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

N° 12 – December 2020
In this issue

- EDITORIAL
  - Message from the eNews Editor 4

- THE VOICE OF IFCC
  - IFCC President's Message – December 2020 5
  - 10th Beginners’ Course in Molecular Diagnostics 8
  - Update from the IFCC Committee on Clinical Laboratory Management 11

- IFCC: THE YOUNG SCIENTISTS
  - The 52nd Congress of the Italian Society of Clinical Chemistry and Laboratory Medicine (SIBioC) – Young Scientists session 13
  - Mentorship interview 17

- CONTRIBUTE TO THE IFCC eNEWS
  - Twenty-four teams receive global recognition for Healthcare Excellence in 2020 22
  - Reducing Patient Risk and Enhancing Care through the Development and Implementation of a New Chest Pain Pathway, Expedited by and for the COVID-19 25
  - Kidney Check: The next generation of surveillance for Hypertension, Diabetes and Chronic Kidney Disease 27
Early Diagnosis and Improved Management of Patients with Diabetes through Strategic and Automated Test Algorithms via Primary Care

Vaccine boom: glimmers of hope

NEWS FROM REGIONAL FEDERATIONS AND MEMBER SOCIETIES

News from the Japan Society of Clinical Chemistry (JSCC):
2020 JSCC Academic Award

XIII Congreso Uruguayo de Bioquímica Clínica

Updates on EFLM publications

18th Annual Conference of the Greek Society of Clinical Chemistry - Clinical Biochemistry

IFCC WELCOMES A NEW CORPORATE MEMBER

LumiraDx

IFCC'S CALENDAR OF CONGRESSES, CONFERENCES & EVENTS

Calendar of IFCC Congresses/Conferences and Regional Federations' Congresses

Other events with IFCC auspices
Dear colleagues,

We have arrived at the last issue of the eNews in 2020. This year has been really unprecedented for all of us. Sometimes it seems as if COVID-19 has erased the whole year. Laboratory people have worked hard, have accomplished a lot, and have proven how important laboratory work is for the health services so many rely on.

In this issue, IFCC president Prof. Adeli explains the program of the IFCC Global Conference on COVID-19 to be held virtually between February 15-17, 2021. After the great success of the first IFCC webinars, our president invites all IFCC committees and working groups to organize webinars in 2021, which we all hope will be a much better year.

In this issue, Dr. Bernard Gouget sees some hope, some light at the end of the tunnel. Vaccines and new treatments offer this hope.

In this issue, hope also comes from the winning teams and participants of the UNIVANTS of Healthcare Excellence Award. Teamwork and cooperation have shown to be unbeatable, effective, full of hope.

Full of hope is also the report on a new wonderful mentor-mentee relationship; and full of hope seem the reports of the virtual conferences of the IFCC societies all over the world.

Let’s hope, dear colleagues, let’s hope for a brighter future, for bright luminous holidays, for a bright New Year!

Katherina Psarra

News from the IFCC Website

IFCC Live Webinar on demand

IFCC Live Webinar on demand content will be soon available.
Value and Impact of Laboratory Medicine in Patient Care: Developing the Evidence

Read more
IFCC President's Message – December 2020

by Khosrow Adeli
IFCC President

As the end of 2020 approaches, I would like to thank the entire IFCC community for its contributions and support in the fight against COVID-19. This year has been incredibly challenging for the laboratory medicine community, yet we have made invaluable strides towards bringing the end of the pandemic ever closer. To highlight such advancements, the **IFCC Global Conference on COVID-19** will take place *virtually* between February 15-17, 2021. The theme of this conference will be the **Critical Role of Clinical Laboratories in the COVID-19 Pandemic**, with the goal of bringing together leading experts on a global platform to present the latest advances in COVID-19 diagnostics and therapeutics. Specifically, attendees will have access to the following:

- Plenary sessions delivered by leading scientists, physicians, and public health authorities;
- Ten scientific symposia, covering physiology, diagnostics, therapeutics, and technology;
- Special presentations on the global response to COVID-19 in Africa, Asia-Pacific, Europe, Latin America, Arab Federation, and North America;
- An industry panel with presentations from industry leaders on latest IVD innovations;
- Twelve educational industry workshops;
- A young investigator forum with presentations from young scientists worldwide;
- Scientific e-posters and virtual industry exhibits.

For more details, please see the soon to be released scientific program on the IFCC website. Within the program, you will also find details on registration and abstract submission. Registration is free for all young scientists and trainees who are under 40 years old. I urge you all to register and take advantage of this low-cost conference, which will provide all attendees with invaluable learning opportunities.

