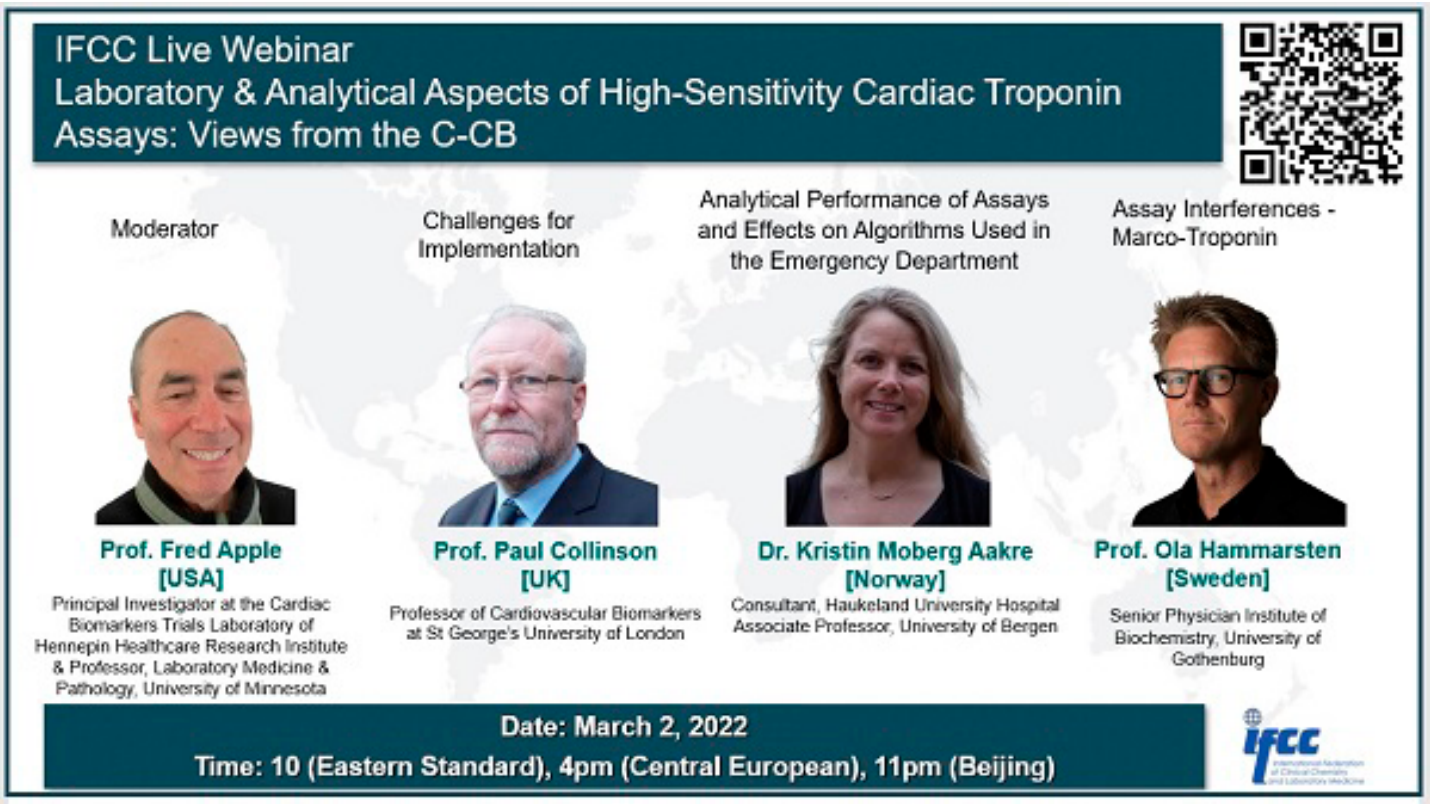
Live Series

2022

www.ifcc.org

ifcc International Federation of Clinical Chemistry and Laboratory Medicine

On-demand content available for the IFCC Live Webinar on "Laboratory & Analytical Aspects of High-Sensitivity Cardiac Troponin Assays: views from the C-CB", held on 2 March, 2022



In addition to the actual Webinar, the IFCC is pleased to announce that it is making three courses on cardiovascular disease available to the participants.

