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International Federation of Clinical Chemistry and Laboratory Medicine





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EDITORIAL

Message from the eNews Editor

by Katherina Psarra
eNews Editor

Dear colleagues,

The successful atmosphere of the EuroMedLab/WorldLab 2023 is still lingering with us. I am thinking of the antithesis between the wonderful ancient masterpieces of Rome and the really modern congress centre and its surroundings, we kept moving between the past and the present-future. The future prevailed in the interesting presentations, full of innovations, and especially in the immense exhibition of this meeting, which was a successful congress in all respects.

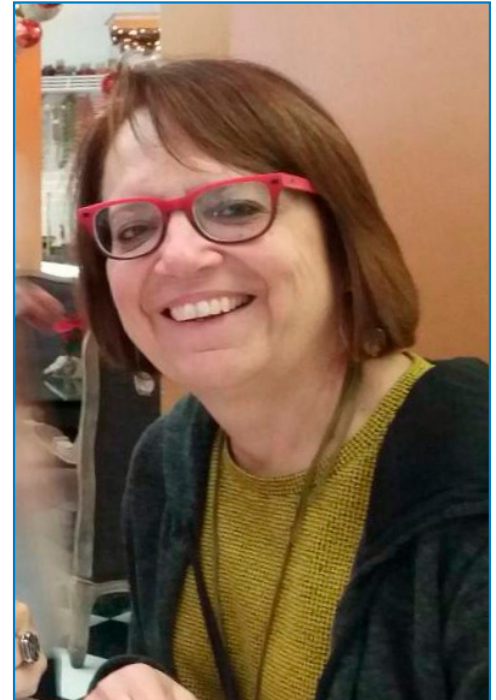
In this issue of the eNews, you will find a lot about the congress and the satellite meetings. Starting with the Congress President, Prof. Sergio Bernardini, all the contributors in this issue write with great enthusiasm about their experience. I can assure you that they don't exaggerate at all. It is true. Everything was wonderful and, most of all, the attendees were wonderful people – full of life, full of energy!

In this issue there are fewer contributions from the IFCC national societies (perhaps everybody's thoughts are still in Rome). However, we have a really interesting article by Dr. Luis Figueroa Montes, the President of the Peruvian Society, about The American horseshoe crab, an article that combines laboratory science and environmental issues. Aren't you intrigued by this enigmatic title? And the Japanese Society offers its always frequent contribution to the eNews.

Go through this issue, dear friends, to keep the Rome atmosphere alive, but don't forget your contributions for the next issue. We are still missing updates from the divisions, the committees, the Working Groups, the Task Forces' meeting reports.

This issue is the last one published by Insoft Digital Canada, with great work throughout from their team, lead by Victor and Bogdan, who have facilitated our regular IFCC eNews issues for many years. Thank you very much to you all! We wish you all the best. Keep up the good work!

Katherina



Katherina Psarra, MSc, PhD



THE VOICE OF IFCC

The IFCC-EFLM WorldLab/EuroMedLab Roma 2023: an amazing congress in the amazing city of Rome

*by Prof. Sergio Bernardini
Rome 2023 Congress President*



Opening ceremony

The WorldLab/EuroMedLab Roma 2023, the 25th IFCC-EFLM Congress of Clinical Chemistry and Laboratory Medicine, together with the National Congress of the Italian Society of Clinical Chemistry and Laboratory Medicine that was held in Rome, from 21 to 25th May 2023, has been a great success!

Rome, the well-known city for its Art and Culture, hosted more than 11.500 people at the new Convention Center “The Cloud”, the stylish and futuristic Convention Center.

Additionally, two thousand people followed the Congress by streaming.

One hundred and ten IVD Companies participated and gave life to a dynamic exhibition floor showcasing the recent novel technologies and practical solutions for Laboratory Medicine.

Thanks to the Scientific Congress Committee work, distinguished international speakers and key opinion leaders delivered their presentations about health care, recent diagnostic technologies, scientific advances, and challenges along 5 plenary lectures, 32 accredited symposia, 10 lunch workshops, 14 educational workshops.

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Satellite meetings were also planned and included a conference on Clinical Mass Spectrometry, one on Point-of-Care Testing and the 16th International Congress of Pediatric Laboratory Medicine.

An extraordinary number of posters (2140) were shown electronically throughout the whole conference.

Moreover, at Rome 2023 Congress there have been two important innovations: first the Congress was accredited by the EFLM CPECS[®], a quality assurance mechanism to provide Continuing Professional Development for participants. Second, the Congress has been transmitted by streaming worldwide with free access for mid-low income Countries and all the Congress sessions will be published on the website.



L-R: Prof. Bernardini, Congress President; Prof. Adeli, IFCC President; Prof. Ozben, EFLM President and Dr. Trenti, SIBioC President, welcoming the delegates during the Opening Ceremony



The crowded rooms during the sessions

It should be pointed out that the Congress Organizing Committee strictly followed the Med-Tech Ethical Code rules.

The intent of the Opening Ceremony was focused on Humanity and in particular one minute of stand-up silence was dedicated to the victims of Covid-19 after the lecture of a touching poetry by Sonia Giovannetti written during the Pandemic:

“In uncertain days like these,
at the sight of a faceless enemy,
even silence is propitious and words flock onto the blank canvas.
I unravel the memories one by one
I look at the fogged glass
I add some wood to the fire
and, outside, a blade of grass grows.
Already, a new summer approaches,
even the nests are safeguarding their mirage
looking for the path of the rivers.
Our hands are full of expectations
and there’s something light inside of us
just like a hug which,

Article continued on next page

in all this misery, will warm up our face.
A light on at the end of the rail
leaks into this tarnished time.
Along the riverbank
the embankment will become mouth.
It will be easy to believe,
we will stay awake, for no life is mute to itself.”
“Mirage” from “Pharmacon”

The famous poetry “No man is an Island” by John Donne, introduced the Opening Lecture of Prof Robert Enright, Full Professor of Educational Psychology, University of Wisconsin-Madison titled “Forgiveness for Individuals, Family and Community Well Being”.

This is why we know there is not Peace without forgiveness and Scientists must be the witnesses of Peace.

Then, during the Opening Ceremony, the 2023 IFCC and the EFLM awarded were announced.

IFCC Henry Wishinsky Award for Distinguished International Services - Sponsored by Siemens to Dr. Robert H. CHRISTENSON;

IFCC Award for Distinguished Contributions in Education - Sponsored by Abbott Laboratories to Dr. David S. HAGE;

IFCC Robert Schaffer Award for Outstanding Achievements in the Development of Standards for Use in Laboratory Medicine - co-sponsored by NIST and CLSI to Dr. Anne J. VASSAULT;

IFCC Young Investigator Award - Sponsored by Snibe to Dr. Joe M. EL-KHOURY.

EFLM Award for Scientific Achievements in Laboratory Medicine - Sponsored by Roche to Giuseppe LIPPI;

EFLM Award for Achievements in Advancing Laboratory Medicine in Europe - Sponsored by Roche to Abdurrahman COSKUN;

EFLM Award for Excellence in Outcomes Research in Laboratory Medicine - Sponsored by Abbott Diagnostics to Jain SHRUTI & co-authors;

EFLM Award for Excellence in Performance Specifications Research - Sponsored by Abbott Diagnostics to Fernando MARQUES GARCIA & co-authors;

EFLM Cardiac Marker Award - Sponsored by HyTest to Rami AALTO & co-authors;

EFLM Academy Award 2021 to Evgenija HOMŠAK;

EFLM Academy Award 2022 to Sedef YENICE.

Such a high level of attendance at the WorldLab/EuroMedLab Congress in Rome 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 opens the way for future IFCC Congresses to continue growing and achieving even greater success.

Thanks to the COC (Congress Organizing Committee), to the SPC (Scientific Programme Committee) and MZ Events (Organizing secretariat) for their tremendous effort that made possible this successful Congress.



The La Nuvola Congress Venue



Congress Welcome



The IFCC and IFCC Roche Scholarships recipients, with the IFCC President and other IFCC Officers



The Second Edition of the IFCC Forum for YS



Closing Ceremony (L-R): Prof. Bernardini, Congress President; Prof. Ozben, EFLM President; Dr. Haliassos, IFCC TReasurer; Prof. Adeli, IFCC President; Representative of the United Emirates Embassy in Rome; Dr. Trenti, SIBioC President; HE Dr. Fatma Matar, Founder and Chair UAE Genetic Disease Association; Dr. Borai (hidden) Saudi Arabia National Representative; Prof. Hedhili, Arab Federation of Clinical Biology EB

16th International Congress in Paediatric Laboratory Medicine – Rome 2023

*by Dr. Tim Lang
Congress Chair
Chair, IFCC C-ETPLM*



La Nuvola, the "Cloud" congress center

The 16th International Congress in Paediatric Laboratory Medicine Satellite meeting was successfully held on Saturday 20th May in the Rome Convention Centre "The Cloud". It was attended in person and virtually by scientists, clinicians including a large contingent of local paediatricians in training and corporate members. The Congress is a unique IFCC event that brought together clinical and laboratory practitioners who have an interest in paediatric laboratory medicine and provided important networking opportunities and a forum for discussion.

The Congress began with the opening plenary delivered by Prof. Carlo Caffarelli, a Paediatrician from Parma, Italy, describing the impact of COVID-19 on Italian children from the initial outbreaks observed in Northern Italy, through the following 2 years and other related social and health impacts.

Article continued on next page

The first symposium, prepared in collaboration with the International Society for Neonatal Screening, focused on the implementation of emerging technologies in supporting newborn blood spot screening. Speakers from the Netherlands and Italy described the progression from specific analyte identification to metabolomics to proteomics to genomics and how these techniques would support short- and long-term follow-up.

The second symposium focused on the use of biomarkers in renal and cardiac disease. Prof. Adeli, the current IFCC President, delivered the first presentation describing the benefits of high sensitivity troponin and NT-pro-BNP when investigating different cardiac presentations. This was then followed by Dr. Papassotiriou, Athens, Greece, presenting data on the use of cardiac and renal biomarkers to assess the toxicity of chemotherapy. In the final presentation Dr. Marzuillo, a Pediatrician from Naples, Italy, described the use of established and novel biomarkers to assess acute kidney injury.



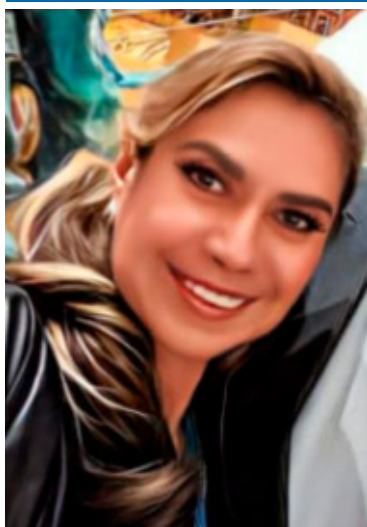
ICPLM speakers and organizers: Dr. Tran Thi Chi Mai (Vietnam), Dr. Tim Lang (UK), Dr. Tze Ping Loh (Hong Kong), Dr. Jolanda de Rijke (the Netherlands), Dr. Lianna Kyriakopoulou (Canada), Dr. Ronda Greaves (Australia), Dr. Klaus Kohse (Germany)

The last symposium of the day brought together examples of algorithms in paediatric laboratory medicine. Dr. Zierk, the current chair of the TF-GRID described the current approaches used to prepare reference ranges using real-world data. This was followed by Prof. Martin Stocker, a Consultant Neonatologist from Switzerland who discussed what were the best current markers for neonatal sepsis and how they could be used in the developing world. Finally, Dr. Fawkner-Corbett from Oxford described the use of AI in predicting which were the best tests to decide whether a child with suspected appendicitis needed urgent review and those that could be managed conservatively.

