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Dear colleagues

I hope you are enjoying your holidays. I am imagining you at the seaside or under a tree in the countryside relaxing and resting as you deserve.

Well, it is hard to believe that you are thinking of your emails but, let’s hope, that if you do, you are running into this issue of the eNews. And you see that something has changed. It is a brand-new format created by the new IT company, DIGIWEDO. It is the same company that created the new website and we do hope that you like this new environment.

It would be really great if you send us your opinion. We are looking forward to it.

In this issue IFCC President Prof Khosrow Adeli is inviting all of us to the WorldLab2024 in Dubai, explaining to us what to expect from this great event.

In this issue more reports from Rome can be found like the one about the PointOfCare satellite meeting. POCT seems to be more and more a part of everybody’s life, and at the same time more and more connected to the lab life. I found in this article even the word flow Cytometry mentioned, which is my area of work and I was very surprised. Go through this article and you will know a lot more about POCT and the future. And then Prof János Kappelmayer, the eJournal editor, is sharing with you his experience from the IFCC PSEP at Harvard. I am sure you will be willing to follow his example and take the opportunity to have a similar experience if you are eligible of course.

Go through this issue dear colleagues and a lot more experiences and opportunities will appear before your eyes and perhaps, while resting and enjoying your holidays you will dream of a new future offered to you by IFCC.

Until then, will you, please, not forget to share with us your opinion about the new eNews format?

Enjoy your holidays!

Katherine
Greetings to you all in the IFCC family! I hope that everyone is having an enjoyable summer season. It was wonderful to see so many of you at the WorldLab-EuroMedLab 2023 in May in the beautiful city of Rome, hosted by SIBioC, the Italian Society of Clinical Chemistry and jointly organized by IFCC and the European Federation of Laboratory Medicine (EFLM). With over 11,500 attendees in person and over 1,900 participants online, it’s clear that the event was a tremendous success and surpassed all previous records. Such a high level of attendance is a testament to the value and importance of the IFCC Congresses. The significant number of attendees, both in person and online, indicates a strong interest in the topics and discussions presented at the Rome Congress. This success not only reflects positively on the organizers and participants but also paves the way for future IFCC Congresses to continue growing and achieving even greater success. The Rome Congress has set a high bar for future events, and its accomplishments bode well for the ongoing success and impact of IFCC Congresses and demonstrates the growing significance of the congresses within the field and the valuable contributions they make to the scientific community. On behalf of the IFCC Organization, I would like to express my sincere thanks to the members of the Conference Organizing Committee (COC) and members of the Scientific Program Committee (SPC) who worked hard for more than a year to make this event such a huge success. Special gratitude is also extended to Professor Sergio Bernardini, the Conference President as well as Professor Tommaso Trenti, the President of the Italian Society of Clinical Chemistry (SIBioC) for hosting this successful scientific and social event in the magnificent Rome. Finally, we would like to extend our heartfelt gratitude to MZ Events, our esteemed Professional Conference Organizer (PCO), for their outstanding professionalism and flawless organization in successfully hosting over 11,000 attendees without encountering any significant logistical challenges.

Leading up to the WorldLab/EuroMedLab 2023, IFCC held its second-ever Young Scientists Forum, attended by over 200 young scientists from across Europe and around the world. This included recipients of 65 scholarships awarded by IFCC and EFLM to young scientists from developing countries in order to attend this forum and the main congress. Excellent presentations were delivered by young scientists from around the globe, including Europe, Africa, Asia, the Middle East, North America, and Latin America. Given the success of this forum, IFCC plans to hold this event again at the next WorldLab Congress in Dubai in May 2024, providing opportunities for new young scientists to take part each year. A big thank you is owed to the Taskforce on Young Scientists (TF-YS) as well as Silvia Colli-Lanzi, Smeralda Skenderaj, and Sofia Giardina of the IFCC Office for organizing and managing this important event where young scientists could present and discuss their
activities in laboratory medicine and build on career skills.

Now that the WorldLab/EuroMedLab 2023 has wrapped up, we are delighted to officially announce the XXVI IFCC WORLDLAB Congress, which will be jointly organized by IFCC, the Arab Federation of Clinical Biochemistry (AFCB), and the Saudi Society of Clinical Chemistry (SSCC), in association with the Genetics Disease Association in the United Arab Emirates (UAEGDA) as well as a Special Advisory Group including several prominent Clinical Laboratory Directors in the UAE. In collaboration with the Genetic Diseases Association (GDA), this ground-breaking event will mark the first time the WorldLab Congress takes place in the Middle East and the Arab world. The congress will be held in the beautiful city of Dubai from May 26th to May 30th, 2024. Our field is undergoing numerous transformations and technological advancements, allowing laboratory professionals to play an increasingly significant role at the heart of healthcare. The IFCC organization is delighted to collaborate with AFCB, SSCC, and UAEGDA in hosting the 2024 WorldLab Congress. By uniting our efforts through forums like this, we ensure the continuous growth and development of our organizations and the field of laboratory medicine.

Mark your calendars and save the dates, as we warmly invite you to join us in the magnificent city of Dubai next year!

Wishing everyone in the IFCC community a wonderful summer holiday! As always, feel free to email me at president@ifcc.org with your feedback, questions, or concerns.

Professor Khosrow Adeli, IFCC President
Chair, COC, Roma 2023
Co-Chair, COC, Dubai 2024
Rome, a city that has been around for over 2,000 years and is known for its rich history stunning architecture, and contributions to advancements in medicine, became the venue for the Point-of-Care Testing Satellite Symposium, “Point-of-Care Testing: Home, Hospital, and Beyond,” held on May 20-21, 2023, at the Nuvola Convention Center. “Point-of-Care Testing” (POCT) has become an integral part of many clinical algorithms for disease management. Its versatility and lack of reliance on the complex infrastructure of hospitals has made it the testing of choice when resources are limited. To recognize this, the symposium was divided into three main themes: hospital settings, outside the hospital settings in the community and quality assurance processes, that form the bedrock of point-of-care testing.

Addressing hospital settings, Dr. Ravinder Singh (USA) was the first speaker, discussing the “Use of intraoperative parathyroid hormone (PTH) and cortisol monitoring.” These assays have been valuable tools for surgeons for over two decades, improving patient care by reducing the need for multiple surgeries and the risk of incomplete surgeries for primary and secondary hyperparathyroidism. Rapid cortisol assay is also needed for surgery of patients with primary aldosteronism and for patients with suspected ectopic or pituitary adrenocorticotrophic hormone production”.

This was continued by Dr. Sohini Sengupta’s (India) talk, “Arterial Blood Gas (ABG) in Critical Care Settings: the challenges & new age solutions.” She discussed the importance of pH and blood gases in the critically ill, and the use of test devices that enable real-time monitoring of ABG results, and immediate, automated corrective actions to prevent release of questionable test results and flawed medical decisions for better patient management.

“Next, Prof. Daniel Bolliger (Switzerland) talk on, “Point-of-Care Coagulation Testing in Cardiac Surgery” explained the use of viscoelastic coagulation testing (VECT) in cardiac surgery patients. VECT-guided treatment algorithms reduce postoperative bleeding and the transfusion of allogeneic blood products, which might be beneficial for reducing patient morbidity and mortality”.

Ammonia toxicity can be a challenge especially in newborns. Dr. Gilbert Chu (USA) on his topic, “Ammonia at POC to diagnose and manage inborn errors of metabolism,” discussed the development of an Ammonia Monitoring Device capable of measuring ammonia within 2 minutes at the POC in 25 L of blood obtained via painless earlobe puncture. The device replicates the results of the laboratory assay and is important in reducing ammonia toxicity and improving patient management in newborns and those with liver damage or on chemotherapy”.

Dr. Agnès Mailloux (France) discussed “POCT bilirubin management in neonates,” highlighting the importance of reliable determination of POCT neonatal bilirubinemia to optimize phototherapy treatment in neonatal jaundice. Co-ordination between central clinical lab and clinical units is needed for method standardization, clinical-biological relationships and risk
management for better usefulness and comparability of lab and POCT results.

Dr. Ed Randell (Canada) in, “POCT in Hematology: A Review and focus on parameters of the Complete Blood Count”, described the innovations in miniaturization of flow cytometry techniques, fluorescent outside of the clinical laboratory to the point of care. These devices accommodate smaller size and simpler operation compared to their laboratory counterparts. Performing complete blood counts at the point of care can improve outcomes in some clinical contexts”.