Also planned for the New Year is the IFCC Webinar Series of 2021, which is a continuation of the successful IFCC Webinars Live Series Fall 2020. In the past few months, we have piloted the webinar series through the delivery of four live webinars:

- COVID-19 Guidelines on Molecular, Serological and Biochemical/Hematological Testing;
- Advancing Internal and External Quality Assurance on a Global Scale;
- Expanding Newborn Screening Globally: Reducing Infant Mortality through Early Diagnosis; and
- Value and Impact of Laboratory Medicine in Patient Care: Developing the Evidence.

For more details, please see the soon to be released scientific program on the IFCC website. Within the program, you will also find details on registration and abstract submission. Registration is free for all young scientists and trainees who are under 40 years old. I urge you all to register and take advantage of this low-cost conference, which will provide all attendees with invaluable learning opportunities.
These timely webinars each garnered an audience of 2500-3500 attendees for a total of over 10,000 participants in the Fall series. Participants joined around the world from over 110 countries, demonstrating the truly international nature of the Fall series.

Given the success of this program, IFCC will continue this series in 2021, with a focus on all aspects of laboratory medicine. A call for webinar proposals will soon be delivered, and I urge you to submit your proposals over the coming months. The IFCC Taskforce on Global eLearning/eAcademy and webinar coordinators will work with you to set up a successful event. Continuing these webinars is an important way in which the IFCC can give back to the national societies and their members around the world, with a focus on providing eLearning programs to developing countries and young scientists, students, and trainees. These webinars also support IFCC in its endeavor to become the largest provider of free eLearning programs in laboratory medicine globally, which will strengthen healthcare worldwide.

I hope we can all look forward to the new year, and these excellent educational opportunities that the IFCC has committed to providing. Feel free to email me at: president@ifcc.org with your feedback, questions, or concerns.

Till next time 😊
Khosrow

News from the IFCC Website

The IFCC is pleased to publish an online resource providing key information on laboratory guidelines, biosafety, and other important resources to assist member societies around the world and their clinical laboratories as they face the challenges posed by the COVID-19 outbreak.

The page is constantly updated with the most recent information on a biweekly basis.

IFCC Information Guide on COVID-19 – biweekly updates
– a Summary of the Guide in Spanish and Czech is also available

Coronavirus disease 2019, abbreviated to COVID-19, is an emerging global pandemic caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). As the number of individuals infected with COVID-19 continues to rise globally and healthcare systems become increasingly stressed, it is clear that the clinical laboratory will play an essential role in this crisis, contributing to patient screening, diagnosis, monitoring/treatment, as well as epidemiologic recovery/surveillance. This guide aims to organize relevant available information on laboratory screening, testing protocols, diagnosis, and other general information on COVID-19 for laboratory professionals, including links to helpful resources and interim guidelines. It will be continually updated as new guidelines and literature become available.

Read more
# MAGLUMI® Special Test Menu

<table>
<thead>
<tr>
<th>2019-nCoV IgG</th>
<th>Cortisol</th>
<th>25-OH Vitamin D</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-nCoV IgM</td>
<td>IGF-1</td>
<td>FDA</td>
</tr>
<tr>
<td>SARS-CoV-2 S-RBD IgG</td>
<td>IGFBP-3</td>
<td>Intact PTH</td>
</tr>
<tr>
<td>Vitamin B12</td>
<td>Anti-TPO</td>
<td>HA</td>
</tr>
<tr>
<td>Folate (FA)</td>
<td>TRAb</td>
<td>free Testosterone</td>
</tr>
<tr>
<td>CSA (Cyclosporine A)</td>
<td>Anti-IA2</td>
<td>17-OH Progesterone</td>
</tr>
<tr>
<td>FK 506 (Tacrolimus)</td>
<td>CA 50</td>
<td>AMH</td>
</tr>
<tr>
<td>H.pylori IgG</td>
<td>CYFRA 21-1</td>
<td>IAA (Anti Insulin)</td>
</tr>
<tr>
<td>hs-cTnl</td>
<td>CA 242</td>
<td>GAD 65</td>
</tr>
<tr>
<td>NT-proBNP</td>
<td>CA 72-4</td>
<td>PCT(Procalcitonin)</td>
</tr>
<tr>
<td>Aldosterone</td>
<td>NSE</td>
<td></td>
</tr>
<tr>
<td>Direct Renin</td>
<td>TPA</td>
<td></td>
</tr>
<tr>
<td>Lp-PLA2</td>
<td>Pepsinogen I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pepsinogen II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gastrin-17</td>
<td></td>
</tr>
</tbody>
</table>
To start with the conclusion of the course - we are more than happy and proud that the 10th Beginners’ Course in Molecular Diagnostics could take place and be carried out completely in 2020. Probably this would not have been possible at any earlier and certainly not at any later time and in no case without the support, will and perseverance of all those involved in the organization, to whom we would like to express our sincere thanks.