- Cardiovascular I: Anatomy and Physiology
- Cardiovascular II: Biomarkers of ACS
- Cardiovascular III: Biomarkers of Heart Failure

These courses which are prepared by Li Zha and Dr Apple are based on the concept of adaptive learning, the closest to personalized education. They can help you to assess your knowledge in this important area of research and to maintain competency in it. Courses can be accessed on a variety of mobile devices as well as desk-top computers.

To access these courses, please go to https://area9lyceum.com/laboratorymedicine/ and register, it takes 30 seconds and is free. When you register, you will also have access to over 100 courses covering various topics in laboratory medicine.

Registration takes 30 second and it is free. IFCC strongly encourages you to take advantage of this opportunity.

We strongly encourage you to take advantage of this excellent opportunity.

The Journal of the International Federation of Clinical Chemistry and Laboratory Medicine

eJIFCC

Call for manuscript submissions for a thematic eJIFCC issue on "Laboratory aspects of COVID-19 disease"

Guest editor for the thematic issue: Béla Nagy Jr.

Since the outbreak of the Coronavirus disease 2019 (COVID-19) pandemic in December 2019, the importance of clinical laboratory tests has emerged to manage the hospitalization of patients with different severity of COVID-19 related disorders, to distinguish severe and non-severe clinical conditions and to predict the outcome of the disease. For these purposes, a vast number of clinical studies has recently been conducted to validate the potential role of various laboratory tests. In parallel, the effect of COVID-19 vaccines has also been evaluated. However, due to the rapid accumulation of this enormous amount of patient data, we need to raise the questions where we are now and where we should be heading?

We would like to offer some new insights into the usefulness of routinely available and novel laboratory biomarkers in the still demanding COVID-19 as well as for monitoring of vaccination with an eJIFCC issue dedicated to this disease. We invite you to submit a paper on ***"Laboratory aspects of COVID-19 disease"*** to be published in this thematic issue. Submitted papers will be peer-reviewed according to the regular procedure of the eJIFCC Journal.

Important deadlines

- Deadline for submission of the tentative title (to the Guest Editor): **April 1, 2022**
- Deadline for submission of the manuscript: **May 15, 2022**

Potential types of articles

- Original Article
- Critical Reviews
- Case studies

Manuscripts need to be submitted by e-mail

- to the Editor-in-Chief: ejifcc@ifcc.org
- with a copy to the Guest Editor: nagy.bela@med.unideb.hu

Guest editor

Béla Nagy Jr., MD, PhD
Department of Laboratory Medicine,
Faculty of Medicine, University of Debrecen,
Debrecen, Hungary

News from the Japan Society of Clinical Chemistry (JSCC): the 2021 JSCC Academic Award

by Hideo Sakamoto, PhD
International Exchange Committee of JSCC

Kazuhito Gotoh, MD, PhD

The Academic Award of the Japan Society of Clinical Chemistry (JSCC) is given to persons who has made outstanding academic research in clinical chemistry. In 2021, Kazuhito Gotoh MD, PhD and Yutaka Suehiro, MD, PhD were winners of the Academic Award. At the 61th Annual Meeting of JSCC in Fukuoka, Japan from November 5-7, 2021, award winners Dr.Gotoh and Dr. Suehiro were congratulated by Dr. Takashi Miida, President of JSCC for their outstanding work in clinical chemistry.

In this issue, we would like to introduce one of winners of Academic Award to distribute his outstanding work.

Kazuhito Gotoh MD, PhD (Department of Clinical Chemistry and Laboratory Medicine, Graduate School of Medical Sciences, Kyushu University) is the winner of the 2021 JSCC Academic Award, entitled with “Development of analysis methods and elucidation of the mechanism of dendritic cell activation”.