Rounding up the first theme, Dr. Praveen Sharma’s (India) presented, “Hemoglobin A1c: POCT or Laboratory? Hemoglobin A1c: POCT or Laboratory?” He discussed the importance of HbA1c in diagnosing diabetes, the benefits of HbA1c POC and the challenges that needed to be addressed before it could be effectively integrated into routine clinical practice.

Dr. James Nichols (USA) discussed the next theme, the role of POCT in settings outside the hospital. His talk, “New Delivery Options for Point-of-Care and Laboratory Testing,” described the rising popularity of POCT due to its test and operational simplicity, requirement for unprocessed samples (urine, swabs and whole blood) and portability. The COVID-19 pandemic further provided new opportunities and challenges for POCT quality and reliability of POCT.

Rosy Tirimacco (Australia) in her talk, “Point of Care Innovative Technologies Trial (Delivery of virtual home monitoring and point-of-care pathology testing in general practice),” discussed how POCT is improving healthcare in remote areas of Australia. The Integrated Cardiovascular Clinical Network in South Australia partnered with the Country South Australia Primary Health Network to implement a coordinated care approach using point of care testing pathology and virtual home monitoring of chronic disease including COVID-19 in rural and remote areas. Preliminary results suggest that the trial has a positive effect on patient outcomes.

This was followed by Prof Rajiv Erasmus (South Africa) who gave a talk on “Point of Care Testing in the era of Personalized Medicine. Continuing with this theme, Dr. Gerald Kost (USA) presented “Home, Community, and Emergency Spatial Care Paths - Diagnostic Portals for COVID-19, Critical Care, & Superstorms.” He discussed his original prevalence boundary hypothesis that explains mathematically why tests with inferior sensitivity perpetuate the pandemic. He shared Fulbright Scholar field research findings on point-of-care strategies that improve resilience in resource-limited settings including island nations facing global warming, rising oceans, and increasingly severe weather disasters. Dr. Kost is the first to introduce the important new field of POCT and global warming and also to address spatial injustice by recommending mobile and automated rural distribution of diagnostics.

POCT role in the management of chronic diseases in the community was discussed by Dr. Michel Vaubourdolle’s (France) in “POC Testing in Management of Chronic Diseases,” Its usefulness, most clearly seen in resource limited settings, although more studies are needed in developed countries where reimbursement, national regulations and rules must be defined to ensure the cost-of-testing is catered for.

“Basic POCT for a doctor’s office,” presented by Dr. Samarina Musaad, (New Zealand) discussed the choice and implementation of POCT in a doctor’s office with a focus on primary care. Take home messages were: (1) Approach the choice of POCT test and device holistically; start with the clinical need & objective achievable goals (2) Embed POCT within a clinical pathway (3) Look into analytical performance in context of clinical utility and requirements.

Technological advancements, and the COVID-19 pandemic, have promoted Direct-To-Consumer Laboratory Testing (DTCT). Dr. Matthias Orth (Germany) discussed this in his talk, “We must speak up: The role of laboratory medicine in direct-to-consumer testing.” The complex regulations in place for in vitro diagnostics are essentially absent in DTCT and poses severe risks to consumers.
Laboratory specialists should educate the public and authorities about the risks of DTCT for patient care.

The final theme covered Quality Assurance. Dr. Annette Thomas (United Kingdom) discussed, “Establishing a National POCT Network in Wales” describing what it takes to set up a single POCT Program over the constituent country of Wales in the U.K. She discussed management of POCT, training, competencies, access to clinical consultation, supply procurement and consistent IT strategy that is future proof.

Dr. Scott Isbell (USA) wrapped up the first day of the conference with an interactive session titled “Ensuring Quality at the POC: What are the challenges and how do we overcome them.” The session concluded with five practical recommendations for ensuring quality – determine need/value of POC test, select best device, identify and develop Point of Care Coordinator (POCC), standardize POC testing program with respect to devices and policies/procedures, and limit number of device operators as much as possible.

Day 2 continued with this theme with Dr. Ed Randall (Canada) focusing on, “Method Evaluation for POCT Tests.” The rigor of assessment of the analytical validity of a candidate POCT method and its clinical acceptability depends on the device complexity.

This talk was supplemented by that of Dr. Adil Khan (USA) on, “Troubleshooting inaccurate POC test results.” He discussed the workflow when troubleshooting results that do not fit the patient’s clinical picture, and described pitfalls in the method evaluation, and pre-analytical, analytical and post-analytical stages of the testing process. Education in the factors affecting these stages that could lead to erroneous results is the best way to mitigate issues.

Dr. Paloma Oliver (Spain) discussed “The role of the Point-of-Care Coordinator.” Quality assurance in POCT cannot exist without their involvement. Knowledge of best lab practices, communication skills, their effective use of audits and understanding global POCT processes is essential.

Dr. Julie Shaw (Canada) gave a talk on “Key Performance Indicators and Audits for POCT,” that included an overview of quality assurance (QA) components for POCT programs, the importance of performing audits and use of correct quality indicators (QI) for POCT being assessed using personal case studies.

Dr. Sverre Sandberg (Norway) presented “Internal and External Quality Control for POC,” Describing his recent research work proposed that the frequency of performing POCT quality control depended on four factors: A) Risk of harm to the patient based on the importance of the analyte in diagnosing and monitoring patients, B) Type of POCT device, C) User-friendliness and D) Number of patient samples analyzed over a specific period. Additionally, assessing EQC, the nature of the samples material and how the target values are set are important in EQC result interpretation.

The final talk of the symposium, “Challenges and Resolutions in Competency Training,” was presented by Dr. Prasenjit Mitra (India).

In addition to the talks, there were vendor display and scheduled talks on the latest POCT devices and tests. The symposium closed with 130 registrations.

Acknowledgments
I would like to thank the sponsors for their generous support and the registrants for their keen interest in Point-of-Care Testing Satellite Symposium. I would also like to thank Marta Tollis of MZ Events, and IFCC staff: Silvia Cardinale, Silvia Colli Lanzi and Paola Bramati, Elisa Fossati and others from MZ Events and IFCC for their help in putting this conference together and making it successful.
**Sponsors of the Symposium:** Abbott, Aidian Oy, Bühlimann Laboratories AG, A. De Mori, FL Medical, Ivy Diagnostics Srl, A. Menarini, NovaBio, QuidelOrtho, Radiometer, Roche, Sarstedt, Sekisui Diagnostics, Siemens Healthineers, Werfen.

**The PoCT speakers:** (R-L): Anne Skurup, Julie Shaw, Carmen Hilty-Moor, Sohini Sengupta, Sverre Sanberg, Prasad Pamidi, Lara Milevoj Kopčinović, Paloma Oliver, Nicole Korpi-Steiner

**PoCT Speakers and Organizers** : Nichole Korpi-Steiner, Julie Shaw, Sohini Sengupta, Rajiv Erasmus, Prasad Pamidi, Carmen Hilty-Moor, Adil Khan, Sverre Sandberg, Silvia Colli Lanzi

**PoCT Guests and Organizers:** (L-R): AB Okesina, Alvaro Grosz, Tommaso Trenti, Sergio Bernardini, Adil Khan

**Beautiful Rome at night**

**Point-of-Care Testing**
# MAGLUMI® X Series

Fully-auto Chemiluminescence Immunoassay System

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## Broad CLIA Test Menu with 211 Parameters

### Thyroid
- TSH (3rd Generation)
- T4
- T3
- FT4
- FT3
- Tg (Thyroglobulin)
- TgAb (Anti-Tg)
- Anti-TPO
- TRAb
- TMA
- Rev T3
- T-Uptake

### Hepatic Fibrosis
- HA
- PiPiP
- CIV
- Lamrfin
- Cholyglycine
- CP73

### TORCH
- Toxo IgG
- Toxo IgM
- Rubella IgG
- Rubella IgM
- CMV IgG
- CMV IgM
- HSV 1/2 IgG
- HSV 1 IgG
- HSV 2 IgG
- HSV-2 IgM
- *HSV-2 IgM
- *HSV-1 IgM
- *Toxo IgG avidity
- *CMV IgM avidity

### Fertility
- FSH
- LH
- HCG/B-HCG
- PRL (Prolactin)
- Estradiol
- Testosterone
- Free Testosterone
- DHEA-S
- Progesterone
- free Estradiol
- 17-OH Progesterone
- AMH
- SHBG
- Androstenedione
- Preg
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- sFt1