Concluding the Congress with the closing plenary Dr. Mai from Vietnam described her own experiences in establishing a GCMS service to introduce newborn screening for a number of inherited metabolic conditions. Introducing this service, she faced many challenges which her team overcame resulting in a fully accredited service with support from her regional IFCC federation the Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine (APFCB).

The Organising Committee would like to thank the support of the IFCC, Congress Organisers MZ Events and the German Society for Clinical Chemistry and Laboratory Medicine (DGKL) for their sponsorship of the event. We look forward to presenting another exciting ICPLM programme in Dubai next year.

Global MedLab Week 2023



María Pasquel Moxley

by Dr. BQF. María Pasquel Moxley
Member, C-PR/CPD-IFCC
Member, WG-IANT/RIA/CPD-IFCC
Member, eJournal/CPD-IFCC
Champion, Ecuador GMLW-IFCC



This is about the laboratory medicine professionals' world week, this important week which was instituted by the president of the IFCC, Prof. Khosrow Adeli, during the EuroMedLab held in Munich, from April 10 to 14, 2022.

The reason for this commemoration is to highlight the vital role of the clinical laboratory professional in the health and care of the patient.

We wish to maintain and remember forever the leading, important and valuable role, the clinical laboratory professional played worldwide during the pandemic.

The Communications and Publications Division (CPD), Chair Prof. Tahir Pillay, has among its committees the IFCC Public Relations Committee (C-PR), responsible for carrying out this week of the GMLW, which this year took place from April 23 to 29.

The GMLW 2023 was successful thanks to the collaboration of professionals from the 96 countries, part of the IFCC, within the 6 large federations that make it up: African Federation of Clinical Chemistry (AFCC), Arab Federation of Clinical Biology (AFCB), Asia Pacific Federation of Clinical Biochemistry and Laboratory Medicine (APF-CB), Latin American Confederation of Clinical Biochemistry (COLABIOCLI), North American Federation of Clinical Chemistry and Laboratory Medicine (NAFCC).

C-PR received the support of different IFCC Committees, Groups and Task Forces, to organize the GMLW 2023, for example the Task Force of IFCC Young Scientists (TF-YS), Chair Lic. Santiago Fares Taie from Argentina, promoted the making of the video "LiveMyLab".

The Ibero-American Working Group on Nomenclature and Translation (WG-IANT), Chair Dr. Raúl Girardi, from Argentina, held WhatsApp groups meetings between the member responsible for the C-PR, Dr. Maria Pasquel Moxley, the National Representative and the champions of each country to have direct communication of the ideas developed about this week, thus dozens of videos and podcasts were made. With this material the activities carried out by the clinical laboratory professionals were made known to the general public.

The Chair of the Internet and Digital Communications Committee (C-IDC), Dr. Eduardo Freggiaro from Argentina, was very helpful and collaborative in this digital communication. COLABIOCLI, whose president is Dr. Álvaro Justiniano Grosz from Bolivia, presented 24 videos and 2 podcasts, being the federation that contributed the most, and Bolivia the country with the biggest number of videos.

Several countries developed press releases, scientific activities, activities between scientific societies and the families of their members to publicize the profession of the clinical laboratory professional. A great activity was also promoted on social networks sharing photos, logos of the week and videos made by different professionals in their laboratories.

The videos that were delivered to IFCC were of excellent quality that, together with the audios received, were made into podcasts. This material was edited by 2 companies contracted by IFCC, leaving material of excellent content and quality that was shared worldwide with big success.

IFCC wants this activity to be more relevant every year, because the work carried out by the medical professional in the laboratory is the basis for the diagnosis, treatment and monitoring of the disease. The clinical laboratory professionals are the health team who interacts the least with the patient, however, the clinicians base 70% of their decisions on the results of the clinical laboratory.

Technology 4.0, which is a trend no longer of the future but of the present and which does not only apply to industry, but is also entering clinical laboratories every day, offers many advantages and safety for patient results, but it further distances the interpersonal communication between the laboratory professional and the patient. This week tries to publicize this activity and the importance of the clinical laboratory professional, regardless of the complexity of the laboratory in which they work. Each patient sample represents the possibility of generating information that impacts medical decisions and the patient's health, for this reason the medical professional in the laboratory puts all his attention, responsibility and professionalism into his work.

Those who collaborated in this GMLW 2023 activity with IFCC with videos and podcasts received a certificate of participation in recognition of their time, effort and cooperation, these certificates were signed by IFCC President, Prof. Khosrow Adeli and Prof. Rajiv Erasmus, Chair of the C-PR.

IFCC is very appreciative of all the cooperation given to GMLW 2023, which was also visualized in the increased activity on IFCC's social media on Facebook, Instagram, LinkedIn, and podcasts on Spotify.

All the activities of this week were in collaboration with the IFCC. A very important support was received by the IFCC office and especially by Ms. Silvia Colli-Lanzi.

It is hoped that each year this celebration of the Laboratory Professional will be even more successful thanks to everyone's support, a week that is already beginning to be prepared for the following year with a very significant title proposed by the Chair of C-PR, Prof Rajiv Erasmus, during the last committee meeting held on May 22 of this year at the successful EuroMedlab-Worldlab congress in Rome 2023 and the title for the next GLOBAL MEDLAB WEEK 2024 could be **"LABS SAVE LIVES"**

You can continue sharing this important GMLW information from the following link:

<https://ifcc.org/ifcc-communications-publications-division-cpd/cpd-committees/public-relations-c-pr/happy-laboratory-professionals-week-2023/>.



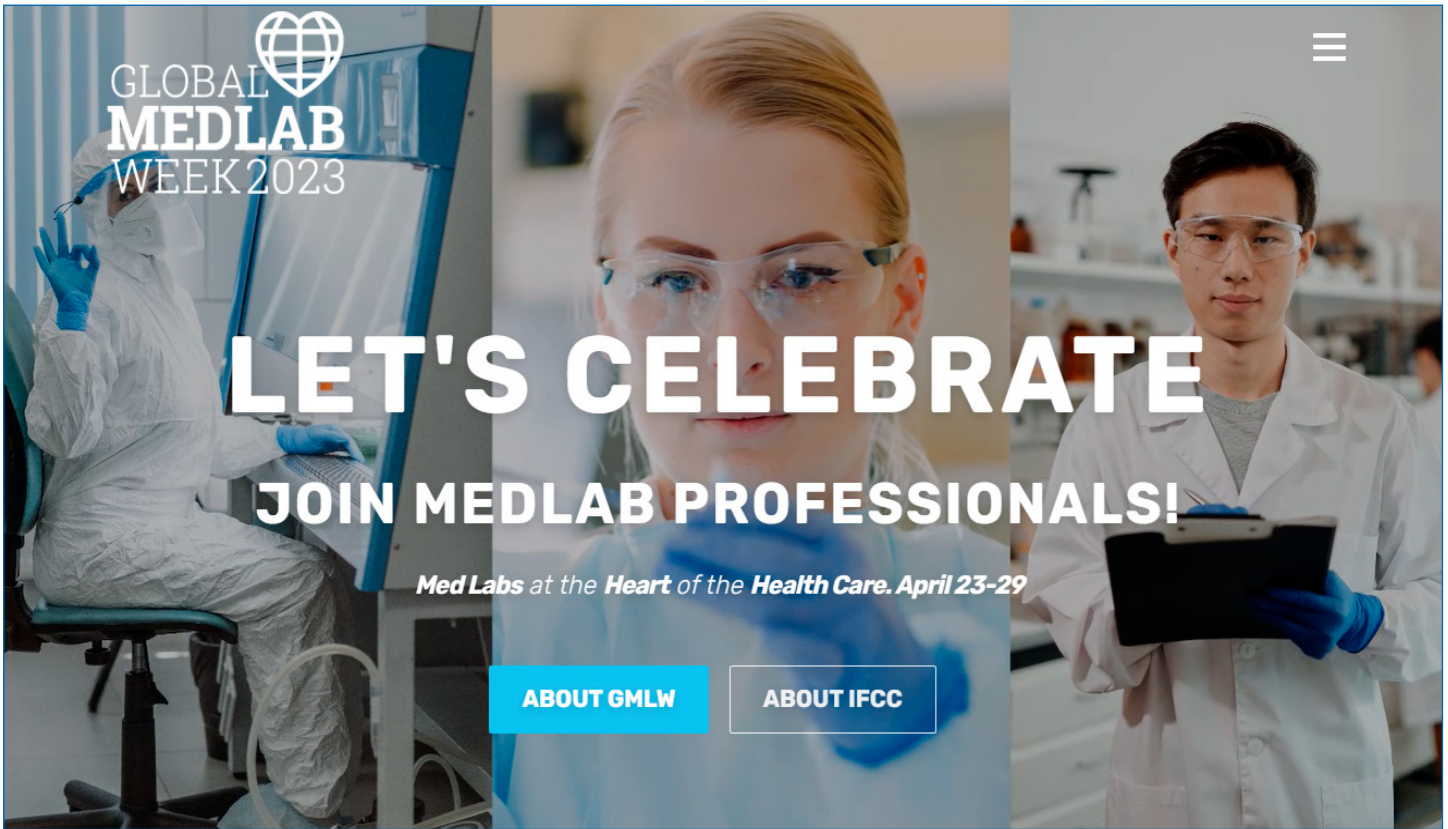
Let's celebrate the Global MedLab Week 2023! - IFCC

Let's celebrate the Global MedLab Week 2023! The International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) celebrates the Laboratory
ifcc.org

Dear all, could you please share these videos /podcasts etc in your social media Instagram/ Facebook, Twitter etc etc ? GMLW is only 23-29 April

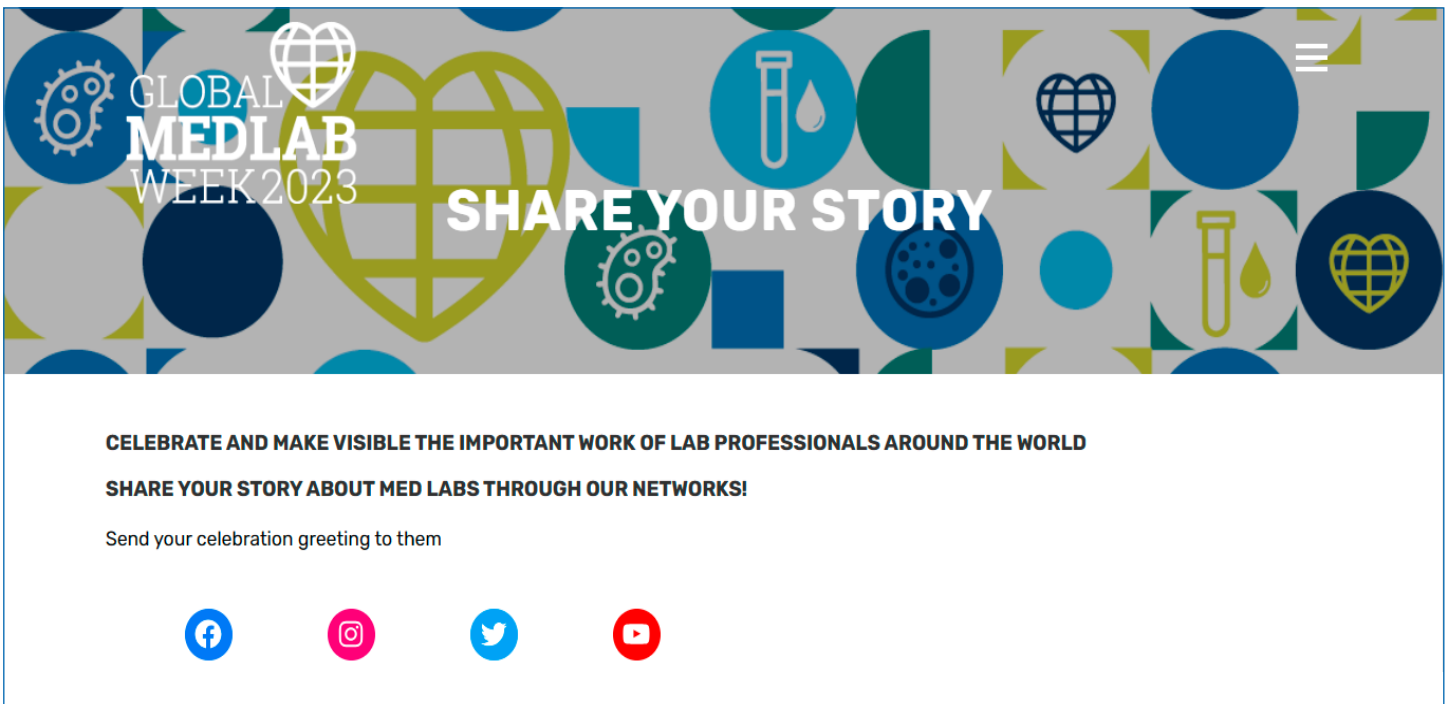


IFCC President, Prof. Khosrow Adeli, institutes the Global MedLab Week in Munich - April 11, 2022, during the Euromedlab