Dr. Gotoh started his medical doctor career in Kyushu University Hospital in 2002, under the supervision of Prof. Hajime Nawata and Ryoichi Takayanagi (Department of Medicine and Bioregulatory Science, Graduate School of Medical Sciences, Kyushu University). Since 2006, Dr. Gotoh started his PhD research in the activation of plasmacytoid dendritic cells, under the supervision of Prof. Yoshinori Fukui (Division of Immunogenetics, Department of Immunobiology and Neuroscience, Medical Institute of Bioregulation, Kyushu University). His group showed that novel molecular mechanism of migration and activation of plasmacytoid dendritic cells (Blood 2008, The Journal of Experimental Medicine 2010).

Since 2013, Dr. Gotoh has restarted his research in the relationship between innate immunity and mitochondria, under the supervision of Prof. Dongchon Kang (Department of Clinical Chemistry and Laboratory Medicine, Graduate School of Medical Sciences, Kyushu University). His group generated p32/C1qbp-deficient mice and showed that the lack of p32/C1qbp decreased mitochondrial respiratory chain proteins in hematopoietic cells (iScience 2020). His group, in collaboration with Kyushu Pro Search Limited Liability Partnership, showed that p32/C1qbp is required for appropriate Interleukin-6 production upon LPS stimulation and protects mice from endotoxin shock (EBioMedicine 2017).

Article continued on next page

Dendritic cell maturation induced by toll-like receptor agonists requires activation of downstream signal transduction and metabolic changes. The endogenous metabolite citrate has recently emerged as a modulator of dendritic cell activation. However, the metabolic requirements that support citrate production remain poorly defined. His group showed that p32/C1qbp interacts with dihydrolipoamide S-acetyltransferase (E2 component of pyruvate dehydrogenase [PDH] complex) and positively regulates citrate production (Cell Reports 2018). In addition, his group demonstrated that p32/C1qbp is a critical regulator of dendritic cell maturation and the generation of mitochondrial reactive oxygen species (Frontiers in Immunology 2021). Furthermore, his group published a protocol for metabolic analysis of mouse bone-marrow-derived dendritic cells using an extracellular flux analyzer (STAR Protocols 2021). Because several clinical studies and experimental models have implicated dendritic cells in the pathogenesis of autoimmune diseases including multiple sclerosis, psoriasis, type 1 diabetes, and systemic lupus erythematosus, his research may lead to the development of clinical chemistry and therapy for these diseases.

VIRTUAL

6th EFLM CONFERENCE ON PREANALYTICAL PHASE

15-18 MARCH 2022

Preanalytical Quality
an interdisciplinary journey

http://www.preanalytical-phase.org/

With great pleasure, we invite you to the **6th EFLM Preanalytical Phase Conference** to be held virtual on 15-18 March 2022. Previous Conferences have been successfully organized biannually with delegate numbers rising over the years (the last Conference in Zagreb had 640 delegates). Due to the COVID pandemic, the 2021 conference had to be rescheduled and will now be held purely online. On one hand this is maybe not quite as charming as a face to face conference, on the other hand we now have no limitation as to the number of delegates. The focus of this year's conference is the importance of interdisciplinary collaborations among laboratories, clinics and physicians, in order to improve the quality of the preanalytical phase within the total laboratory testing process. The Conference Scientific program has been tailored by the most renowned experts from Europe in the field to deliver up-to-date knowledge. It is the unique and maybe only opportunity to advert to an audience interested in preanalytical topics on such a large basis, as the EFLM Preanalytical Phase Conference is the largest such conference in the world.