### Autoimmune
- Anti-CCP
- Anti-dsDNA IgG
- ANA Screen
- ENA Screen
- Anti-Sm IgG
- Anti-Ro/SS-A IgG
- Anti-LU1 IgG
- Anti-CCP
- Anti-CCP
- Anti-ENA IgG
- Anti-Histones IgG
- Anti-NRNP IgG
- Anti-SS-B IgG
- Anti-Sm IgG
- TGA (Anti-Tg)
- Anti-TPO
- TRAb
- TMA
- ICA
- IAA (Anti Insulin)
- GAD 65
- Anti-Ig2
- *ZnT8
- Anti-TPo IgG
- *Anti-PR1 IgG
- *Anti-GBM IgG
- *Anti-Cardiolipin IgG
- *Anti-Cardiolipin IgM
- *Anti-Cardiolipin IgA
- *Anti-Cardiolipin screen
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Hyperautomation in healthcare: prerequisites and challenges for health managers

By Prof. Damien GRUSON

Cliniques Universitaires Saint Luc, Département des Laboratoires Cliniques, Biochimie Médicale, 1200 Bruxelles, Belgium

The European Health Management Association (EHMA) and the Division on Emerging Technologies of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) joined forces to organize a joint session on hyperautomation. The session was held at EHMA 2023, the 28th edition of the EHMA Annual Conference, taking place in Rome on 5-7 June co-hosted by ALTEMS, Graduate School of Health Economics and Management of Università Cattolica del Sacro Cuore.

Hyperautomation is a next-generation approach to automation that has the potential to revolutionise the health sector. It describes the integration of advanced technologies, such as artificial intelligence (AI), machine learning (ML), and robotic process automation (RPA). Its goal is to automate as much of tasks and processes as possible and to provide intelligent, data-driven decision support to augment human decision making. Applied to the health care sector, it can enable managers to streamline processes, to increase efficiency, and improve the accuracy of their operations in systems and organisations. It can also help to free up valuable time and resources that can be redirected to higher-level tasks and initiatives.

The objectives of the session were to provide an overview of the benefits of digitalisation and emerging technologies on process management, to set the scene for hyperautomation in a context of augmented care, to identify prerequisites and challenges related to hyperautomation and to discuss the opportunities, potential impact, and outcomes of hyperautomation on laboratory medicine, healthcare processes, and healthcare workforce.

The panelists were Prof. Teresa Magalhaes, Prof. Sandra C. Buttigieg, Prof. Damien Gruson and the moderator was Mrs. Anett Ruszanov. Prof. Sergio Bernardini guided the building up of this session.

Hyperautomation session panelists (L- R): Prof. Sandra C. Buttigieg, Mrs. Anett Ruszanov, Prof. Damien Gruson, Prof. Teresa Magalhaes.
This session dived into hyperautomation application in a context of augmented care and its implications for health and laboratory managers. The session was very interactive with several polls to catch the opinion of participants and here are some of the points raised:

The session was a first and will certainly lead to other great joint actions between EHMA and IFCC.
IFCC’s Task Force on Outcome Studies in Laboratory Medicine (TF-OSLM) is seeking research proposals for studies evaluating the impact of laboratory testing on healthcare outcomes. Study proposals should seek to evaluate the clinical effectiveness and impact of new and/or commonly available medical laboratory tests and/or laboratory information on patient care outcomes in clinical practice. It is crucial for the proposed study to link the laboratory testing insights to patient management, and improvements/changes in clinical outcomes (see below for details).

If you, in collaboration with your clinical colleagues, are interested in applying please [click here](#) for full eligibility criteria and details on how to apply.

**All applications are due by: September 1, 2023**

Applications must be submitted in English. All supporting documents that are not in English must be accompanied by an English translation.

Please follow the guidelines carefully when developing and drafting a proposal.
IFCC Professional Scientific Exchange Programme (PSEP): my experience at Harvard Medical School and at the Teaching Hospital the Massachusetts General Hospital – US

By Prof János Kappelmayer MD. PhD.

Head, Department of Laboratory Medicine, Faculty of Medicine, University of Debrecen, Debrecen, Hungary

I work in Debrecen, Hungary, as a laboratory specialist and I previously spent two sabbaticals in the US, doing thrombosis research many years ago. This time, I spent only a 1 month long sabbatical (April 3-28, 2023) at the Department of Pathology and Laboratory Medicine with the help of the IFCC professional scientific exchange program (PSEP) grant. This program was first advertised in May 2022 and is aimed to promote international collaboration between clinical laboratories, facilitate the exchange of laboratory specialists, share high level of scientific and management skills and introduce new or improved scientific and management skills in the applicant’s laboratory, who can apply for a PSEP sabbatical of 1-3 months.

I applied in May 2022 for a 1 month sabbatical with the intention to try to improve our skills in (i) interpretive reporting of special hematology laboratory reports mostly in the field of thrombosis, bleeding and hematological malignancies (ii) to study the structure of graduate and postgraduate medical training at Harvard Medical School and at the Teaching Hospital the Massachusetts General Hospital.

This well-known, 999-bed hospital was established in 1811 and has been a pioneer in many medical discoveries in the past two centuries including the first operation using general anesthesia under ether narcosis and the first radio-iodine treatment. Today it is place of many modern ways of patient care from heart transplantation to CAR T-cell treatment and from ECMO treatment to liver transplantation and it can also boast with outstanding in vitro diagnostics. Thus, the program was very useful and I can only recommend it to fellow laboratory specialists. Nevertheless, be advised that at several hospitals – including the Mass General – there are additional fees (seating fee, administrative fee, etc) that allow you to observe the routine diagnostic work there, that are not covered by the mentioned IFCC grant, however IFCC covers economy airfare ticket and a lodging/living stipend of 1500 Swiss francs/month.

It is very important to have a contact person for such an exchange programs who introduced me to the relevant experts there. In my case this person was Frederick Preffer who is a professor at Massachusetts General Hospital and is the Editor-in-Chief of Clinical Cytometry (Cytometry B). After my arrival, I was taken by Fred to an office where I obtained my visitor's badge so I could participate in the routine case sign outs in several specialized diagnostic areas. The average working day for me started at 8.30 or 9.00 at the Hemepath-A or Hemepath-B (histopathological evaluation of bone marrow histology and smears and lymph node biopsies) sign outs with residents and fellows who were rotating there while all of us were sitting and looking into the teaching microscopes. The cases were always pre-evaluated by the residents and the preliminary qualitative and quantitative hematological evaluation was filled out that were surveyed by the hematopathologist who explained the cases in detail and the required changes in interpretation when that was necessary. My afternoons were usually spent at the Special Coagulation Case sign outs with numerous (sometimes 50-60) special coag. cases to be evaluated that were both investigated for bleeding disorders (e.g. vWF disease, factor deficiencies, platelet function defects, etc) or thrombophilia (both congenital and acquired). At both of these special units the patient data and the relevant results were searched and dispatched in the health informatic system called Epic and the laboratory informatic system called ePathLogic. Both of these programmes are very flexible and considerably speeded the diagnostic work.
My experience was that pathologists at Mass General Hospital were very friendly and helpful and also extremely knowledgeable. I could learn a lot on these case evaluations and in some cases I also expressed our diagnostic approach to similar cases at the Department of Laboratory Medicine at the University of Debrecen, Hungary. Since my previous expertise is mostly in clinical flow cytometry and special coagulation case evaluations I usually commented on cases involving these diagnostic areas. There were regular Zoom conferences also, like Lymphoma conference, Resident Seminar and many more.

Regarding the other purpose of my visit I had a chance to talk to Krisztina Fischer an Assistant Professor of Radiology, Harvard Medical School Faculty Co-Director of Master of Medical Sciences in Medical Education, Harvard Medical School as an opinion leader on graduate training of medical students. It is largely different from that practiced in Hungary as in Hungary we have a lot of formal lectures while at Harvard they emphasize the problem-based teaching and learning from the very beginning. Also, largely because of the previous college education the Medical School in the US is 4 years, contrary to the 6-year training in Hungary. Furthermore, the postgraduate training in the field of Laboratory Medicine is quite different in the United States. Most of the medical doctors who are interested in getting involved in this field are applying for the AP/CP program that combine anatomic pathology (AP) with medical laboratory diagnostics that they call clinical pathology (CP). This very intense combined program is 4 years and later can be completed by 1 year fellowships in the area of interest e.g. microbiology, hematology etc.