Link GMLW 2023:

Welcome – Global Med Lab Week 2023 – IFCC – Let’s Celebrate Med Lab Professionals around the World



Link: Share your STORY – Welcome – Global Med Lab Week 2023 – IFCC

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GLOBAL MEDLAB WEEK 2023

SHARE YOUR HEART

CELEBRATE AND MAKE VISIBLE THE IMPORTANT WORK OF LAB PROFESSIONALS AROUND THE WORLD

DOWNLOAD THE HEART WITH THIS QR OR THE BUTTON AND SHARE IT ON YOUR PROFILE PICTURE ALL WEEK!

[Download Profile Picture](#)

DRAW A BLUE HEART AND SHARE IT THROUGH OUR NETWORKS!

[Link: Share your HEART – Welcome – Global Med Lab Week 2023 – IFCC](#)

Social Media Toolkit

Copy this ready-to-use posts and share them on your social networks

Post 1

Copy image

GLOBAL MED LAB WEEK

A week aimed to recognize the work of Medical Laboratory Professionals worldwide.

Post 2

Copy image

GLOBAL MED LAB WEEK

A week aimed to recognize the work of Medical Laboratory Professionals worldwide.

Post 3

Copy image

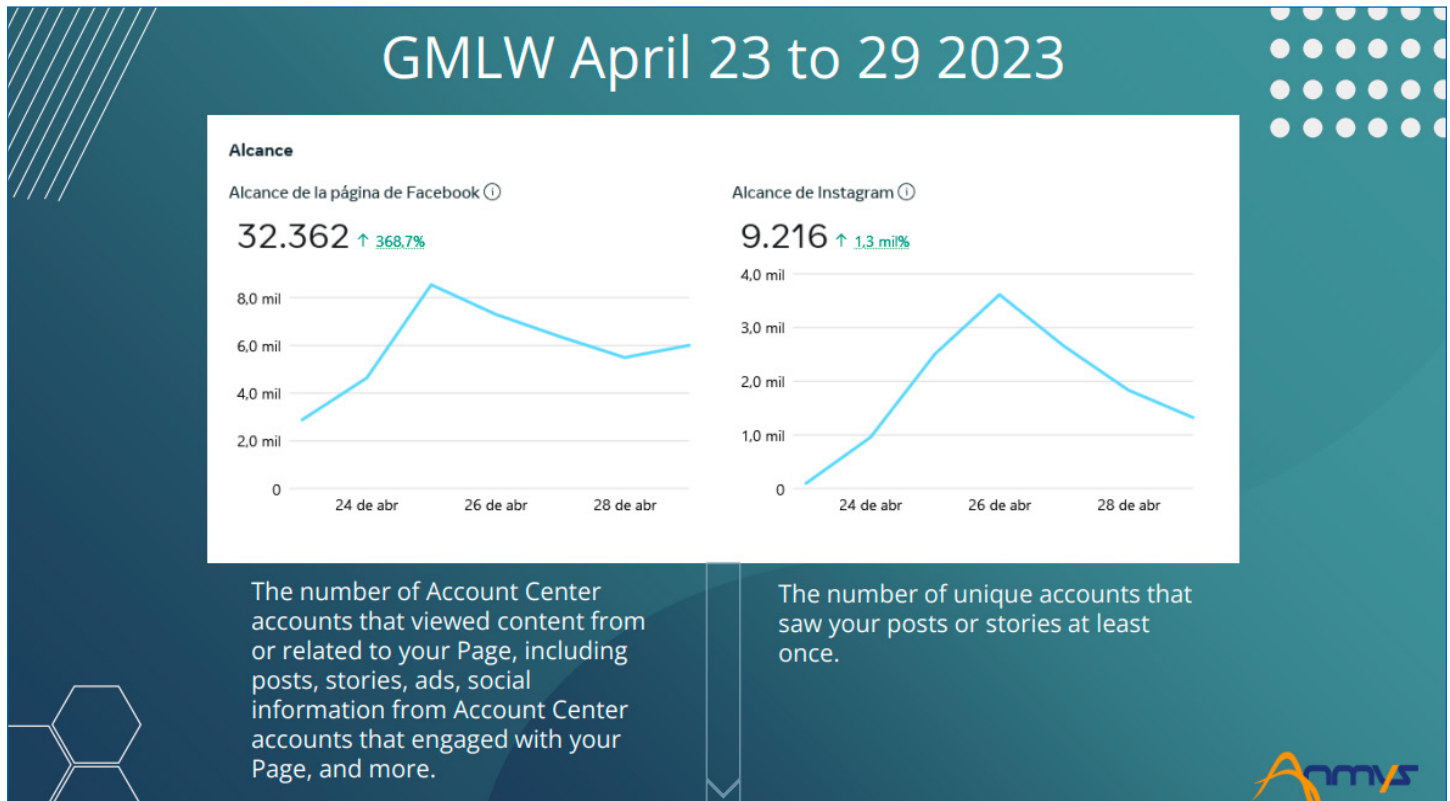
GLOBAL MED LAB WEEK

A week aimed to recognize the work of Medical Laboratory Professionals worldwide.

[Link: Welcome – Global Med Lab Week 2023 – IFCC – Let’s Celebrate Med Lab Professionals around the World](#)

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Part of the report of the company that managed the IFCC social networks in the GMLW 2023 compared to 2022.

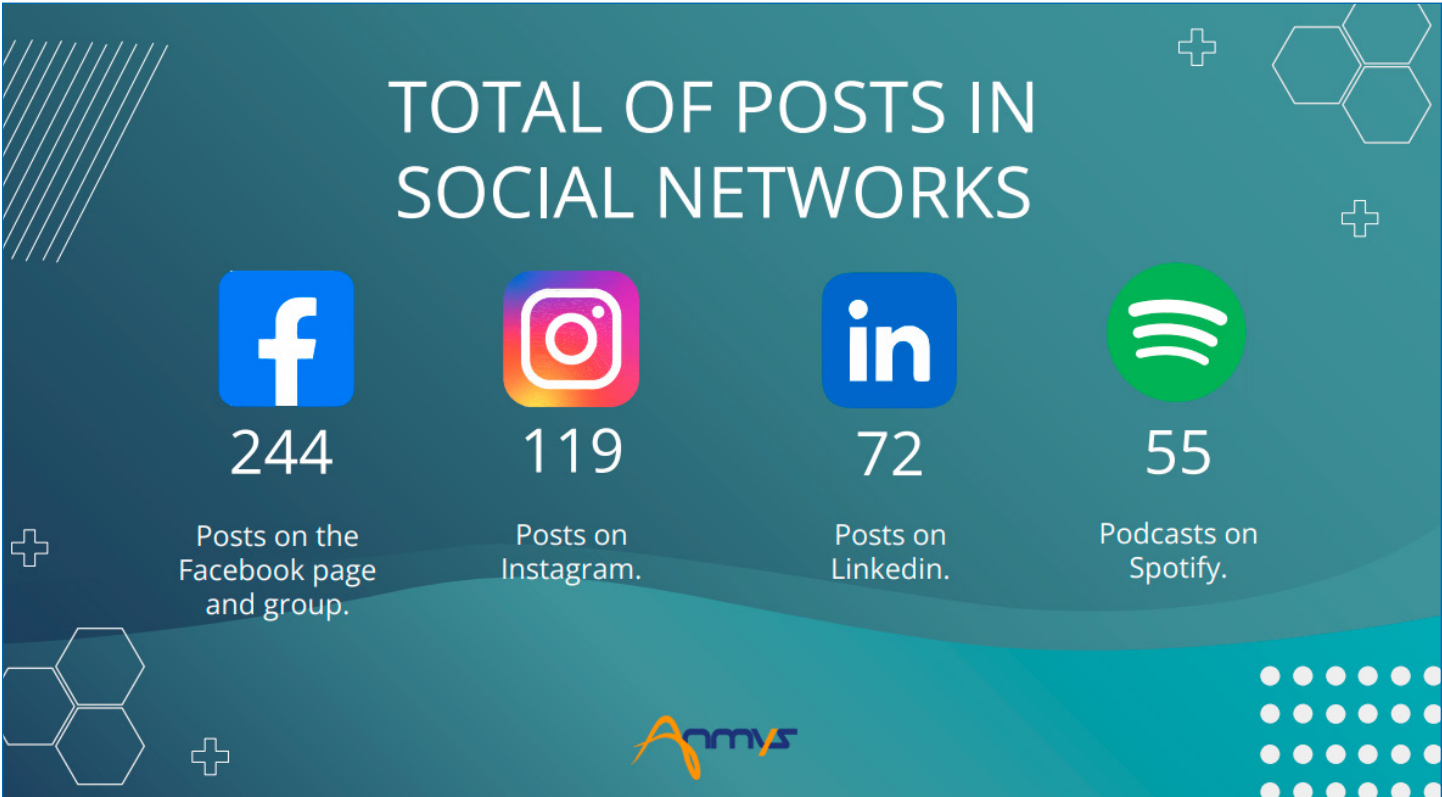


1.300% increase in Instagram and 368,7 % increase in Facebook compared to 2022



606.7% increase in visits on Facebook and 88.7% on Instagram

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Total number of posts on social networks.

LIVE MY LAB PROJECT

“Live my Lab” project is organized by IFCC: Committee on Public Relations (C-PR) with Task Force Young Scientists (TF-YS) and supported by the Committee on Internet and Digital Communications (C-IDC) to highlight the fundamental work that worldwide Medical Lab Professionals have on patient healthcare during GMLW.



Spain



Philippines



United States of America



Türkiye



Vietnam



Indonesia



Iran

Videos LiveMyLab:

Welcome – Global Med Lab Week 2023 – IFCC – Let’s Celebrate Med Lab Professionals around the World

IFCC Podcast



IFCC Podcast:

Welcome – Global Med Lab Week 2023 – IFCC – Let's Celebrate Med Lab Professionals around the World



IFCC Public Relations Committee during the meeting on May 22 held in Rome during the Euromedlab- Worldlab 2023: (L-R) Advisor Dr. Endang Hoyaranda (APFCB); member Dr. BQF. María Pasquel Moxley (Ec); Corr. Member Dr. Enrique Rodríguez Borja (Es); C-PR Chair, Prof. Rajiv Erasmus; IFCC President Prof. Khosrow Adeli; member Dr. Peter Vervaat (Au), member Dr. María Eugenia Schroeder-Castagno.