2022
10-14 APRIL
ICM MUNICH
GERMANY

EUROMEDLAB
2021 MUNICH

THE REGISTRATION SYSTEM WILL CLOSE ON MONDAY, 21st MARCH 2022

EUROPEAN FEDERATION OF CLINICAL CHEMISTRY AND LABORATORY MEDICINE

ifcc International Federation of Clinical Chemistry and Laboratory Medicine

REGISTRATION FEES

Until 21 March 2022

Full Registration € 840,00
Young Registration (≤35 years) € 450,00
Day Registration € 360,00

Register now

COVID HEALTH AND SAFETY PLAN

As of today, the organisers is requiring all participants and visitors **to be 2x vaccinated + test OR Booster-vaccine (2G plus procedure).**

COVID rules are constantly changing for the better.

You can stay updated by consulting the following website

Detailed information on the requirements for entering Germany that are related to the COVID-19 pandemic

Website of the German Ministry of Health

FInd out which **COVID-19 vaccines are currently accepted for entering Germany**

Website of the Paul Ehrlich Institute

MZ EVENTS

ORGANISING SECRETARIAT
MZ EVENTS
Milan (ITALY)
Phone: +39 02 66802323
Mobile Phone +39 389 8905891
registrations@euromedlab2021munich.org
info@euromedlab2021munich.org
www.euromedlab2021munich.org

News from the IFCC Website
EB Meeting in Milan, February 2022

The IFCC Executive Board met in Milan at IFCC offices from 25 to 27 February.

On 25 and 26 February the Chairs of the IFCC Divisions: Scientific division, Education and Management division, Communications and Publications division, Emerging Technologies division and the Chair of the Congresses and Conferences Committee presented their initiatives and projects and the accomplished results.

They provided a report of each Division successes, what is working well, plus any challenges, opportunities and resources or other needs that would make the Division more successful. Committees and Working Groups work were also presented and discussed.

The EB continued with its meeting on Sunday.

Prof. Khosrow Adeli, President, Prof. David Kinniburgh Secretary, Dr. Alexander Haliassos, Treasurer, Prof. Adekunle B. Okesina, African Federation of Clinical Chemistry (AFCC), Prof. Tomris Ozben, European Federation of Clinical Chemistry and Laboratory Medicine (EFLM), Dr. Stephen Hill, North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC), Prof. Sergio Bernardini, ETD Chair, Prof. Tahir Pillay, CPD Chair, Prof. Nader Rifai, EMD Chair, along with Paola Bramati, Silvia Cardinale, Smeralda Skenderaj, and Silvia Colli Lanzi, IFCC Office, participating into the in-person meeting into the IFCC Meeting room at MZ premises in Milan.

News continued on next page

Participants: Mr. Joseph Passarelli, EB Corporate Representative, Prof. Abderrazek Hedhili, Arab Federation of Clinical Biology (AFCB) Dr. Endang Hoyaranda, Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB), Dr. Ana María Lena Rodríguez, Latin-American Confederation of Clinical Biochemistry (COLABIOCLI), Dr. Garry John, SD Secretary, Dr. Christa Cobbaert, SD Vice chair, Prof. Philippe Gillery, SD Chair, Ass. Prof. Ronda Greaves, ETD Secretary, Prof. Rajiv Erasmus, Public Relations Coordinator, Dr. Katherina Psarra, eNews Editor, Prof. János Kappelmayer, eJIFCC Editor, Dr. Päivi Laitinen, C-CC Chair, attended the meeting via zoom. *(Note: not all participants are visible in the above screen capture.)*

IFCC'S CALENDAR OF CONGRESSES, CONFERENCES & EVENTS

Calendar of IFCC Congresses/Conferences and Regional Federations' Congresses

Mar 25, 2022	IFCC International Federation of Clinical Chemistry and Laboratory Medicine	*IFCC Live webinar on : COVID -19 and Laboratory Medicine Role in Georgia*	Live webinar
Mar 30 - Apr 2, 2022	COLABIOCLI	*XXV COLABIOCLI Congress*	Leon, MX
Apr 5 - 7, 2022	IFCC International Federation of Clinical Chemistry and Laboratory Medicine	*IFCC WG-Flow Cytometry Course - in collaboration with Beckman-Coulter and GfID*	Leipzig, DE
Apr 10 - 14, 2022	EUROMEDLAB 2021 MUNICH	*XXIV IFCC - EFLM EuroMedLab Munich 2021*	Munich, DE
June 25 - 26, 2022	IFCC International Federation of Clinical Chemistry and Laboratory Medicine	*IFCC Forum for Young Scientists*	Seoul, KR
June 26 - 30, 2022	IFCC WorldLab SEOUL 2020	*XXIV IFCC WORLDLAB Seoul 2022* *XVI APFCB Congress Seoul 2022*	Seoul, KR