If the AP or CP programs are done separately the training period is 3 years that in case of clinical pathology covers areas of clinical chemistry, immunology, hematology, molecular diagnostics, microbiology and transfusion medicine.

I visited other Laboratory Medicine units (e.g. Hematology Unit at Tufts Medical School directed by Monika Pilichowska and with the help of George Abel, I visited the Lab at the Lahey Hospital in Burlington (MA) that is also a Teaching Hospital of Harvard. Last, but definitely not least I had a chance to meet Nader Rifai PhD, the editor of the „laboratory medicine bible” Tietz Textbook and I also received a dedicated copy of the newest edition. We discussed the usefulness and our experience with his new initiative, the online program Learning Lab. (Link: https://area9lyceum.com/laboratorymedicine/) that is a very comprehensive online teaching material, that I can recommend to everyone who is involved in training and practice in any area in laboratory medicine.

My overall experience was that the IFCC-PSEP is an outstanding possibility for learning novelties in laboratory medicine. My suggestion to further applicants is that it requires careful planning as to (i) where you want to go (ii) what exactly you want to study and to define (iii) how you or your colleagues may benefit from your visit. In my particular case I see some points for improvement in interpretive reporting but mostly in the training of our residents in laboratory medicine. I think we have to assign more responsibility to them and request more independent work as well. Finally on a personal note, I found Boston a great place. It is a vibrant city with full of diverse cultural and scientific possibilities.

My badge as an observer at Mass General Hospital

Special Coagulation Laboratory board notes

IFCC Professional Scientific Exchange Programme (PSEP)
One of the many microscopic study rooms

Colleagues at the bone marrow histology case sign out
INTERNATIONAL CONGRESS OF PEDIATRIC LABORATORY MEDICINE

Topics

Immunodeficiencies

Immuno-flow cytometry in pediatric laboratory medicine

Genomics vs Mass spectrometry in pediatric laboratory medicine

Newborn Screening for SCIDs

NGS in diagnosing undiagnosed diseases
From May 11-13, 2023, I had the privilege of attending and participating in the XIV Congreso Uruguayo de Bioquímica Meeting in Montevideo, Uruguay. The event, known for its important intellectual exchange and great interest for the local professionals, was an enriching opportunity that allowed me to share knowledge, connect with colleagues, and gain insights into the latest developments in that country.

**Reception and Interaction with the Organizing Committee**
From the onset, the organizing committee extended a warm welcome, marking the beginning of a productive and intellectually stimulating event. Their meticulous organization, coupled with the professional yet friendly atmosphere, greatly facilitated my participation.

The committee offered a very professional and warm reception, felt not only during the initial welcome but also consistently throughout the entire event, enhancing the overall experience.

**Presentations Delivered**
Over the course of the three-day event, I had the opportunity to deliver three presentations and participated in one panel, each focusing on unique aspects of the laboratory diagnostic aspects of autoimmune diseases.

1. “Actualización del Diagnóstico Laboratorial de Polidermatomiositis”

In this presentation, I discussed the latest techniques related to known and novel autoantibodies in Polydermatomyositis, together with clinical correlations and prognostic-therapeutic implications. The presentation was well received, provoking a lively Q&A session, with many attendees showing interest in the innovative approaches mentioned.

2. “El Problema de la Calcinosis en Dermatomiositis”

The second presentation revolved around the enigma represented by cutaneous calcinosis related to adult and juvenile Dermatopolymyositis. I introduced important topics like physiopathogenesis, determination of marker autoantibodies, and treatment possibilities. Specifically, I discussed the importance of the laboratory in systemic inflammatory myositis.

3. “Cómo hacer un reporte completo del test de FAN de acuerdo con el Consenso ICAP”

In the final presentation, I discussed how to report the ANA HEp-2 test, introducing a paper I recently published as main author, together with colleagues from the International Committee on Antinuclear Antibodies Patterns. This model of ANA Report was a joint effort with more than 60 labs worldwide, comprising all aspects of such an important immunological screening test.

4. “Taller interdisciplinario para la internalización en Uruguay del Consenso Internacional ICAP”

Together with colleagues from Brazil and Argentina, this was an opportunity to offer advice and comment on many hurdles, as introduced by local presenters, regarding the implementation of international guidelines for ANA-HEp-2 testing and reporting. There were vivid discussions, with advances in the comprehension of challenges faced by local laboratories, as well as potential solutions.
Networking and Collaboration
Apart from the conferences, the event was also a valuable networking opportunity. The interactions with peers, both formal and informal, offered a chance to explore potential collaborative projects, discuss research ideas, and gain insights into different perspectives within the field.

Conclusion
Overall, my participation in the XIV Congreso Uruguayo de Bioquímica in Montevideo was a highly rewarding experience. I was particularly pleased by the positive response from the organizing committee and the other participants. I am looking forward to the potential collaborations that have been initiated during this event and to participating in future meetings.
The **UNIVANTS** of Healthcare Excellence Award program celebrates teams who have achieved measurably better outcomes in healthcare.

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Introducing the Eleven New Best Practices Receiving Global Recognition Through the UNIVANTS of Healthcare Excellence Awards

The UNIVANTS of Healthcare Excellence program, in partnership with IFCC, Abbott and 6 other prestigious partner organizations are proud to announce 11 best practices receiving recognition from the 2022 UNIVANTS of Healthcare Excellence awards. Now in its 5th year, the UNIVANTS program recognizes the brilliant work of integrated clinical care teams who have unified to achieve measurably better health outcomes, and 2022 was no exception. Across 11 best practices, measurable improvements occurred across disease states, including cervical cancer, diabetes, COVID-19, addiction, brain injury, transplantation, and more. Recognized teams varied by geography and by institution-type with teams spanning health systems, a non-profit organization and the National Basketball Association.

With 3 top global winners, 3 teams of distinction, and 5 teams of achievement (see table below), the breadth and depth of outcomes associated with the 2022 UNIVANTS best practices span patient experience, reduced mortality, decreased healthcare costs, decreased length of stay, and more. To learn more about these best practices and/or the award program itself, please visit www.UnivantsHCE.com.

Interested in recognition through the UNIVANTS of Healthcare Excellence award program? Start preparing your application now - applications for the 2023 UNIVANTS of Healthcare Excellence awards are possible beginning Aug 1st. Visit UNIVANTS Registration for tips and trips and to learn how to apply. Lastly and new this year, is the inaugural ELX (Executive Leadership Exchange) forum, a prestigious educational program for healthcare professionals who are passionate about healthcare care excellence and enabling transformational change in healthcare. Don't miss out - register today.

The UNIVANTS of Healthcare Excellence award program is proudly comprised of the following program partners: International Federation of Clinical Chemistry and Laboratory Medicine (IFCC), AACC, EHMA (European Health Management Association), Modern Healthcare, Healthcare Information and Management Systems Society (HIMSS), National Association of Healthcare Quality (NAHQ), and the Institute of Health Economics (IHE); each in partnership with Abbott.

Contribute to IFCC eNews

Article continued on the next page
Congratulations to Professor Tony Badrick AM!
Dr Tony Badrick has been appointed a Member of the Order of Australia (AM) for significant service to diagnostic pathology in leadership roles, and to education.

Read more

News from the website
IVD best practice for maximizing value with the IFCC

By Joe Passarelli

Corporate Representative on the IFCC Executive Board, Senior Director Scientific Relations Research and Development Roche Diagnostics Corporation USA

The intent of this article is to offer a Roadmap for Corporate Members to consider in order to maximize collaboration of their respective companies with the IFCC.

Roadmap: Structure and Process:
Almost two decades ago, Roche Diagnostics decided to enhance and expand its collaboration with the IFCC at every level and to interact with this valued, international organization with high priority. To achieve this goal, a single point of contact was established to manage and coordinate all activities associated with the IFCC worldwide. All communications to and from the IFCC are organized and managed by this individual, who reports into the highest level of the R & D organization, and has full endorsement and support from senior management. In addition, this individual has the authority to engage anyone in the organization when a new opportunity arises to serve on relevant Task Forces, Committees, and Working Groups and at the Divisional levels of the IFCC. However, not all opportunities are acted upon. This single point of contact has many years of experience both in the IVD industry as well as with the IFCC (having spent 11 years on the Scientific Division) and decides, with autonomy, when to engage and when not to. This is an important task with the goal to best utilize the limited resources (effort, people, funding, etc.) of the company and to focus on those opportunities of greatest value. Therefore, if other companies decide to follow this approach as outlined, careful selection of this individual is crucial.