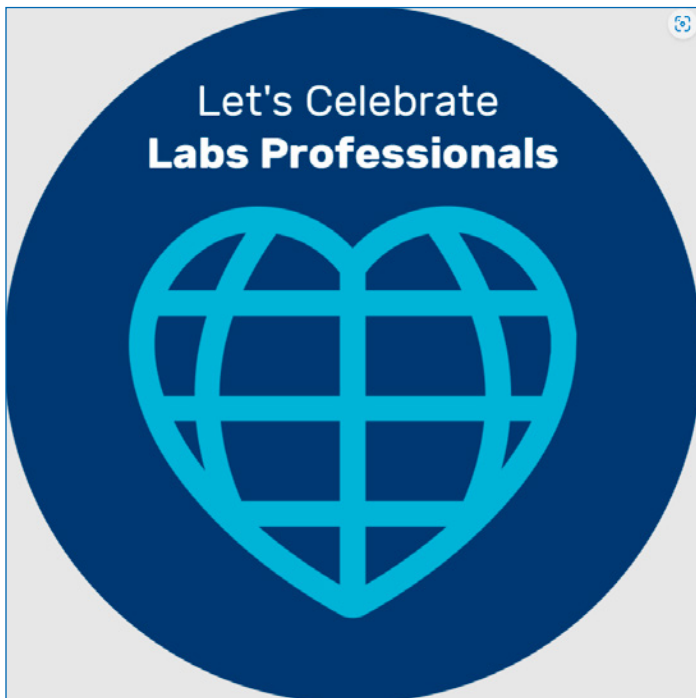
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Certificate received by professionals who made videos and audios for the GMLW 2023



C-PR meeting on May 22th in Rome
and members of the TF -YS, who collaborated in the GMLW 2023



Again in 2024, please share your blue heart on social networks!

"LABS SAVE LIVES"



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N ^o 10	October
N ^o 11	November
N ^o 12	December

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IFCC Corporate Members receive a 25% discount on current prices.

**Visiting Lecturer Programme (VLP) report:
36th National Days of Clinical Biology (JNBC 2023)
organized by the Société Tunisienne de Biologie Clinique (STBC)
Djerba, Tunisia – 4-6 May 2023**

*by Tomris Ozben
IFCC President-elect
EFLM President*



Professor Tomris Ozben

I would like to express my sincere gratitude to the EMD-VLP Committee and its Chair, Prof. Sedef Yenice and Abbott company for supporting my attendance as a visiting lecturer to the 36th National Days of Clinical Biology (JNBC 2023) organized by the Société Tunisienne de Biologie Clinique (STBC) which was held at Radisson Blu Hotel in Djerba, Tunisia from May 4 to May 6, 2023.

The meeting was organized under the Auspices of the International Federation of Clinical Chemistry -IFCC. Prof. Manel Chaâbane, President of the Tunisian Society of Clinical Biology was the President of the Conference.

It took place for two and a half days and included several symposia, lectures organized in three parallel sessions, exhibition, and posters. It was held in English or French. There was a great interest for the Conference from Arabic Countries and Europe. The Posters and Commercial Exhibition were held every conference day. Visits to Posters and Commercial Exhibitions were performed during coffee and lunch breaks. It was a successful meeting and the scientific program was well prepared.

The objectives of inviting me as the VLP lecturer was to provide “Continuous training and updating of medical biologist’s knowledge in the fields of therapy guidance in oncology” and to present “Green labs” and “Strengthen ties with IFCC”.

I delivered my first 45 minutes Plenary lecture on May 4th from 17:45 to 18:30 entitled **“Implementation of sustainable practices in medical laboratories. Switching the Clinical Laboratories to Green Labs”**. The moderators of my lecture were Prof. Manel Chaâbane, and Prof. Osama Najjar. Following my presentation, I answered the questions of the attendees. Following the two plenary lectures, the meeting was officially opened, from 18:30 till 19.30 and I also participated in the Opening Ceremony and welcomed the participants.

On Friday, 5th May, (GR) – I presented my second 45 minutes Plenary Lecture from 11:30 till 12:15 entitled **“Integrated diagnosis: evidence-based therapy guidance in oncology: From tumor markers to liquid biopsy in the current and future clinical practice”**. It was chaired by Prof. Abderrazek Hedhili, and Prof. Zied Aouni. Following my lecture, I answered the questions of the attendees.

Visiting Lecturer Programme (VLP) report
Symposium: Point-of-Care Testing: Bridging the disparity Gap in Healthcare
IFCC in collaboration with Pakistan Society of Chemical Pathologists
Shifa International Hospital Islamabad – 9-10 March 2023

by Adil I. Khan
Chair, IFCC Committee on Point-of-Care Testing



Adil I. Khan, MSc PhD

Point-of-care (POC) testing is one of the fastest growing sectors of the diagnostic market, and the enormous R&D investment has resulted in devices with expanded menus, improved reliability and connectivity features. Furthermore, POC testing has a proven track record in improving patient health when properly incorporated into clinical pathways in both the hospitals and the rural community. In Pakistan, although hospitals like Shifa International Hospital in Islamabad and The Aga Khan University in Karachi have done excellently well in incorporating POC testing into their clinical pathways, the full potential of POC testing in rural health programs throughout Pakistan still needs to be realized and is a fertile ground for the use of this technology if correctly integrated into patient disease management. Realizing this unmet need, Dr. Adil Khan, chair of the IFCC Committee on point-of-care testing, who has ancestral ties to Pakistan decided to hold a two-day symposium to bring awareness to this concept. Healthcare in Pakistan's remote mountainous regions in the north is virtually non-existent and patients need to be carried or driven through difficult train trips to the nearest town which could be hours away. Timely POC testing and treatment in this setting would bring the greatest benefit to these communities. However, this symposium would not have been possible without the help of Dr. Adnan Zubairi, President of Pakistan Society

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of Chemical Pathologists, and Pakistani colleagues Brig. Dr. Muhammad Aamir, Dr. Ghazanfar Abbas, Dr. Aysha Habib, Dr. Lena Jafri, Dr. Sibtain Ahmed, and Dr. Muhammad Omar.

The symposium was titled: ***“Point-of-Care Testing: Bridging the disparity gap in Healthcare”***. The program would present three themes: POC testing in rural communities, point of care testing in hospital settings and quality assurance in POC testing followed by a workshop. It was opened by CEO Dr. Zeeshan Bin Ishtiaque of Shifa International Hospital and Dr. Quad Saeed, guest speaker and CEO of Islamabad Healthcare Regulatory Authority.

Addressing the theme of POC testing in rural communities, Dr. Adil Khan (USA) gave his talk titled: ***How Can Point-of-Care Testing Bridge the Healthcare Disparity Gap?*** He discussed how POC testing can improve health outcomes in rural communities when it is part of a comprehensive program. However, POC testing needs to have a solid quality assurance program to ensure reliable results.

This was followed on by Dr. Samarina Musaad (New Zealand) who presented, ***“POCT in general practice and primary care,”*** that addressed POCT in primary care holistically, discussing factors to consider when choosing, planning and implementing POCT. Her take home messages were: (1) Approach the choice of POC test required and device holistically - start with the clinical need & objective goals. (2) Embed POCT within a clinical pathway (3) Look into analytical performance in context of your patient group/s and clinical requirements.

Finalizing 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. Kost 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. He 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.

Talks regarding POC testing in the hospital setting was initiated by Dr. Ghazanfar Abbas titled: ***POCT Experience in Shifa International Hospital.*** This provided valuable insights into the practical aspects of implementing a Point-of-Care Testing system in a hospital setting. Dr. Abbas demonstrated how successful integration of POCT can improve patient care, enhance efficiency, and contribute to better healthcare outcomes. Brig. Dr. Muhammad Aamir followed with ***“POCT Accreditation in Pakistan,”*** discussing current practices and challenges.

Next, Dr. Paul Jarvis (Abbott Laboratories) presented ***“Traumatic Brain Injury (TBI) Biomarkers.”*** The talk discussed the current situation in diagnosing TBI, and the clinical algorithms used and then went on to discuss the novel biomarkers in development that have been shown to identify brain injuries visible on computed tomography (CT) scan.

Blood management during surgeries is important but POC testing is now available that can help decide its usage during procedures. Dr. Michel Vaubourdolle (France), presented ***“Medical economics - blood management using TEG/ROTEM.”***

Dr. Sohini Sengupta (India), continued with POC testing in the hospital setting with her talk on, ***“Quality Assurance in POCT: New developments in arterial blood gas (ABG) analysis.”*** Discussing systems that enable real-time monitoring of ABG results, and immediate, automated corrective actions to prevent release of questionable test results and flawed medical decisions.

Addressing the quality assurance theme in POC testing, Dr. Lena Jafri’s presentation, ***“QA Practices for POCT Program in Pakistan: From Briefing to Experience”*** focused on the quality assurance practices for the POCT

program at Aga Khan University in Pakistan highlighting the collaborative efforts that were needed for resource optimization

Dr. Paloma Oliver (Spain), followed on with her talk on **“Identifying and using quality indicators.”** discussing their importance in evaluating performance throughout critical aspects of the total POCT process.

This theme was continued by Dr. Julie Shaw (Canada) in her presentation, **“Quality Assurance Audits and Monitoring of Quality Indicators for POCT,”** who discussed the importance of auditing and Quality Indicator monitoring in improving POCT programs drawing examples from her work in Ottawa, Canada.

“Troubleshooting Inaccurate Sample Results in Point of Care Testing,” is an important topic and was given by Dr. Prasad Pamidi’s (Werfen). He discussed potential sources of errors in pre-analytical and analytical phases and their remediation.

To tie up all the talks, Ms. Marianne Mulder (Roche) described **“How to set up a POCT service / program,”** with emphasis on important aspects for the establishment of a successful Point of Care Testing Program.

Finally, the workshop provided by Roche Team, Ms Afshan Yaseen from Shifa International Hospital and Dr. Adil Khan concluded the program. Instruments that were demonstrated and discussed, were: (1) Roche Cobas b221 (ABGs analyser) (2) Roche Accu Check Inform II (glucose meter) (3) Roche Urisys 1100 (Urine R/E) (4) Roche Coa-guCheck Pro II (Coagulation) (5) Abbott ID Now (Rapid PCR device) (6) Abbott iSTAT Alinity (CHEM 8)

Acknowledgements

Dr. Adil I. Khan thanks Abbott Laboratories and the IFCC-Abbott Visiting Lecturer Program under Prof Sedif Yenice for sponsoring his travel to Pakistan and to Shifa International Hospital and Roche Diagnostics for generous sponsorship of the symposium.