Calendar continued on next page

May 21 - 25, 2023		*XXV IFCC - EFLM WorldLab EuroMedLab - Rome 2023*	Rome, IT
New date TBA		*AFCB Congress 2022*	Beirut, LB

Other events with IFCC auspices

Aug 2, 2021 - Apr 3, 2022	*Virtual Diplomat in Selected Topics of Diagnostic Hematology for the Laboratory (Advanced Level) Second Generation*	Mexico Online course
Mar 8 - 10, 2022	*International Singapore Lipid Symposium (iSLS10)*	Singapore Hybrid event
May 15 - 18, 2022	*6th EFLM Preanalytical Conference: Preanalytical quality an interdisciplinary journey*	Online event
May 18 - 20, 2022	*National Congress II Virtual Analysis of Quality Assurance in clinical laboratory CONAQUIC 2022*	Mexico Online event
Mar 28 - 31, 2022	*XIX Meeting of the SEQC Scientific Committee*	Online event
Apr 10 - 11, 2022	*First National Summit on Point-of-care Testing*	Gurugram, IN
Apr 20 - 21, 2022	*International Congress on Quality in Laboratory Medicine*	Helsinki, FI
May 17 - 21, 2022	*13th International & 19th National Congress on Quality Improvement in Clinical Laboratories*	Teheran, IR

Calendar continued on next page

May 23 - 26, 2022	*10th Santorini Conference "Systems medicine and personalized health and therapy" – "The odyssey from hope to practice: Patient first – Keeps Ithaca always in your mind"*	Santorini, GR
May 25 - 27, 2022	*3rd EFLM Strategic Conference*	Online event
Jun 5 - 8, 2022	*CSCC 2022 Annual Conference*	Niagara Falls, CA
Sept 21 - 23, 2022	*28th AACC International CPOCT Symposium – Meeting Evolving Patient Needs Using Point-of-Care Testing*	Montreal, CA
Sept 22 - 24, 2022	*XVI Baltic Congress in Laboratory Medicine*	Tallin, EE
Sept 28 - Oct 1, 2022	*10th Congress of the Croatian Society of Medical Biochemistry and Laboratory Medicine*	Zagreb, HR
Oct 4 - 9, 2022	*FEBS Advanced Course: 360-degree Lysosome; from structure to genomics, from function to disease-update*	Izmir, TR
Oct 14 - 17, 2022	*46th ISOBM Congress*	Bled, SI
New date TBA	*XXII Serbian Congress of Medical Biochemistry and Laboratory Medicine & 16th Symposium for Balkan Region*	Belgrade, SRB