Once a decision is made to collaborate, colleagues under consideration to serve are “vetted” as subject-matter-experts with advanced communication and executive skills. In addition, consideration is made with respect to professional development and networking, and to provide opportunities to highly motivated individuals. Once the final selection is made, a concerted effort takes place to submit the strongest application possible. Applications are sometimes followed-up by providing additional information to the IFCC office and its representatives that may be helpful to convey the expertise and value of the nominated individual. There is also the absolute requirement that the individual’s manager will provide the necessary time for the nominee to devote to the activities of the IFCC. If selected, the single point of contact organizes quarterly meetings to ensure this individual has all the necessary support and guidance, as well as to document progress, critical issues, opportunities, etc., within the active IFCC group. Information is shared on a company-wide, and frequent basis including, to senior management.

Benefits:
The process outlined above was established many years ago after it was recognized that gaps and lost opportunities existed with the collaboration with the IFCC. In addition, it was determined that the significant funding provided to the IFCC yielded minimal value to the company, without further engagement from the company. Prior to this new structure there was a lack of awareness of relevant opportunities, volunteers were nominated randomly without any coordination or support, and nominees often represented their own/area interests rather than company needs. The new process now

Joe Passarelli, EB Corporate Representative
ensures that the significant resources provided to the IFCC will provide the maximal value back to the company. Equally important and not to be lost, the many colleagues that are active with the IFCC are far more satisfied because they have someone knowledgeable to turn to, have full support of their management, and the efforts are visible and appreciated at all levels of the organization.

**Internal Annual Report:**
To enhance this effort further and to cascade the information across the entire company, a formal process was established to assemble ALL related information into a comprehensive annual report. This report contains business relevant topics, scientific activities, funding/resources provided, internal contacts and project updates occurring in collaboration with the IFCC and EFLM. To create such a report, a request is made to each individual (member / corresponding member serving on any Task Force, Committee, Working Group, or at the Divisional level) to provide a short update and summary of their activities using a standardized template. In some cases, these responses are left verbatim; others are reworded and supplemented with information received by the single point of contact as a member of the IFCC Task Force – Corporate Members and as the Corporate Representative on the IFCC Executive Board. Since the report is quite lengthy, a simplified Table of Contents is included and a common reporting format is used in most cases to help facilitate a quicker review.

**Summary:**
The process and structure outlined above is what has proven effective for our company to maximize our collaboration with the IFCC. Other IFCC corporate members might want to adopt some of what is described for their respective companies.

**NOTE:** This is not an authorized Roche publication
Extraordinary Assembly of the Latin American Confederation of Clinical Biochemistry (COLABIOCLI) at the 48th Congress of the Brazilian Society of Clinical Analysis

By Dr. Álvaro Justiniano Grosz

President COLABIOCLI

The Latin American Confederation of Clinical Biochemistry, within the framework of the 48th Congress of the Brazilian Society of Clinical Analysis (CSBAC), held in the city of Florianópolis, state of Santa Catharina - Brazil, event that took place from June 18 to 21, 2023, I carry out the “Extraordinary Assembly of COLABIOCLI.”

With the participation of 14 member countries of the Latin American confederate entity, a very important activity was carried out with the objective of approving a series of documents and regulatory frameworks of the entity in order to make it more efficient and dynamic. Among the approved documents are the regulations for Scholarships, Endorsements and Sponsorships, Work Groups, Awards for Excellence, Scientific Committee, Admission of entities and institutions and Committee of Corporate Collaborating Allies, instruments whose objective is to regulate and regulate the operation of the entity in a more appropriate, operational and coordinated way part of the entity.

Another central point considered and approved is the organization of the “1st Regional Conference of Latin America and the Caribbean” to be held in Guatemala City - Guatemala on November 21 and 22, 2023, an event that is of great importance. The objective is to generate a space for discussion and analysis between the structure of COLABIOCLI, both the Executive Committee and its operational arms, the working groups and the countries of the region that allow defining the global policy of COLABIOCLI, as well as promoting the development of strategic plans in the countries, promoting the implementation of Quality Management Systems, the incorporation of Young Professionals and the generation of interaction links between the entity and the Universities. Within the specific Objectives of this activity, there are:

a) Approve the COLABIOCLI Strategic Plan.
b) Define the COLABIOCLI Policy
c) Promote the preparation of Strategic Plans in countries consistent with the COLABIOCLI Policy
d) Design a work plan and organization of the COLABIOCLI work groups.
e) Structure a work plan and schedule of activities for COLABIOCLI 2024.
f) Provide us with a base document that marks the COALBIOCLI Policies in the Region.

In the same way, the Strategic Plan of COLABIOCLI has been evaluated until 2024, the schedule of
activities by Management. In that same space a report has also been received on the progress of the Latin American Congress of Clinical Biochemistry in its version No. 26, which it will take place in the city of Cartagena de Indias - Colombia from October 3 to 6, 2023.

Another noteworthy issue among others no less important is the incorporation of two entities as Collaborating Affiliates, the “SPANISH ASSOCIATION OF BIOMEDICINE AND LABORATORY MEDICINE (AEBM-ML)” and the NATIONAL FEDERATION OF CLINICAL CHEMISTS - CONAQUIC A.C.

The, “Extraordinary Assembly of the COLABIOCLI.” It was held on June 18 and 19 on the June 19 CONVENTION CENTER “Hotel Costao do Santhino”, according to the following programme:

1. Reception of the credentials of presidents or delegates to the Extraordinary Assembly
2. Confirmation of the validity of the representations by the Treasury report.
3. Confirmation of the statutory quorum prior to the roll call of attendees by the general secretary
4. Reading of the minutes of the Ordinary General Assembly.
6. Presentation of the COLABIOCLI Strategic Plan 2022 – 2025.
7. COLABIOCLI General Conference 2023
8. Presentation of the Executive Committee Report and consideration of the request to become a “Collaborating Member of COLABIOLI” of the Spanish Association Of Biomedicine and Laboratory Medicine (AEBM-ML). Presentation of the Executive Committee Report and consideration of the request to become a “Collaborating Member of COLABIOLI” of the National Federation of Clinical Chemists - CONAQUIC A.C.
9. Approval of Regulations of:
   a. Internship scholarships
   b. Endorsements and Sponsorships COLABIOCLI.
   c. Working Groups
   d. Excellence Awards
   e. COLABIOCLI Scientific Committee
   f. Admission of entities and institutions.
   g. Corporate Affiliates
10. Other business

Under an environment of mutual respect and fraternization, this activity was fully carried out, with a wide participation of all the delegates from the different countries and strengthens the Latin American entity, in its perspective of repositioning itself and becoming the organization that promotes the continuous improvement of quality, the integral development of the clinical laboratory, and establishing a strong leadership in the region, establishing agenda items with the active participation of the member national entities and their members in each country of Latin America and the Caribbean.
Assembly of the Latin American Confederation of Clinical Biochemistry

Dr. Álvaro Justiniano Grosz, President of COLABIOCLI during the Opening Ceremony of the 48th Congress of the Brazilian Society of Clinical Analysis.

Mr. Álvaro Justiniano Cortez, representative of the Young Professionals of the Clinical Laboratory for Bolivia, Dr. Khosrow Adeli president of IFCC and Dr. Álvaro Justiniano Grosz, president of COLABIOCLI during the Opening Ceremony of the 48th Congress of the Brazilian Society of Clinical Analysis. Florianopolis – Brazil

2nd Latin American Conference of Young Clinical Laboratory Professionals, within the framework of the 48th Congress of the Brazilian Society of Clinical Analysis.

Florianopolis – Brazil

Dr. Carola Briançon, Secretary General of COLABIOCLI, Dr. Luiz Fernando Barcelos, Vice President of COLABIOCLI, Dr. Álvaro Justiniano Grosz, President of COLABIOCLI, Dr. Lisandra Morales, Treasurer of COLABIOCLI, Dr. Abol Correia PNQ Representative, Opening Ceremony of the 48th Congress Of The Brazilian Society Of Clinical Analysis. Florianopolis – Brazil
Recognising the importance of the child in laboratory medicine

By Dr. Tim Lang FRCPath

Chair IFCC Committee on Emerging Technologies in Pediatric Laboratory Medicine (C-ETPLM), consultant Clinical Scientist, Blood Sciences, Royal Victoria Infirmary, Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, UK

Paediatric Laboratory Medicine has often been an important but neglected area in the laboratory. However, over the last 70 years it has seen many significant developments that have contributed to the improved survival and management of the child. A panel of esteemed paediatric biochemists from the UK and Canada were interviewed to give their opinions on what they felt these significant improvements were.