Adil Khan receiving gifts at the symposium

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Thyroid

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

Hepatic Fibrosis

HA
PIIIP N-P
C IV
Laminin
Cholyglycine
*GP73

TORCH

Toxo IgG
Toxo IgM
Rubella IgG
Rubella IgM
CMV IgG
CMV IgM
HSV-1/2 IgG
HSV-1/2 IgM
HSV-1 IgG
HSV-2 IgG
*HSV-2 IgM
*HSV-1 IgM
*Toxo IgG Avidity
*CMV IgG Avidity

Kidney Function

β₂-MG
Albumin
*NGAL

STAT-X™

*hs-cTnl
*NT-proBNP
*Myoglobin
*D-dimer
*PCT
*CRP

* Available soon

Fertility

FSH
LH
HCG/β-HCG
PRL (Prolactin)
Estradiol
Testosterone
free Testosterone
DHEA-S
Progesterone
free Estrilol
17-OH Progesterone
AMH
SHBG
Androstenedione
PIGF
sFlt-1

Autoimmune

Anti-CCP
Anti-dsDNA IgG
ANA Screen
ENA Screen
Anti-Sm IgG
Anti-Rib-P IgG
Anti-Scl-70 IgG
Anti-Centromeres IgG
Anti-Jo-1 IgG
Anti-M2-3E IgG
Anti-Histones IgG
Anti-nRNP/Sm IgG
Anti-SS-B IgG
Anti-SS-A IgG
TGA (Anti-Tg)
Anti-TPO
TRAb
TMA
ICA
IAA (Anti Insulin)
GAD 65
Anti-IA2
*ZnT8
Anti-MPO IgG
*Anti-PR3 IgG
*Anti-GBM IgG
*Anti-Cardiolipin IgG
*Anti-Cardiolipin IgM
*Anti-Cardiolipin IgA
*Anti-Cardiolipin screen
*β2-Glycoprotein I IgG
*β2-Glycoprotein I IgM
*β2-Glycoprotein I IgA
*β2-Glycoprotein I screen
*Anti-ITG IgA
*Anti-ITG IgG
*DGP IgA
*DGP IgG

Tumor Markers

AFP
CEA
Total PSA
f-PSA
CA 125
CA 15-3
CA 19-9
PAP
CA 50
CYFRA 21-1
CA 242
CA 72-4
NSE
S-100
SCCA
TPA-snibe
ProGRP
HE4
HER-2
PIVKA-II

Infectious Disease

HBsAg
Anti-HBs
HBeAg
Anti-HBe
Anti-HBc
Anti-HBc IgM
Anti-HCV
Syphilis
Anti-HAV
HAV IgM
*HEV IgG
*HEV IgM
HIV Ab/Ag Combi
Chagas
HTLV I+II
H.pylori IgG
H.pylori IgA
H.pylori IgM
2019-nCoV IgG
2019-nCoV IgM
SARS-CoV-2 S-RBD IgG
SARS-CoV-2 Neutralizing Antibody
SARS-CoV-2 Ag
Monkeypox Virus Ag
Dengue Virus IgG
Dengue Virus NS1
*Dengue Virus IgM
*Chlamydia Pneumoniae IgG
*Chlamydia Pneumoniae IgM
*Mycoplasma Pneumoniae IgG
*Mycoplasma Pneumoniae IgM

Cardiac

CK-MB
Troponin I
Myoglobin
hs-cTnl
hs-CRP
H-FABP
NT-proBNP
BNP
D-Dimer
Lp-PLA2
MPO
*HCY
*hs-cTnl (STAT)
*NT-proBNP (STAT)
*Myoglobin (STAT)
*D-dimer (STAT)

Hypertension

Direct Renin
Aldosterone
Angiotensin I
Angiotensin II
Cortisol
ACTH

Coagulation Markers

D-Dimer
*TAT
*TM
*PIC
*tPAIC

Metabolism

Pepsinogen I
Pepsinogen II
Gastrin-17
GH (hGH)
IGF-I
IGFBP-3

Prenatal Screening

AFP (Prenatal Screening)
free β-HCG
PAPP-A
free Estriol

Anemia

Vitamin B12
Ferritin
Folate (FA)
EPO
RBC Folate

Inflammation Monitoring

CRP
PCT (Procalcitonin)
IL-6 (Interleukin 6)
SAA (Serum Amyloid A)
*PCT (STAT)
*CRP (STAT)
*TNF-α

Bone Metabolism

Calcitonin
Osteocalcin
25-OH Vitamin D
Intact PTH
β-CTx
total P1NP

EBV

EBV EA IgG
EBV EA IgA
EBV VCA IgG
EBV VCA IgM
EBV VCA IgA
EBV NA IgG
EBV NA IgA

Immunoglobulins

IgM
IgA
IgE
IgG

Glyco Metabolism

C-Peptide
Insulin
GAD 65
Anti-IA2
ICA
IAA (Anti Insulin)
Proinsulin
*Glucagon
*ZnT8

Veterinary Testing

*cTSH
*cTT4
*vFT4

Drug Monitoring

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CSA (Cyclosporine A)
FK 506 (Tacrolimus)

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News from the IFCC Website

Great moments in Rome!

Greetings to everyone in the IFCC and EFLM family! We met at the IFCC-EFLM WorldLab - EuroMedLab Congress in the fabulous city of Rome and where thousands of delegates, corporate representatives, exhibitors and visitors attended this very important and popular event. The XXV IFCC-EFLM WORLDLAB-EUROMEDLAB CONGRESS set the all-time record in attendance with over 11.500 people that were in Rome during the 5 day event. We are certain you relished and were impressed by the exceptional scientific program and the stunning beauty of Rome during the congress.

[Click here](#) to see the final video, featuring all the great moments of the congress.

See you in Dubai in May 2024!

Invitation to Participate in the IFCC Website and Social Media Survey



The image shows the IFCC logo on the right, which includes a globe icon above the text "IFCC" and "International Federation of Clinical Chemistry and Laboratory Medicine". To the left of the logo is a collection of social media icons: a globe with "www" and a cursor (labeled "ifcc.org"), Facebook (labeled "IFCClinChem"), Instagram (labeled "ifclinchem"), LinkedIn (labeled "IFCC"), Twitter (labeled "IFCC&LM"), Spotify (labeled "IFCC Podcast"), YouTube (labeled "IFCC"), and Telegram (labeled "ifclinchem").

We want your
feedback!

The Committee on Internet and Digital Communications (C-IDC) has prepared a survey to assess the recent updates to the IFCC website and the expanded reach of our social media platforms. Your feedback is requested to help guide our ongoing efforts in these areas.

The survey is designed to gauge your experience with our website's usability, responsiveness, content relevance, and overall performance, as well as our presence on various social media platforms.

Your responses will provide invaluable insights to help us shape our digital communications strategy moving forward. The completion of the survey should only require a few minutes of your time.

We greatly appreciate your assistance and your commitment to the IFCC.

No individual responses will be presented, and the privacy of individual respondents will be respected.

If you have any questions about the survey, please contact us at ifcc@ifcc.org.

The deadline for completion is 12 July 2023.

Thank you for your time and your invaluable feedback!

Please [click here](#) to complete the survey.

Single-sample rule-out of NSTEMI-are we ready for prime time?

The on-demand content is now available
[Click here to access the recorded webinar](#)

IFCC Live Webinar on
Single-sample rule-out of NSTEMI-are we ready for prime time?



<p>Moderator</p>  <p>Prof. Fred Apple [USA] Medical Staff, Laboratory Medicine & Pathology Hennepin Healthcare/Hennepin County Medical Center & University of Minnesota</p>	<p>What is the current evidence for safe single sample rule-out of NSTEMI</p>  <p>Prof. Yader Sandoval [USA] Interventional Minneapolis Heart Institute, Abbott Northwestern Hospital,</p>	<p>Myocardial infarction ruled out - so what? Follow-up and evaluation of long-term risk</p>  <p>Prof. Nicholas Mills [UK] Professor University of Edinburgh</p>	<p>Implementation of rule-out and rule-in algorithms; what should the laboratory do?</p>  <p>Prof. Paul Collinson [UK] Professor of Cardiovascular Biomarkers St George's University of London</p>
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Date: May 17, 2023

Time: 9 AM (Eastern Daylight), 3 PM (Central European), 9 PM (China Standard)



The IFCC webinar: **"Single-sample rule-out of NSTEMI-are we ready for prime time?"** was held on **May 17, 2023**.

This webinar gave an overview of how high sensitivity troponins may be used for rule-out and rule-in of non-ST elevation myocardial infarction, including data on safety and efficiency. The laboratories role as facilitator in implementation of current recommendations for measuring troponins in the emergency room will be discussed. The webinar also describes long-term risk in the heterogenic group of patients who do not have acute myocardial infarction and how cardiac markers may help identify individuals who could benefit from a closer follow-up.

This webinar comprises of three following presentations of 20 min each:

Chair: Prof. Fred Apple

Talk 1 - "What is the current evidence for safe single sample rule-out of NSTEMI" by Dr. Yader Sandoval

Talk 2 - "Myocardial infarction ruled out-so what? Follow-up evaluation of long-term risk" by Prof. Nicholas Mills

Talk 3 - "Implementation of rule-out and rule-in algorithms; what should the lab do?" by Prof. Paul Collinson

Artificial intelligence applied to the Clinical Laboratory

The on-demand content is now available

Click here to access the recorded webinar, English version

Haga clic aquí para acceder al seminario web, versión en español

IFCC Live Webinar on
Artificial intelligence applied to the Clinical Laboratory

<p>Moderator</p> <p>Dr. Ana Maria Lena [Uruguay]</p> <p>Professor of Clinical Analysis and Hematology at Faculty of Chemistry of the University of the Republic IFCC Regional Representative (COLABIOCLI)</p>	<p>The laboratory of the future</p> <p>Master Israel Parra Ortega [Mexico]</p> <p>Professor in the Specialty Program in Clinical Pathology, Laboratorios Ruiz, Puebla. Children's Hospital of Mexico Federico Gómez</p>	<p>Technological advances in clinical analysis laboratories and how they affect the organizational model</p> <p>Mr. Alvaro Notaroberto [Uruguay]</p> <p>Market Analyst Werfen</p>	<p>How Young Scientists Perceive Rapid Technological Evolution</p> <p>MSc Santiago Fares Taie [Argentina]</p> <p>Technical director of the Fares Taie laboratory Chair of the IFCC Task Force Young Scientists</p>
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Date: June 7, 2023

Time: 9 AM (Eastern Daylight), 3 PM (Central European), 9 PM (China Standard)

The IFCC webinar: “Artificial intelligence applied to the Clinical Laboratory” was held on June 7, 2023.

Artificial Intelligence (AI) is a combination of algorithms designed to create machines with capabilities comparable to those of human beings. The goal is to develop systems that can think and reason like humans, making rational decisions and solving problems in a similar manner.

In the field of healthcare, AI enables the generation of patterns that assist in the diagnosis of diseases. By analyzing symptoms, medical records, test results, genetic factors, and medical guidelines, AI can provide valuable insights. These insights can support clinicians in decision-making, helping them to prevent diseases, improve patient outcomes, and ultimately save lives.

AI also plays a crucial role in managing clinical analysis laboratories. By leveraging AI, tests can be processed more efficiently and with higher quality, leading to reduced errors. This technology enhances the safety

of healthcare professionals by minimizing sample handling, while also improving traceability. Additionally, AI allows for the scheduling of additional studies to confirm a diagnosis when abnormal results are obtained.

Automation of processes in laboratories has further contributed to the shift in responsibilities for laboratory professionals. By freeing them from routine tasks, AI empowers these professionals to focus on research and other projects that drive progress in new areas of study.

These technological advancements in clinical analysis laboratories are reshaping the organizational models within the field. As we look toward the future, young scientists may find themselves at the forefront of the laboratory of tomorrow, where artificial intelligence could play a central role.

This webinar comprised three following presentations of 20 min each.

Chair: Dr Ana Lena

Talk 1- "The laboratory of the future" Dr. Israel Parra Ortega

Talk 2- "Technological advances in clinical analysis laboratories and how they affect the organizational model"
Dr. Alvaro Notaroberto

Talk 3- "How Young Scientists Perceive Rapid Technological Evolution" Dr. Santiago Fares Taie

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22nd June, 2023

"Publication Ethics: An overview from different perspectives"

Register here

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 will explain the concerns and challenges

News continued on next page

from their own experiences, this webinar offers to bring in the perspectives for ethical issues from the points of views of an author, an editor, and a publisher. Each speaker will provide the ethical standards for publishing and talk about particular concerns from the viewpoints from different roles.