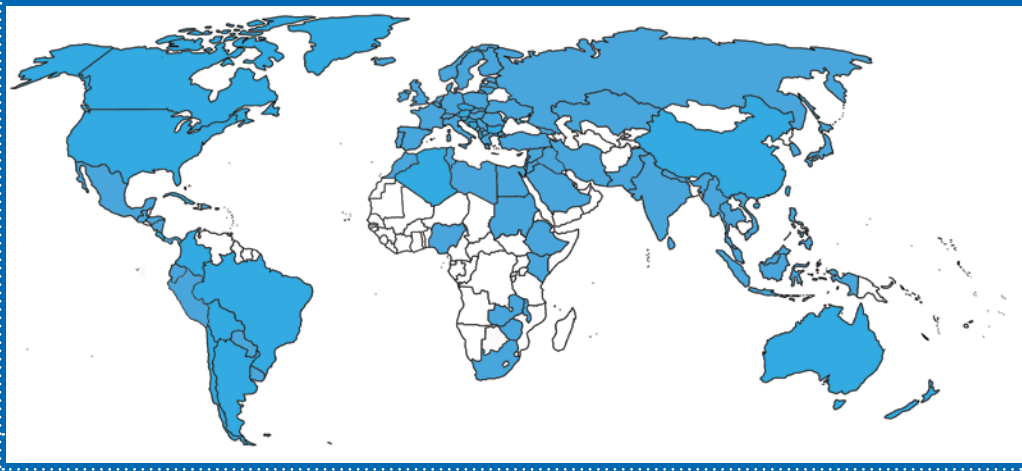
IFCC MEMBERSHIP

Full Members

Albania (AL)
Algeria (DZ)
Argentina (AR)
Australia and New Zealand (AU/NZ)
Austria (AT)
Belgium (BE)
Bolivia (BO)
Bosnia Herzegovina (BA)
Brazil (BR)
Bulgaria (BG)
Canada (CA)
Chile (CL)
China (Beijing) (CN)
China (Taipei) (TW)
Colombia (CO)
Croatia (HR)
Cuba (CU)
Cyprus (CY)
Czech Republic (CZ)
Denmark (DK)
Dominican Republic (DO)
Ecuador (EC)
Egypt (EG)
Estonia (EE)
Ethiopia (ET)
Finland (FI)
France (FR)
Georgia (GE)
Germany (DE)
Greece (GR)
Guatemala (GT)
Hong Kong (HK)
Hungary (HU)
Iceland (IS)
India (IN)
Indonesia (ID)
Iran (IR)
Iraq (IQ)
Ireland (IE)
Israel (IL)
Italy (IT)
Japan (JP)
Jordan (JO)
Kazakhstan (KZ)
Kenya (KE)
Korea (KR)
Kosovo (XK)
Latvia (LV)
Lebanon (LB)
Libya (LY)
Lithuania (LT)
Luxembourg (LU)
Malawi (MW)
Malaysia (MY)
Mexico (MX)
Montenegro (ME)
Morocco (MA)
Myanmar (MM)
Nepal (NP)
Netherlands (NL)
Nigeria (NG)
North Macedonia (MK)
Norway (NO)
Pakistan (PK)
Palestine (PS)
Panama (PA)
Paraguay (PY)
Peru (PE)
Philippines (PH)
Poland (PL)
Portugal (PT)
Romania (RO)
Russia (RU)
Saudi Arabia (SA)
Serbia (SRB)
Singapore (SG)
Slovak Republic (SK)
Slovenia (SI)
South Africa (ZA)
Spain (ES)
Sri Lanka (LK)
Sudan (SD)
Sweden (SE)
Switzerland (CH)
Syrian Arab Republic (SY)
Thailand (TH)
Tunisia (TN)
Turkey (TR)
Ukraine (UA)
United Kingdom (UK)
United States (US)
Uruguay (UY)
Vietnam (VN)
Zambia (ZM)
Zimbabwe (ZW)

Regional Federations

Arab Federation of Clinical Biology (AFCB)
African Federation of Clinical Chemistry (AFCC)
Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB)
European Federation of Clinical Chemistry and Laboratory Medicine (EFLM)
Latin America Confederation of Clinical Biochemistry (COLABIOCLI)
North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC)