Prof Jim Bonham, Sheffield Childrens’ Hospital and President of the International Society of Neonatal Screening.

The 70th anniversary of the ACB also marks the 60th anniversary of the introduction of whole population newborn screening in the US. Since the pioneering work of Robert Guthrie to describe a means of detecting phenylketonuria shortly after birth, it is estimated that 750 million babies have been tested and 60,000 children, with PKU, have benefitted from the life changing treatment that newborn screening can enable.

Newborn screening exemplifies a real partnership of clinical medicine and the design of new treatments alongside the potential offered by novel laboratory techniques to detect and monitor a growing range of conditions.
My laboratory career has seen the use of bacterial inhibition assays being replaced by fluorimetry and in the 1970s, and with the advent of immunoassay, an expansion in the scope of newborn screening to include a greater range of disorders.

The 1990s marked a paradigm shift in the laboratory with the advent of high throughput MS/MS thanks to the work of Chace and Millington. With that, the model moved from ‘one disorder – one test’, to ‘one test - many disorders’, and today many children can benefit from the early detection of up to 50 conditions shortly after birth as a result.

Of course, new and exciting developments have continued and currently, advances in genomics sit alongside metabolomics, to offer both new treatments for a growing number of rare disorders and the potential to increase those that can be detected at birth from 50 to many hundreds as new and effective treatments become available. The Genomics England study scheduled to begin later this year marks an important milestone in this journey.

During almost fifty years in laboratory medicine, it has been an honour to be part of a truly worldwide effort to deliver the benefits of new technology in the lab providing access to new treatments at the bedside to a growing number of children with rare conditions. The potential for laboratory medicine to change lives for the better has never been greater.

Prof Khosrow Adeli, Toronto SickKids, Canada and President of International Federation of Clinical Chemistry and Laboratory Medicine.

I have been working in paediatrics for over 25 years and when I first started at The Hospital for Sick Children in Toronto (now known as Toronto SickKids) it was clear through my interactions with clinicians that there was a lack of appropriate reference ranges for children. Working in a large tertiary centre it was presumed that we had all the answers. With my previous research background, I proposed an initiative during a paediatric focus group at a Canadian Society of Clinical Chemists’ meeting which we developed into the cross Canadian Laboratory Initiative on Paediatric Reference Intervals (CALIPER project). Since 2009 we have recruited over 14,000 healthy children and established paediatric reference intervals for +200 laboratory biomarkers, recently completing the biochemistry and haematology databases. It has been astounding the uptake of these reference intervals both locally and global. However, ideally the aim would be for individual countries to establish their own databases using their populations using direct and indirect methodology.
During my own 35-year career I have seen many emerging technologies being implemented. Genetic testing arrived in the 1980’s but clinical chemistry did not take advantage of embracing this development at the time, which I view as a missed opportunity. One area that has been transformative in paediatric biochemistry has been the introduction of mass spectrometry since early 1990s. In my own lab we were early adopters and now have 9 Mass Specs analyser used in a variety of areas including inherited metabolic diseases, newborn screening, therapeutic drug monitoring and endocrinology. This technology had many scientific and economic benefits which enabled it to become an established technique. It has also supported the expansion of newborn bloodspot screening.

An exciting development that I believe will support patient care in the future is the use of Multi-Omics. We have just proposed an extension to the Caliper project to investigate the differences between a control cohort of children and cohort of patients with type 2 diabetes and obesity integrating proteomics, metabolomics, genomics and lipidomics. In the future “Health Signatures” will provide potentially valuable information with the integration of omics and artificial intelligence to support better individualised healthcare.

Prof Anne Green, Retired, Birmingham Children’s Hospital.

This year will be 100 years since the establishment of the first Paediatric Chemistry Laboratory by Evelyn Hickmans at Birmingham Children’s Hospital (BCH) in 1923 so it is a fitting time to celebrate its success as part of the 70th Anniversary of the ACB. Evelyn was undoubtedly the first Paediatric Biochemist. My career started in 1968 with one of the first MSc courses in Clinical Chemistry at Birmingham and my inspirations were Prof Barbara Clayton from GOSH and Dr Noel Raine from BCH. I have seen a huge number of developments over the years which have improved the quality of analysis and promoted the closer working together of clinicians and scientists for the benefit of the patient.

When I started the volume of sample needed for some assays was an order of magnitude greater than today’s requirements. Arterial/venous puncture would be required to collect the necessary 10-20ml to perform the required tests in a small infant. Timed urine collections were commonly required to be able to measure the required substance accurately and 5-day collections for faecal fats were a regular feature. With the development of better tests some of these are now thankfully consigned to history. Development of capillary sampling for more analytes was a major step forward
and laboratory-based phlebotomy essential so that these precious samples were collected appropriately first time thereby avoiding any additional puncture. External Quality Assurance was lacking for paediatric biochemistry at the start, so it was key to establish appropriate schemes in cooperation with Dr David Bullock and the late Prof Tom Whitehead from NEQAS. Access to appropriate clinical material was not always available so laboratories would begin to produce their own to enable standardisation and improved quality. The same was true for internal quality control material which didn’t meet the needs of this specific population.

A particular theme during the early stages of my career was the identification of new disorders as a result of new technologies. During my Master’s project in 1968 I developed a colorimetric method for methylmalonic acid to detect B12 deficiency, at the same time that the first cases of methylmalonic acidaemia were reported. Gas chromatography for urine organic acids was developing at this time and with more metabolites being detected it became a challenge deciding which had pathological significance or just an interesting variation. It was a steep learning curve as most of the samples we tested came from children with clinical problems. This issue is similar to those arising from the current expansion of information arising from genomics studies. The recognition of vitamin responsive disorders was especially pleasing as therapy with the vitamin would prove to be curative in some cases.

One thing that I believe was key to the success of paediatric biochemistry were the formal and informal collaborations and networks that were established over the years. I was involved with the formation of several national and international interests group such as the IAPLM, BIMDG and MetBioNet who each spearheaded the production of evidenced-based practice guidelines and consensus documents. The creation of the bespoke higher specialist training schemes for clinical scientists to support this area has enabled the provision of the future specialist workforce with sharing of valuable knowledge and experience.
Climate Change in Pakistan and Role of Clinical Chemistry Laboratories

By Dr. Lena Jafri

Associate Professor, Section Head and POCT Director, Section of Chemical Pathology, Department of Pathology and Laboratory Medicine, Aga Khan University, Karachi Pakistan

Climate change refers to long-term changes in weather patterns and environmental conditions caused by increased greenhouse gas emissions and other human activities. Pakistan was placed fifth among the countries most affected by climate change. Rising temperatures, changing rain patterns, glacial melt, water stress and scarcity, extreme weather events, agriculture and food security, ecosystem disruptions, and health impacts are seen at increasing frequency in Pakistan, as in many other parts of the world. Frequent and extreme heatwaves are common in Pakistan, with temperatures frequently topping 40 degrees Celsius (104 degrees Fahrenheit) in numerous regions leading to dehydration, heat exhaustion, and heat stroke with a negative impact on human health, agriculture, water supplies, and ecosystems.

Climate change causes rising rainfall patterns in Pakistan, increasing flood risks and causing drought and water scarcity. Glaciers in Pakistan including those in the Karakoram, Hindu Kush, and Himalayan mountains are melting due to rising temperatures increasing water flow in the short term but raising long-term water scarcity problems as glacial sources dwindle. In short, extreme weather events such as strong storms, heatwaves, and droughts are exacerbated by climate change in Pakistan. It has disrupted the natural ecosystems in Pakistan, including forests, marshes and wetlands, and coastal areas.