This webinar comprises 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

- Time Zones: Live presentations starting at: 9:00AM EDT-New York ; 3:00PM CET-Rome; 9:00PM CST-Beijing;

Important: Please ensure that you carefully determine the time that the presentation will start in your global time zone. Click [here](#) to convert to your time-zone.

- Recorded webinar: available on demand
- Certificate of participation: available for all registrants

IFCC Live Webinar on Publication Ethics: An overview from different perspectives



Moderator



Dr. Sudip Kumar Datta
[India]

Additional Professor
Department of Laboratory Medicine, All
India Institute of Medical Sciences, New
Delhi

Publication ethics: the perspective
of an Author



Dr. Angela R. Solano
[Argentina]

Biochemist
Center for Medical Education and
Clinical Research (CEMIC)

Publication ethics: the
perspective of an Editor-in-chief



Prof. Mario Plebani
[Italy]

Full Professor of Clinical
Biochemistry and Clinical
Molecular Biology Medical
School
University of Padova

Publication ethics: the
perspective of a Publisher



Dr. Anthony Newman
[Netherlands]

Senior Publisher
Elsevier

Date: June 22, 2023

Time: 9 AM (Eastern Daylight), 3 PM (Central European), 9 PM (China Standard)



IFCC: THE YOUNG SCIENTISTS

The Second IFCC Young Scientists' Forum: IFCC WorldLab/EuroMedLab 2023, Rome

by IFCC YS-TF

Following the successful inaugural “Young Scientists’ Forum” in Seoul, the second forum was conducted with more young scientist participation as a satellite meeting at the IFCC ROMA 2023 WORLDLAB EUROMEDLAB, on 21 May 2023 in Rome, Italy. There were 85 in-person and online participants at the forum representing 36 countries worldwide, especially with the help of many travel scholarships awarded to young scientists worldwide.

The opening of the second Young Scientists’ Forum got off to a great start with distinguished guests namely Prof. Khosrow Adeli, Prof. Tomris Ozben, Dr. Santiago Fares Taie, Dr. Tommaso Trenti, and Prof. Rajiv Erasmus delivering motivational speeches to the young scientists commending them on their activities and supporting them to continue young scientists’ activities for they are the future of the laboratory medicine. Prof. Adeli also mentioned that the number of scholarships for young scientists for this meeting has increased. Dr. Santiago Fares Taie, the current Chair of the TF-YS, addressed the young scientists reiterating the activities and objectives of the Young Scientist’s Task Force urging young scientists to continue their activities across the world.



Participants in the Second Edition of the IFCC Forum for Young Scientists

Article continued on next page



Prof. Khosrow Adeli, Prof. Tomris Ozben, Dr. Tommaso Trenti, and Prof. Rajiv Erasmus delivering motivational speeches to the young scientists

The forum commenced with the session on “Digital technologies”, moderated by Aleksei Tikhonov (Gustave Roussy, France) and Marie Lenski (Lille University Hospital, France), featuring four presentations related to digital technologies in laboratory medicine. “Evaluating A Patient for A Monoclonal Gammopathy: The MG-Testing Shiny App” by John Gabriel Bautista Abcede (Australia) introduced a web-based application that can help clinicians and laboratory professionals to interpret and report serum protein electrophoresis and immunofixation results for patients with suspected monoclonal gammopathies providing recommendations for further testing and referral based on the International Myeloma Working Group guidelines. The next presentation was by Arnel Christian King Dy (Philippines) on “Enzymatic Correction of Jaffe Derived Serum Creatinine Interferences: A Machine Learning Approach”, which described a novel method to correct the interference of non-creatinine chromogens observed in the Jaffe method for serum creatinine measurement using a machine learning approach. He demonstrated that by using these validated models, labs can easily correct Jaffe method interferences and approximate enzymatic method values online further stating that his method could be further improved for its accuracy and precision and is freely available online. Ronald Khunga (Malawi) presented a “Social Network Strategy: An Innovative Way of Identifying and Testing High-Risk Men” demonstrating how a social network strategy, a peer-driven recruitment approach, can be used to recruit peers of HIV-positive and high-risk HIV-negative men and increase the uptake of HIV testing and linkage to care among high-risk men in Malawi. The last presentation of the session was on “Digital Competence In Laboratory Medicine: Results Of A Survey Among Young Scientists” by Marie Lenski (France), reporting the results of a survey conducted by Young Scientists to assess the level of digital competence among young laboratory professionals worldwide. The survey revealed that there is a need for more training and education on digital skills and tools in laboratory medicine. Based on results from this survey, an international working group on digital competence for Young Scientists will be established, to build a learning environment and propose common international resources. The goal is to help the next generation of specialists to be ready to tackle the upcoming professional challenges. This session was a great opportunity to showcase the innovative work of young scientists in laboratory medicine and to foster networking and collaboration among them.



The forum commenced with the session on "Digital technologies", moderated by Aleksei Tikhonov (Gustave Roussy Hospital, France) and Marie Lenski (Lille University Hospital, France)

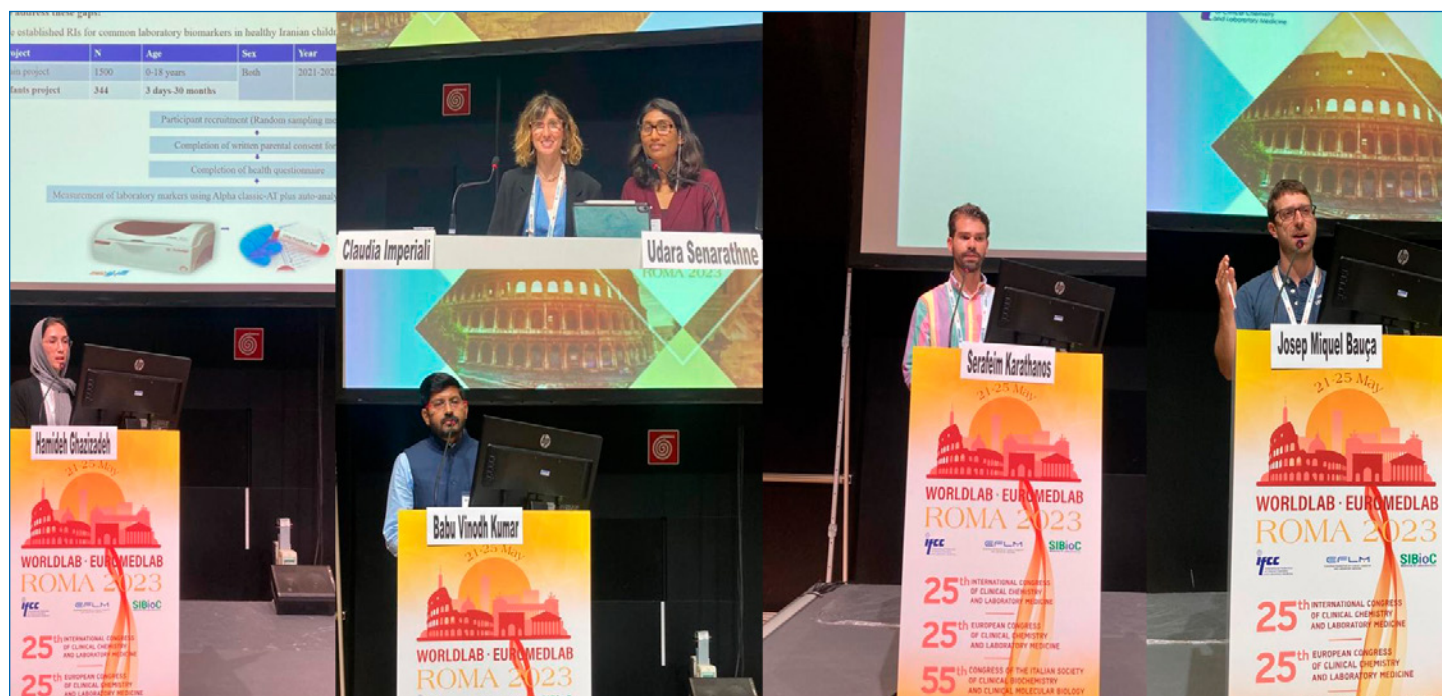


The second session of the forum offered interesting presentations about "Chronic Diseases". It was coordinated by Dr. Sean Campbell, (United States) and Dr. Tamar Ramishvili (Georgia)

The second session of the forum was on interesting presentations about "Chronic Diseases" coordinated by Dr. Sean Campbell, (United States) and Dr. Tamar Ramishvili (Georgia). This session commenced with a great presentation by Mohammed Yassine Kaabar, (Tunisia) on "Evaluation of GPR score for non-invasive assessment of Liver Fibrosis in Chronic Hepatitis B Tunisian patients". He and his team retrospectively studied the gamma-glutamyl transpeptidase-to-platelet ratio (GPR) as a novel biomarker in patients diagnosed with liver fibrosis in hepatitis B virus (HBV) mono-infection. The next speaker was Don Makwakiwe Matshaz, (South Africa), who discussed an excellent study on "HHEX And MTR1B Gene Polymorphisms Associated with The Risk of Type 2 Diabetes Mellitus in A Mixed Ancestry South African Urban Population". This cross-sectional study, conducted with a world of 1650 participants from South Africa and revealed SNPs that may increase the risk of developing

Type 2 Diabetes Mellitus (T2DM). Furthermore, Matshaz and his team have concluded that the mentioned SNPs may be used as screening targets to identify individuals in whom interventions may be useful to reduce the development of T2DM. Also, these SNPs may be alternative therapeutic targets once their role in the pathophysiology of T2DM is fully elucidated. A young scientist from Nepal, Sushant Pokhrel shared with us a study on the “Associated Non-Invasive Biomarkers for Risk of Liver Disease in Type 2 Diabetes Mellitus Patients”. According to this study routine screening of Aspartate to platelet ratio index (APRI), gamma-glutamyl transpeptidase to platelet ratio (GPR), fibrosis-4 index (FIB-4), and triglyceride and glucose index (TyG) may be helpful in preventing progression of liver disease in T2DM patients. The last speech of this session was carried out by a young scientist from India, Shruti Gupta. She presented her study about the “Association Of Interleukin-22 Transmembrane Receptor and Binding Protein with its Levels in Tuberculosis”. According to her presentation, the upregulation of IL-22R1 and downregulation of IL-22R2 may be a host mechanism to combat the infection. It should be noted that this is the first study to check for the diagnostic efficiency of IL-22. The presentations of these studies generated great interest from the audience and the interaction between the speakers and YS from the audience facilitated sharing experiences and opinions about the research processes with each other.

The third session in the forum was on “Laboratory Management and Quality Control” chaired by Claudia Imperiali (Spain) and Udara Senarathne (Sri Lanka). Serafeim Karathanos (Greece) discussed “Education and Training of Young Scientists in EQA Schemes Operation and Management” and stressed the importance of continuous professional development activities for young scientists to improve their understanding of quality assurance. The next talk was by Josep Miquel Bauça (Spain) on the “Past present and future of the reference intervals in medicine” providing a broader overview of reference values followed by a talk on the “Establishment of Age-Specific Reference Interval for Amino Acids in Dried Blood Spot by Tandem Mass Spectrometry” by Babu Vinodh Kumar (India). The last talk in the session was by Hamideh Ghazizadeh (Iran), who discussed about the Comparison of Biochemical and hematological markers Reference Intervals Derived by Direct and Indirect Procedures Based on The Isfahan Cohort Study. The session was interactive with many questions arising from the audience, allowing a better understanding of the concepts of reference interval establishment and laboratory quality management among young scientists.