Corporate Members

Abbott
Agappe Diagnostics, Ltd.
Asahi Kasei Pharma Corp.
Autobio Diagnostics Co., Ltd.
BD Life Sciences – Preanalytical Systems
Beckman Coulter, Inc.
The Binding Site Group, Ltd.
Bio-Rad Laboratories
C.P.M. Diagnostic Research, SAS
Diagnostica Stago
DiaSys Diagnostic Systems GmbH
ET Healthcare Inc.
Fujifilm Wako Pure Chemical Corporation
Fujirebio Europe
GenScript Biotech Corporation
Gentian, AS
Helena Biosciencies Europe
Hemas Hospitals (PVT) Ltd.
HyTest, Ltd.
Immunodiagnostic Systems - IDS
Instrumentation Laboratory
Labtronic
LumiraDx
Maccura Biotechnology Co., Ltd.
MedicalSystem Biotechnology Co., Ltd.
Medix Biochemica
Megalab, JSC
A. Menarini Diagnostics
Mindray - Shenzhen Mindray Bio-Medical
Nittobo Medical Co., LTD.
Nova Biomedical Corporation
Oneworld Accuracy Collaboration
Ortho-Clinical Diagnostics, Inc.
PerkinElmer
PHC Europe B.V.
Radiometer Medical ApS
Randox Laboratories, Ltd.
Roche Diagnostics
Sebia S.A.
Sekisui Diagnostics Ltd.
Sentinel CH SpA
Shanghai Kehua Bio-Engineering Co., Ltd.
Shanghai Zhicheng Biol. Tech. Co., Ltd.
Shenzhen YHLO Biotech Co., Ltd
Siemens Healthcare Diagnostics
Snibe Co., Ltd.
Synlab
Sysmex Europe, GmbH
Technogenetics
Thermo Fisher Scientific
Tosoh Corporation
Labor Dr. Wisplinghoff
Wuhan Life Origin Biotech Joint Stock Co., Ltd.

Affiliate Members

Brazil: Sociedade Brasileira de Patologia Clínica / Medicina Laboratorial (SBPC/ML)
China: Lab Medicine Committee, China Association of Medical Equipment (LMC)
Egypt: Egyptian Association of Healthcare Quality and Patient Safety
France: French National Network of Accredited Laboratories of Medical Biology (LABAC)
India: Association of Medical Biochemists of India (AMBI)
Iran: Iranian Association of Clinical Laboratory Doctors (IACLD)
Jordan: Society for Medical Technology & Laboratories (SMTL)
Kazakhstan: Public Association - Federation of Laboratory Medicine (FLM)
Mexico: Federación Nacional de Químicos Clínicos (CONAQUIC A.C.)
Nepal: Nepalese Association for Clinical Chemistry (NACC)
Philippines: Philippine Council for Quality Assurance in Clinical Laboratories (PCQACL)
Romania: Order of the Biochemists, Biologists, Chemists in Romanian Health System (OBBCSSR)
Serbia: Serbian Society for Clinical Laboratory Medicine and Science (SCLM)
Spain: Andalusian Society for Clinical Analysis and Laboratory Medicine (SANAC)
Asociación Española de Farmacéuticos Analistas (AEFA)
Sri Lanka: College of Chemical Pathologists of Sri Lanka (CCPSL)
Turkey: Society of Clinical Biochemistry Specialists (KBUD)
Ukraine: Association for Quality Assurance of Laboratory Medicine (AQALM)
United Arab Emirates: Genetic Diseases Association (UAEGDA)

Publisher

Communications and Publications Division (CPD) of the IFCC

The Communications and Publications Division publishes ten editions of the e-News per year, including two double issues.

Editor

Katherina Psarra, MSc, PhD
Department of Immunology - Histocompatibility
Evangelismos Hospital, Athens, Greece
E-mail: enews@ifcc.org

Design & Production:

Insoft Digital

Circulation

The eNews is distributed to all IFCC members registered on-line to receive it and to all IFCC sponsors.

Deadlines for submissions to the eNews

N° 1/2 – January/February: by mid January

N° 3 – March: by mid February

N° 4 – April: by mid March

N° 5 – May: by mid April

N° 6 – June: by mid May

N° 7/8 – July/August: by mid June

N° 9 – September: by mid August

N° 10 – October: by mid September

N° 11 – November: by mid October

N° 12 – December: by mid November

If you want to submit an article or advertisement to be published in the eNews, send it to:
Katherina Psarra, Editor, IFCC eNews
E-mail: enews@ifcc.org