Clinical Laboratories are a contributor to environmental impact, but this has received little attention globally as well as in Pakistan. Clinical laboratories can play a crucial role in addressing the impacts of climatic changes and aiding communities across globe and there is a need to sensitize laboratories to the importance of adopting good environmental practices. Many such practices do not have a cost but require a change in the culture and mindset in the organization. In addition, scientists and policy makers can connect to reduce environmental impact through clinical laboratory research and at the same time increasing efficient operations. Clinical Chemistry or Chemical Pathology laboratories can play an essential role in combating climate change by providing biomarkers and conducting impactful research to identify how climate change is affecting human health and developing strategies to mitigate its effects. Some of the examples of these strategies that we have adopted at the Section of Clinical Chemistry, Department of Pathology and Laboratory Medicine at Aga Khan University Pakistan are as follows:

- Heat stress may cause dehydration, exhaustion, and even lead to cerebrovascular accident. A small initiative that our Section of Chemical Pathology at Aga Khan University took was to develop a ‘Heat Stroke Panel’, a comprehensive assessment of patients’ response to heat stress. The panel includes biomarkers to assess dehydration, electrolytes, creatinine, SGPT, cardiac and inflammatory markers. It helps healthcare providers evaluate patients’ hydration, electrolyte...
balance, kidney and liver function, and systemic inflammation levels. This innovative approach promotes well-being during the heat season i.e., from May to July.

- Air pollution contributes significantly to climate change and has been related to a variety of health issues such as respiratory disorders, cardiovascular disease, and cancer. Climate change increases allergies and asthma due to longer seasons and poor air quality. Dermatophagoides farinae and Dermatophagoides pteronyssinus were discovered to be the most prevalent allergens in the last 10 years, according to lab data monitoring from samples received from around the country and analyzed at our Section of Clinical Chemistry at Aga Khan University.

- Clinical Chemistry laboratories can and should contribute to the overall well-being of Pakistani communities and create resilience against climate-related difficulties by adopting sustainable practises such as energy-efficient equipment, minimising waste creation, and encouraging environmentally friendly practises. To reduce energy consumption, conserve resources, and reduce waste generation, my Section of Clinical Chemistry has adopted a sustainable model, also known as “green labs.” We have formulated a Green Team focused on making eco-friendly changes in the lab. The Green Team, consisting of faculty, technologists, managers, and the section head, aims to promote sustainable practices in clinical laboratories. Strategies include training programs, guidelines, and exploring alternative technologies to reduce environmental impact in green labs. Strategic measures include prioritizing investments, seeking funding opportunities, and partnering with external entities like IFCC to overcome technological limitations and share knowledge.

- Aga Khan University is expanding its Point-of-care testing (POCT) service to reduce carbon footprint, greenhouse gas emissions, resource utilization, early disease detection, telemedicine, and sustainable healthcare infrastructure. The long-term goals include minimizing transportation costs, reducing waste generation, and encouraging healthcare facilities to rethink resource consumption and waste management practices. POCT indirectly supports climate change mitigation efforts.

Climate change is a pressing global challenge, and clinical labs must act by adopting sustainable practices, embracing innovative technologies, and promoting resource efficiency. This will lead to a greener, healthier future, combining climate resilience and sustainable healthcare.
Green Lab Reflections: Insights from My Diary

By Rizwana Kausar

Assistant Manager, Section of Clinical Chemistry, Department of Pathology and Laboratory Medicine
Aga Khan University, Karachi Pakistan

Dear Diary,

While attending the 2022 International Federation of Clinical Chemistry (IFCC) Conference in South Korea as a Young Scientist from Pakistan, I had the opportunity to learn about the concept of Green Lab at one of the Young Scientists' Forums organized by the IFCC (shown in the picture). The whole idea behind Green Lab concept is to declutter, reuse, recycle and save energy to promote sustainability in clinical laboratories. I dedicated some time to collecting and organizing the relevant items pertaining to my role in the Section of Chemical Pathology within the Department of Pathology and Laboratory Medicine at Aga Khan University. On my return I proposed a Green Lab project in my section to integrate my learnings into everyday processes.

A team consisting of faculty members, technologists, managers, and section head was formed to promote sustainable practices, known as the “Green Team”. As a first step, The Green Team conducted a lab survey to identify specific areas where sustainable practices could be implemented. Simultaneously, they raised awareness within the department regarding sustainability, resource conservation, and waste reduction. The survey responses were analyzed to identify common themes and areas of concern. There was insufficient awareness of the environmental impact of clinical laboratories.

The goal of our Green Lab Project is to educate lab personnel on the importance of the environment and the potential negative consequences of Clinical Chemistry procedures. Additionally, our aim is to raise awareness and promote environmentally conscious behaviors within the laboratory like...
Reducing instrument footprints, energy consumption, waste reduction and recycling of waste. The idea of Green Lab was well received by colleagues, and we are developing strategic goals to reduce carbon footprint, contribute to a greener future, and set an example for other laboratories to follow. Outcomes achieved:

Through small group discussions laboratory professionals were taught on the relevance of the environment and the potential harmful effects of Clinical Chemistry processes. It was agreed that all lab-technologists should be informed of the environmental impact of their work as well as the importance of sustainable practices. This established a climate conducive to frank talks on the subject. On Green Lab Practices, you can now see employees recommending one another. These dialogues instilled personal responsibility for the environment and promoted environmental care. The traditional process of sending patient reports involved multiple steps, including scanning, physical transportation, and storage, which was laborious, slow, and prone to errors. To streamline the process, the section has adopted electronic signatures for certain laboratory tests and has started scanning and digitizing documents since the beginning of 2023. Reporting of Stones Analysis, Immunofixation electrophoresis, plasma amino acids, urine organic acids, succinyl acetone and newborn screening is now done electronically. Review and analysis of all chromatograms, calibration records, and results is now done on the software by faculty rather than printing them. This change in practice has been successful.

The Green Lab Team emphasized with laboratory technologists, residents, and faculty the need of shutting off or unplugging excess lights and equipment such as an oven, incubator, water bath, centrifuges, fume hood, and safety cabinet when not in use. This was accomplished successfully.

Implementing green lab practices is challenging due to limited resources, infrastructure, policy gaps and behavioral and cultural factors. Recognizing the potential benefits and using strategic measures like prioritizing investments in green lab initiatives and seeking funding opportunities is my next goal. Partnering with external entities like IFCC can also help overcome technological limitations, access training, and share knowledge. In the Section of Clinical Chemistry, we are encouraging open communication, collaboration, and participation in sustainable initiatives.
The 14th CONFERENCE OF THE ROMANIAN ASSOCIATION OF LABORATORY MEDICINE

By Dr. Cristina Mambet

Past President Romanian Association of Laboratory Medicine (RALM)

Timisoara, 14-16 June 2023

The 14th National Conference with international participation of the Romanian Association of Laboratory Medicine (RALM), organized under the auspices of IFCC and EFLM and in collaboration with the Romanian Society of Microbiology, the Romanian Society of Hematology and the Universities of Medicine and Pharmacy of Bucharest, Târgu Mures, Cluj Napoca, Iaşi, and Timişoara, took place on 14-16 June in Timisoara.

The Regional Business Centre of Timisoara hosted the conference that was attended by 600 participants including medical doctors, biologists, chemists and scientists working in medical laboratories.

The scientific program comprised 9 sessions of plenary reports (32) and brief oral communications (25), and 1 poster session at which a total number of 26 electronic posters were presented. The posters and the slides for the oral presentations were written in English and conference abstracts were published in a supplement of Romanian Journal of Laboratory Medicine, a journal indexed in the ISI Web of Knowledge - Web of Science - Science Citation Index Expanded (Clarivate analytics) since 2008. Topics of interest in clinical chemistry, hematology, immunology, microbiology, molecular biology, laboratory management and quality control were addressed during the various sessions. Among them, we mention: novel predictive biomarkers in the evaluation of heart failure, utility of laboratory biomarkers in the diagnosis and monitoring of acute kidney injury in pregnancy, genetic prognostic factors in acute myeloid leukemia, complex laboratory evaluation of multiple myeloma and related disorders, microRNAs as biomarkers of chronic hepatitis B virus infection, gene-based prediction model for colorectal cancer using machine learning algorithms, evolution of healthcare associated infections and antimicrobial resistance during COVID-19 pandemic in Romania, challenges of laboratory diagnosis in mycology, introduction to emerging technologies in clinical laboratory, risk evaluation in laboratory. The participants had the opportunity to ask questions and make comments after presentations, and also to share their experience in a particular field.