The third session in the forum was focused on “Laboratory Management and Quality Control” and was chaired by Claudia Imperiali (Spain) and Udara Senarathne (Sri Lanka)

The forum continued with the 4th session: Biomarkers of cardiovascular risk. The session was moderated by Dr. Marco Alfonso Perrone (corresponding member IFCC-YS for Italy) and Dr. Giulia Sancesario (Head of Italian YS and past member IFCC-YS). The first speaker was Dr. Marlena Aginieszka Olejnik from Poland with the lecture entitled: “Cardiac Biomarkers during Exercise: from Patient to Professional Athlete”. During the presentation, Dr. Perrone showed the use of cardiac biomarkers in response to exercise and the possible interactions between cardiac patients and professional athletes. Of particular importance is the use of clinical biochemistry in the early diagnosis of myocardial injury compared to other imaging methods and the pathophysiology of cardiac troponin release during exercise. The second speaker was Dr. Judit Gonda from Hungary with the title of the lecture: “The Increase of Soluble Urokinase Plasminogen Activator Receptor in Heart Failure is Related To Disease Severity and To Cardiac Mortality”. During the presentations, Dr. Gonda showed data from the study on the use of Soluble Urokinase Plasminogen Activator Receptor in patients with heart failure, showing how increased levels of the biomarker were correlated with heart disease severity and increased mortality. The third speaker was followed by Dr. Dharmshel Shrivastav from India with the title of the reading: “Risk factors influencing left ventricular ejection fraction in patients with coronary artery disease: a tertiary care center experience in North India”. In the presentation, Dr. Shrivastav showed how risk factors and biochemical markers correlated with left ventricular function in case series collected at his research center in Northern India. In particular, the study showed that cholesterol levels were more correlated with left ventricle function. At the conclusion, the 4th speaker was Dr. Marlena Aginieszka Olejnik from Poland with the title of the lecture: “Klotho And Fgf23 as Potential Biomarkers for Myocardial Infarction In Patients With Acute Coronary Syndrome”. In the presentation Dr. Olejnik showed data from the study where they evaluated the levels of Klotho and FGF23 and demonstrated their possible use as biomarkers of acute myocardial infarction in patients with coronary artery disease.

The session aroused great attention from the audience with subsequent questions and a rich discussion. Cardiovascular diseases (CVD) remain the leading cause of death in the world, but, thanks to clinical and biochemical innovations, today CVD also represent one of the fields in which there are major innovations available to the health of cardiac patients. Thanks to the IFCC and the YS for this beautiful session!



The Session “Biomarkers of cardiovascular risk” was moderated by Dr. Marco Alfonso Perrone (Italy) and Dr. Giulia Sancesario (Italy)



Dr. Ashlin Rampul (South Africa) and Prof. Damien Gruson (Belgium) delivering the closing remarks

The closing remarks were delivered by Dr. Ashlin Rampul (South Afrika), who commended the highly scientific program at the second young scientist forum. He urged the young scientists to continue activities and become part of the IFCC TF-YS activities. The forum participation has improved every year and the number of young participants in Dubai is expected to grow further. Prof. Damian Gruson also a former member of the Young Scientist Task Force at its inception also delivered concluding remarks stating “You will have good times in your career and not so good times but the most important fact is as a young scientist you should continue to work hard without letting failures hinder the progress in your career”. The young

scientists were all thanked for their contribution to the forum and special thanks were noted to the Italian Society, especially Giulia Sancesaro and Marco Perrone who were excellent hosts and invited the young scientists to a spectacular get-together.



Nice memories of the second edition of the Forum, an interesting and great scientific and networking event dedicated to Young Scientists

Professional scientific Exchange Program (PSEP): My Experience at Laboratory of Tor Vergata hospital Rome, Italy, 2023

*by Mohammed Al Haddad
Palestine/Gaza City*



Mohammed Alhaddad
Specialist Medical Laboratory
Officer laboratories of the Ard EL-Insan Palestinian Association
Palestine/Gaza City

Supervision: Prof. Sergio Bernardini
IFCC ETD Chair
Italian Society of Clinical Chemistry and Clinical Molecular Biology - SIBioC
Chair of Laboratory Medicine, Department of Experimental Medicine
University Hospital of Tor Vergata, Rome

I am Mohammed AL Haddad from Gaza/Palestine.

More than ten years ago, the idea started about participating in conferences, getting to know colleagues around the world, and participating in training programs to increase professional expertise in our field, but I faced many obstacles, some of which I was able to overcome.

And here I am in Italy/Rome, I got a grant for Program Exchange training Professional by the International Federation of Clinical Chemistry (IFCC).

IFCC has been a strong supporter and encourager for me to be the best. I got to know many colleagues and we exchanged scientific information.

My message to everyone: Do not give in to reality, try and try and you will find someone who will help you.

I would like to thank IFCC for supporting, encouraging and helping the youth to reach their humanitarian and scientific goals.

Thank you, Mohammed

Article continued on next page

I was admitted to Tor Vergata Hospital in Rome, Italy, under the supervision of Professor Sergio Bernardini, for a period of three months, including full training on medical devices and diagnostics.

I will talk about the laboratory departments and the training time period in each department.

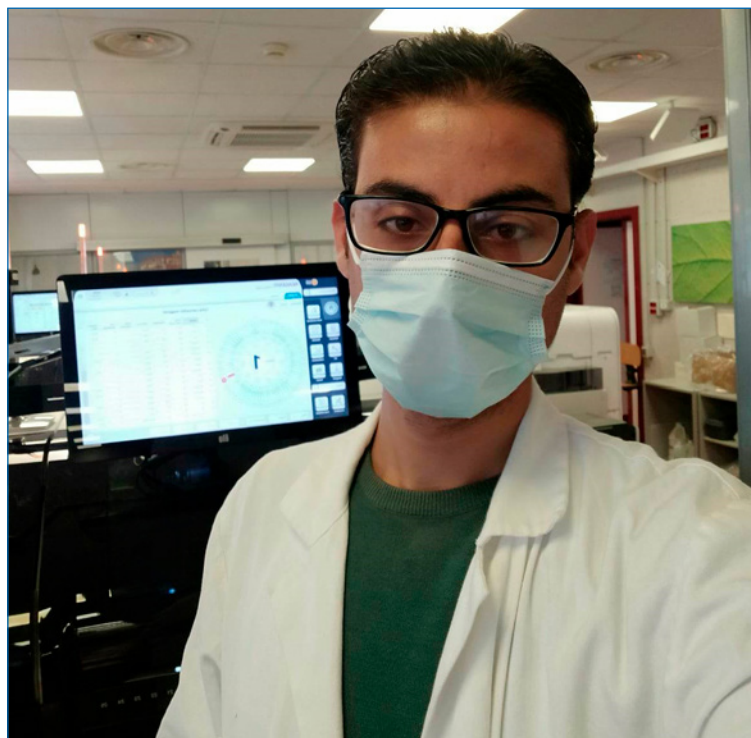
We submitted a scientific paper in each training section with Professor Sergio Bernardini, entitled: "Inflammageing and Cardiovascular System: Focus on Cardiokines and Cardiac-Specific Biomarkers": <https://www.mdpi.com/1422-0067/24/1/844>

Scientific development and enhancing the skills of workers in medical laboratories and international participation, especially in the new microbial mutations that the world faced is very important especially for countries that need to keep pace with this progress.

During my PSEP I could be trained in the department of Proteins of Urine Electrophoresis, the Autoimmunity, Hematology Department, the Clinical Chemistry Department. I could also attend the IFCC WorldLab Congress that was held in Italy-Rome.

In the department of Proteins of Urine Electrophoresis, I was trained to receive urine analysis samples and prepare them for the required tests, such as regular urine examination, which is done through an automatic device consisting of two units, the first to measure chemical changes using the Strips system, and the second to measure the level of sedimentation in samples. At the beginning each unit is calibrated separately, then the work begins. During the training I learned to observe the physical properties, such as the color and the degree of turbidity of the sample. A number of fungi, as well as crystals and amorphous, were observed, and the curve was read to identify the percentages of bacteria, red and white cells in the urine.

The training on how the capillary electrophoresis device works took place with Professor Massimo. I was taught to read the changes



Mohammed AL Haddad



Mohammed AL Haddad and Prof. Sergio Bernardini

in the protein components and how the immunofixation works and to read the curve through the program linked to the device and give indications on that, and this reading depended on the age and diagnosis of the patient and we could determine if he needs to be re-examined again. If there are abnormal changes on the gamma curve, it is necessary to check for monoclonal immunoglobulins through immunofixation.

I also participated in a Meeting of Updates on laboratory Automation Moving Towards Standardization on 19th May Rome, at the 16th international Congress of Pediatric Laboratory Medicine - Satellite Meeting on 20 May 2023 Rome, at the Young Scientists Forum on 21/5/2023 Rome and at the WorldLab EuroMedLab 21-25 May 2023.

The internship at Tor Vergata Hospital has ended and I got to know colleagues who helped me with a lot of effort for language communication, so that I could get the most benefit.

I would like to thank the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) for giving opportunities to colleagues from around the world to improve their professional capabilities, help young people and empower experiences.

I thank my teacher, Professor Sergio Bernardini, for supporting me and encouraging me to continue improving my professional abilities, helping me to stay in Rome, and for his continuous communication with me. Thank you, my teacher!

I thank my colleagues in the hospital for their efforts towards me.

Thank you, Roma, for the love I have for you.



Mohammed AL Haddad with colleagues at Laboratory of Tor Vergata Hospital, Rome

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Early bird registration is now open and includes full access to plenary sessions, educational workshops and hot topics for the live Oct 3-4th event. Access will also be available through until October 31st for subsequent viewing. Additionally, registered participants of the UNI5K, hosted in partnership with the 2023 AACC Annual Scientific Meeting and Clinical Lab Expo, will receive a \$35 USD discounted registration to the early bird and/or full registration prices. To learn more and/or register for the UNI5K, visit [UNI5K Fun Run/Walk](https://www.healthcareelx.com).

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The American horseshoe crab (*Limulus polyphemus*) and its contribution to science

by Luis Figueroa Montes

President of the Peruvian Medical Association of Clinical Pathology
Peru

On a recent visit to a supplier of the diagnostic industry in Peru, I learned about an in vitro diagnostic test that uses a component of the blood of a species of crab, which is worth describing because of its contribution to different industries, especially to the implantable medical device industry.

The American horseshoe crab (*Limulus polyphemus*) is a valuable species that inhabits the Atlantic coast of the United States and the Gulf of Mexico. Horseshoe crabs play a fundamental role in the fishing industry to ensure environmental safety, in the pharmaceutical industry for almost all medicines, in the medical device industry and in in vitro diagnostics (1).



Atlantic horseshoe crabs face increasing pressure for their toxin-sensitive blood (3)
Source: ILUSTRADO POR MARK THIESSEN, NAT GEO IMAGE COLLECTION

This ancient aquatic arthropod, similar to scorpions and spiders, belongs to a different class: Merostomata, which means «legs attached to the mouth». The name «Horseshoe crab» derives from its characteristics: an extended cephalothorax and a large horseshoe-like shell. Also known as a «Living fossil», this crab has been able to survive unchanged for 200 million years, despite population dynamics and increasing commercial demand. Conservation and research efforts are vital to the future of this species. Improved biomedical collection practices, environmental protection considerations, and the confluence of interested organizations help in this goal (1).

Interest in this crab has grown over the last half century due to the distinctive nature of its blood. The main commercial value of the animal is based on a substance found within its light blue blood. Possessing an open circulatory system without an adaptive immune response, the horseshoe crab has survived for centuries thanks to an «Innate immunity» based on granular amebocytes, which comprise 99% of its haemocytes. When these granular amebocytes come into contact with an endotoxin or 1,3 β -D-glucan, present in the cell walls of gram-negative bacteria and fungi, a cascade of defense molecules is released that cause coagulation and neutralization

Article continued on next page

of pathogens. This clot effectively immobilizes the threat and prevents the infection from progressing. Recent research on horseshoe crabs has focused on amebocytes and endotoxin detection (1).