Six speakers from abroad were invited to give their lecture at the congress: Prof. Dr. Sergio Bernardini (University of Tor Vergata, Rome, Italy), Prof. Dr. János Kappelmayer (University of Debrecen, Hungary), Prof. Dr. Nino Gogokhia (Tbilisi State Medical University Laboratory Department, Georgia), Assoc. Prof. Dr. Tamar Diadbaridze (Tbilisi State Medical University Microbiology Department, Georgia), Sten Westgard, MS (Managing Director at Westgard QC, Inc, USA), and Dr. Tomasz Bogiel (Nicolaus Copernicus University of Toruń, Poland). Also, 20 invited speakers from Romanian academic institutions significantly contributed to the scientific program of the congress (some pictures are presented in Appendix 1 to this report).
As RALM manifests a strong interest in encouraging and motivating young laboratory professionals, many communications and posters were presented by young colleagues, most of them PhD fellows. During the conference a large exhibition of equipment, reagents, supplies, software was held, 30 IVD companies being involved. In addition, diagnostic industry organized 12 workshops that introduced new technologies and clinical assays.

After the closing ceremony the general assembly of RAML took place and members elected the new RAIM Board.

The scientific quality and the variety of topics included in the program, as well as the organization of the conference in a high-tech venue, led to a successful scientific and professional event.
The Romanian Association of Laboratory Medicine welcomes the new Executive Board and wishes them much success:

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New IFCC Members

IFCC WELCOMES TWO NEW CORPORATE MEMBERS

United Robotics Group

Founded by Thomas Hähn in 2019, United Robotics Group unites young service robotics companies into a unique ecosystem by bundling hardware and software expertise under one roof. The group brings together cutting-edge technology and robotic experts from both the social and industrial world, with the common ambition to empower humanity with technology. The corporation is committed to developing standardized and customized solutions with quality, data protection and sustainability as key driving forces. All planning humans in the center of all. With United Robotics Group's recent successful acquisition of a world-renowned robotics’ company and the resulting expertise sharing, the group becomes one of the leading service robotics companies in Europe. RSBG SE, the investment entity of RAG-Stiftung, focused on technology and engineering driven companies is majority shareholder of United Robotics Group. SoftBank Robotics Group is minority shareholder of United Robotics Group.

We provide robotics solutions for different verticals including life science sector – Lab automation: uMobileLab, uLAB and uMobileLOG, as well as ‘The Box’, a dedicated stationary lab automation solution developed by Robsolution (part of United Robotics Group), certified solution partner to Siemens Healthnieer. We connect robots, humans, and AI technologies in order to achieve unique LAB workflow. In times of demographic challenges, it becomes increasingly difficult for small and mid-size laboratories to compete for skilled employees. At the same time, very few of these laboratories automate their processes. In fact, many of them still rely on manual labor only. We believe that intelligent laboratory automation is the key to tackling these challenges. We provide a Robot-as-a-Service (RAAS) approach. This way our customers gain all the benefits from our solutions starting with day one for lower initial investment costs, including deployment, service hotlines, and innovative support.

Labor Team

Labor Team is one of the leading medical laboratories in Switzerland and is based in Goldach (SG). It was founded in 2001 and today employs 400 staff. The laboratory provides professional services relating to the prevention, diagnosis, monitoring and treatment of diseases across Switzerland. In doing so, the company covers the entire spectrum of laboratory medicine and anatomic pathology. It carries out medical testing and analysis in a state-of-the-art central laboratory which facilitates the highest quality, great flexibility, and rapid order processing.
DEADLINES

15 January 2024
Deadline for poster abstract submission

15 March 2024
Deadline for reduced registration fees
Ethical issues in publication are a global challenge. The increasing number of scientific journals in biomedicine and published papers has not always been matched by increased quality in publishing due to lack of information and education of the scientific community, especially of the young scientists, about ethical principles in research and publishing. Often there is lack of understanding on the part of authors, reviewers, editors and publishers about the different requirements and issues. Furthermore, the practices vary between publishing houses and geographies. In addition, particularly in the last decade, some unethical behavior, fraud and attempts by experts for increasing their scientific productivity in research and publishing their results in scientific journals have been reported. Through three recognized lecturers who explained the concerns and challenges from their own experiences, this webinar offered to bring in the perspectives for ethical issues from the points of views of an author, an editor, and a publisher. Each speaker provided the ethical standards for publishing and talk about particular concerns from the viewpoints from different roles.

This webinar comprised of three following presentations of 20 min each followed by 20 min of panel discussion at the end.

Chair: Dr Sudip Kumar Datta
Talk 1 - “Publication ethics: the perspective of an Author” Dr. Angela R. Solano
Talk 2 - “Publication ethics: the perspective of an Editor-in-chief” Prof. Mario Plebani
Talk 3 - “Publication ethics: the perspective of a Publisher” Dr. Anthony Newman
The digital revolution does not stop at any area of life and plays a major role in healthcare. The young professional and researcher in laboratory medicine, or Young Scientist, has a key role in this changing lab environment and tries to seize new opportunities given by technological evolutions. This webinar will cover challenges of digital technologies in laboratory medicine from several facets, including digital competences, artificial intelligence, and applications of bioinformatics in clinical routine. Three Young Scientists will offer a particular focus on: 1) Skills of the Future - What kind of digital competence is needed? 2) Augmenting Intelligence: Basics of Artificial Intelligence in the lab and 3) Bioinformatic infrastructure, pipelines, and impact in clinics.

Don’t miss next IFCC webinar on
“Challenges of digital technologies and artificial intelligence in laboratory medicine”
Presented by the IFCC Task Force for Young Scientists
Registration to the webinar is complimentary!

The digital revolution does not stop at any area of life and plays a major role in healthcare. The young professional and researcher in laboratory medicine, or Young Scientist, has a key role in this changing lab environment and tries to seize new opportunities given by technological evolutions. This webinar will cover challenges of digital technologies in laboratory medicine from several facets, including digital competences, artificial intelligence, and applications of bioinformatics in clinical routine. Three Young Scientists will offer a particular focus on: 1) Skills of the Future - What kind of digital competence is needed? 2) Augmenting Intelligence: Basics of Artificial Intelligence in the lab and 3) Bioinformatic infrastructure, pipelines, and impact in clinics.

Click here to register to the webinar

eJIFCC Vol 34 n 2
eJIFCC Vol 34 n 2 is now available! In this issue the articles focus on different aspects of the Laboratory Medicine. The issue is closed by two Case Reports. Read More
## IFCC's Calendar of Congresses, Conferences & Events

### IFCC and Regional Federation Events

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<td>Challenges of digital technologies and artificial intelligence in laboratory medicine</td>
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<td>Dec 4 - Dec 5, 2023</td>
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<td>AFCB Congress in conjunction with the XXVI IFCC WorldLab Dubai 2024 Congress</td>
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<td>International Conference on Immunoassay</td>
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Other events with IFCC auspices

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## Full members

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- Instrumentation Laboratory
- Jangsu BioPerfectus Co., Ltd.
- LumiraDx
- Maccura Biotechnology Co., Ltd.
- MedicalSystem Biotechnology Co., Ltd.
- Medix Biochemica
- A. Menarini Diagnostics
- Mindray - Shenzhen Mindray Biomedical Corporation

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- Botswana: Institute of Clinical Laboratory Professionals
- 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 Clinical Biochemists of India (AMBI)
- Iran: Iranian Association of Clinical Laboratory Doctors (AICLD)
- Jordan: Society for Medical Technology & Laboratories (SMTL)
- Kazakhstan: Public Association - Federation of Laboratory Medicine (FLM)
- Mexico: Federación Nacional de Químicos Clínicos (CONAQUIC A.C.)
- Mexico: Colegio Nacional de Químicos Clínicos en Medicina de Laboratorio (CONQUILAB)
- Nepal: Nepalese Association for Clinical Chemistry (NACC)
- Philippines: Philippine Council for Quality Assurance in Clinical Laboratories (PCQAACL)
- Romania: Order of the Biologists, Chemists, Chemists in Romanian Health System (OBBCSSR)
- Spain: Andalusian Society for Clinical Analysis and Laboratory Medicine (SANAC)
- Spain: Asociación Española de Biopatología Médica - Medicina de Laboratorio (AEBM–ML)
- Spain: Asociación Española de Farmacéuticos (AEFA)
- Sri Lanka: College of Chemical Pathologists of Sri Lanka (CCPSL)
- Türkiye: Society of Clinical Biochemistry Specialists (KBUD)
- Ukraine: Association for Quality Assurance of Laboratory Medicine (AUGALM)
- United Arab Emirates: Genetic Diseases Association (UAEGDA)

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- 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)
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
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E-mail: enews@ifcc.org

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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

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E-mail: enews@ifcc.org

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