The unique ability of these amebocytes to produce an immediate reaction to endotoxins has fueled commercial demand from pharmaceutical and biomedical companies to confirm the safety of drugs and medical devices. Note that the exquisite sensitivity of Limulus Amebocyte Lysate (LAL) compared to other assays for endotoxins or pyrogens, has proven to be extremely useful for monitoring high purity water used as the main ingredient or agent for the process of most biologics, drugs, and devices (2).



Horseshoe crab blood is blue due to its high copper content (3)
Source: ILLUSTRADO POR MARK THIESEN, NAT GEO IMAGE COLLECTION

This LAL has become the method of choice for the detection of endotoxins and includes quality assurance for intravenous drugs; biologics (clotting factors, insulin, and vaccines); recombinant drugs and implantable medical devices (heart valves and orthopedic devices) and in vitro diagnostic tests. Environmental applications have also increased the demand for LAL to ensure air quality and detect endotoxin concentrations in freshwater and seawater. To obtain this product, crabs must be captured, their blood obtained, centrifuged to concentrate the amebocytes, then water is added to the packed amebocytes, causing them to lyse and release these clotting proteins (1).

The Atlantic States Marine Fisheries Commission (ASMFC) reported that, in 2015, a total of 559,903 crabs were transported to biomedical facilities for LAL production. Careful blood collection is needed. Established methods involve the introduction of a hypodermic needle placed into the pericardial membrane of the crab to extract 50 to 400 mL of blood, depending on the sex and maturity of the crab. The plasma is centrifuged and reagents are added to prevent its coagulation after extraction (1). After the blood extraction process, the crabs are returned to the ocean. Crab mortality rates range from 10 to 30%; however, these figures have a slight population impact. However, different organizations are evaluating how this extraction of LAL affects crabs (2).

American companies have already steadily increased their horseshoe crab indentations each year. In 2020 alone, almost 700,000 crabs were caught along the entire Atlantic coast. More than 100,000 died, according to an estimate by the ASMFC (3).

Due to the mixed results of conservation efforts and the impact of ongoing demands from LAL and crab bait in the fishing industry, more sustainable approaches to horseshoe crab management and harvesting practices are urgently needed to medical and environmental applications. The unique characteristics of horseshoe crabs that underpin their irrefutable importance for medicine, environmental safety, and their role as a keystone species, highlight an urgent and pressing need for conservation and sustainable practices (1).

Currently, there is a synthetic alternative to amebocyte lysate, called recombinant factor C. In recent years, some US pharmaceutical companies have increasingly turned to recombinant factor C to ensure the safety of their products. The Food and Drug Administration (FDA) allows companies to interchange this synthetic, if they provide evidence that the results are comparable to those of material from crab (3).

We hope that a balance will be found in the future to guarantee the population of this species of crab and the benefit of its blood in the different industrial sectors.

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NEWS FROM REGIONAL FEDERATIONS AND MEMBER SOCIETIES



News from the Japan Society of Clinical Chemistry (JSCC): the 2022 JSCC Technology Award

by Hideo Sakamoto, PhD

International Exchange Committee of JSCC



Yoshiyuki Kitamura

The Japan Society of Clinical Chemistry (JSCC) Technology Award was given to person who had made outstanding technology development in clinical chemistry. In 2022, Yoshiyuki Kitamura, MS was winner of the Technology Award. The award presentation was held at the 62nd Annual Meeting of JSCC in Toyama, Japan from September 30 to October 2, 2022. At the award presentation, award winner was congratulated by Dr. Takashi Miida, president of JSCC for their outstanding technology development in clinical chemistry.

In this issue, we would like to introduce winners of Technology Award to distribute their outstanding work.

Yoshiyuki Kitamura, MS (Research and Development Division, FUJIREBIO INC.) is the winner of the 2022 JSCC Technology Award, entitled with “Development of a novel thyroglobulin immunoassay “Lumipulse Presto iTACT Tg” hindering the influence by autoantibodies to thyroglobulin”.

Thyroglobulin (Tg) is widely used as a tumor marker for recurrence and metastasis of differentiated thyroid cancer (DTC). Currently, serum Tg values are measured using second-generation thyroglobulin sandwich immunoassays (2nd-IMA). Endogenous autoantibodies to thyroglobulin (TgAbs) are present in 25% to 30% of DTC patients and 10% of the general popula-

tion. The interference by TgAbs can lead to false-negative results or falsely low Tg value. In contrast, LC-MS/MS can accurately determine Tg values and is generally unaffected by the presence of TgAbs. However, LC-MS/MS involves multiple complicated processes, such as peptide fragmentation and extraction, suffers from poor reproducibility, and has a long turn-around-time. Consequently, LC-MS/MS is yet to be used for general clinical testing.

To solve this issue that is interfering by TgAbs, he has developed the new Tg immunoassay called Lumipulse presto iTACT Tg (iTACT Tg) using iTACT technology to provide accurate serum Tg measurements by incorporating a pretreatment process into the automated chemiluminescent enzyme immunoassay (CLEIA) system. The iTACT technology involves a pretreatment process that inactivates interfering TgAbs and disrupts Tg-TgAb immune complexes to facilitate accurate measurements of total Tg. He succeeded in establishing Tg immunoassay that is robust to TgAb interference by using iTACT technology.

He describes that it will be possible to accurately monitor Tg levels in DTC patients even when they are TgAb positive by conducting an additive clinical monitoring study separately. iTACT Tg immunoassay's unique features are expected to contribute to reducing both costs and additive works in the clinical laboratory and, ultimately, to benefit DTC patients. Also, he describes iTACT Tg assay would contribute to the diagnosis of thyroid diseases in not only both pre- and post-thyroidectomy of differentiated thyroid cancer but also other benign TgAb positive diseases.

IFCC'S CALENDAR OF CONGRESSES, CONFERENCES & EVENTS

IFCC and Regional Federation events

2023-06-22	=	Publication Ethics: An overview from different perspectives	Live webinar
2023-12-04 2023-12-05	=	2023 JCTLM Workshop on: 'EQA schemes elucidating the clinical suitability of laboratory results'	Sèvres, FR
2024-02-01 2024-02-29	=	<i>AFCC CONGRESS 2024</i>	Egypt
2024-05-26 2024-05-30		<i>XXVI IFCC WORLDLAB - Dubai 2024</i>	Dubai, UAE
2024-05-26 2024-05-30	=	<i>AFCB Congress in conjunction with the XXVI IFCC WorldLab Dubai 2024 Congress</i>	Dubai, UAE
2024-08-28 2024-08-31		<i>XXVI COLABIOCLI 2024</i>	Cartagena, CO

Calendar continued on next page

2024-10-31 2024-11-03		<i>APFCB 2024 Sydney</i>	Sidney, AU
2025-05-18 2025-05-22	IFCC - EFLM	<i>XXVI IFCC-EFLM EUROMEDLAB 2025</i>	Brussels, BE

Corporate Member events with IFCC auspices

2023-01-01 2023-07-31	<i>Inter-QC Topics</i>	Quality Academics, online, MX
2023-06-24	<i>International Conference on Immunoassay</i>	Snibe, Manila, PH
2023-07-01	<i>Verification of analytical methods</i>	Quality Academics, online, MX
2023-07-15	<i>Quality Academics</i>	Ciudad de México, MX
2023-08-01	<i>Measurement uncertainty</i>	Quality Academics, online, MX
2023-08-07	<i>International Conference on Immunoassay</i>	Snibe, Dubai, UAE
2023-08-16	<i>Quality Academics</i>	Ciudad de México, MX
2023-11-18	<i>Quality Academics</i>	Ciudad de México, MX

Other events with IFCC auspices

2023-06-18 2023-06-21	<i>CSCC CCMG 2023 Joint Conference</i>	Winnipeg, CA
2023-06-22	<i>Update on Thyroid Testing</i>	Hybrid, Karachi, PK
2023-07-14 2023-07-15	<i>Annual Academic Sessions CCPSL 2023</i>	Kandy, LK
2023-08-24 2023-08-26	<i>The 12th International Palestinian Conference of Laboratory Medicine (IPCLM12)</i>	Ramallah, PS
2023-09-14 2023-09-16	<i>XLV National Congress of Clinical Chemists and Expoquím Mazatlán 2023 XLV Congreso Nacional de Químicos Clínicos y Expoquím Mazatlán 2023</i>	Hybrid, Mazatlan, MX
2023-09-17 2023-09-19	<i>XVI National Congress of Clinical Biochemistry</i>	Hradec Kralove, CZ
2023-09-20 2023-09-23	<i>6th ACTC (Advances in Circulating Tumor Cells) meeting “Liquid Biopsy and Precision Oncology: where do we stand now”</i>	Skiathos, GR
2023-09-20	<i>International Conference on Laboratory Medicine “THEINTERNATIONAL CONFERENCE OF LABORATORY MEDICINE: 30 YEARS LATER”</i>	Padua, IT
2023-09-27 2023-09-30	<i>XXX Meeting of the Balkan Clinical Laboratory Federation and II Montenegrin Conference of Clinical Chemistry and Laboratory Medicine</i>	Herceg Novi, Boka Bay, ME
2023-10-11 2023-10-13	<i>6èmes Journées Francophones de Biologie Médicale</i>	Antibes, FR
2023-10-12 2023-10-13	<i>5th Symposium – Cutting Edge of Laboratory Medicine in Europe – CELME 2023</i>	Prague, CZ
2023-10-12 2023-10-14	<i>21st Hellenic Congress of Clinical Chemistry</i>	GR

2023-10-25 2023-10-27	<i>7th ESPT Congress</i>	Copenhagen, DK
2023-10-29 2023-11-01	<i>TBS International Biochemistry Congress and 34th National Biochemistry Congress</i>	Fethiye, Muğla, TR
2023-11-01 2023-11-04	<i>LIII Mexican National Congress of Clinical Pathology</i>	Aguascalientes, MX
2023-11-17	<i>Annual Meeting of the RBSLM</i>	Hybrid, Brussels, BE
2023-11-22 2023-11-24	<i>Congreso Nacional de Quimicos Biologos</i>	Ciudad de Guatemala, GT
2024-02-15 2024-02-18	<i>The Third International Laboratory Diagnostics Congress</i>	Online event, Tehran, IR
2024-05-21 2024-05-24	<i>The 10+1 Santorini Conference "Systems medicine and personalised health & therapy"- "The odyssey from hope to practice: Patient first -Keeps Ithaca always in your mind"</i>	Santorini, GR
2024-06-13 2024-06-14	<i>9th International Symposium on Critical Care Testing and Blood Gases</i>	Saint-Malo, FR

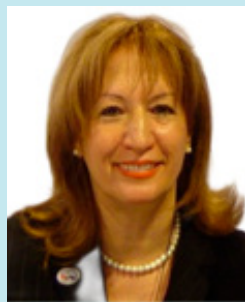




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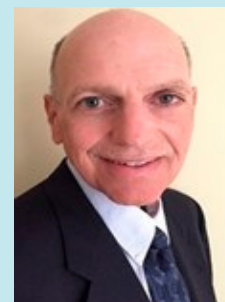
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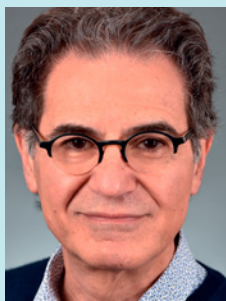
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