Each Beginners’ Course in Molecular Diagnostics conducted by the Committee on Clinical Molecular Biology Curriculum (C-CMBC) of the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) so far has presented the organizing team with new, special challenges, which on the other hand reflects the character of this program. The combination of internationally active tutors, participants who are eager to learn and are enthusiastic about molecular genetics, course venues which are rarely designed for such a course and usually unknown to the organizing team, requires an adaptation of the program to local conditions, making each course unique.
WHO WERE THE ORGANIZERS AND TUTORS IN 2020?

The 10th Beginners’ Course in Molecular Diagnostics took place at Plexus Laboratories from 1st till 6th of March 2020 in La Paz, Bolivia.

This course was locally supported and organized by the Bolivian Society of Clinical Chemistry (SOBOBIOCLI) and the Bolivian Program of Continuous Education (PROBOECO). Personally responsible for this course were Dr. Alvaro Justiniano Grosz as President of the Sociedad Boliviana de Bioquímica Clínica and Dr. Aldo Vacaflores, General Manager of Plexus Laboratories.

The following IFCC CMBC committee members were responsible for organization and teaching:

1. Verena Haselmann, MD, PhD, Deputy Director, Institute for Clinical Chemistry, University Medicine Mannheim, Medical Faculty Mannheim of the University of Heidelberg, Germany (chair C-CMBC)

2. Ettore Domenico Capoluongo, PhD, Professor, Director, Department of Molecular Medicine and Biotechnology, University Federico II, Naples, Italy (member C-CMBC)

3. Orland Díaz Gibert, PhD, Professor, Vall d’Hebron Institute of Oncology, Area of Clinical and Molecular Genetics, University Hospital of Vall d’Hebron, Barcelona, Spain (member C-CMBC)

4. Andrea Ferreira-Gonzalez, PhD, Professor, Department of Pathology, Virginia Commonwealth University, Richmond, Virginia (consultant C-CMBC)

5. Parviz Ahmad-Nejad, PhD, Professor, Director, Institute for Microbiology and Laboratory Medicine, University of Witten/Herdecke, Wuppertal, Germany (chair C-MD committee, C-CMBC supporting tutor)

WHAT WAS SPECIAL ABOUT THIS COURSE?

The 10th IFCC Beginners’ course in Molecular Genetics was scheduled to take place as early as 2019, however it had to be postponed to 2020 due to the unstable political situation. Since the domestic political situation in Bolivia had stabilized in early 2020, while the situation was unclear in the medium term, the organizers decided to conduct the course on short notice. Accordingly, there were only approximately six weeks for finding a suitable course venue, conducting the pre-course, organizing the transport of the equipment and all consumables, applying for a visa and so on.

Dr. Aldo Vacaflores made his laboratory available to conduct the course and was appointed as the trainee by SOBOBIOCLI. As such, he spent one week at the Institute for Clinical Chemistry in Mannheim, Germany to familiarize himself with the schedule, the practical work of the course and to be able to organize everything on site in an optimal way. One of the main issues was the release of the laboratory equipment and the reagents required for the course by the Bolivian customs authorities. With the help of Prof. Maurizio Ferrari, Dr. Alvaro Justiniano Grosz and Richard Freiherr von Rheinbaben (Honorary Consul of Bolivia in Germany) we finally received the release from customs under the condition that everything was transported personally by a member of the IFCC - so this time the "Lab in a suitcase" became a “Lab in many suitcases”. Carrying a PCR-cycler in a handbag around the world and explaining to airport security officers what it is definitely counts as a 'once in a lifetime’ experience.

Article continued on next page
Finally, all of us IFCC tutors safely arrived in La Paz as of end of February 2020, and thus shortly before the WHO declared CoViD-19 infection as a world pandemic. Although we were allowed to conduct the course without any further safety precautions or restrictions, the worldwide health situation kept us busy every day, gave the course special significance and presented us with some difficulties on the return journey. It is worth mentioning that the importance of molecular genetic diagnostics and of quality assurance, which were taught during the course, attracted public interest. Thus, Dr. Vacaflores and Dr. Haselmann were invited by breakfast television to give a short interview at the morning television program and all the tutors and Dr. Vacaflores additionally were allowed to give an interview for a more detailed report.

WHAT WAS TAUGHT AND WHO PARTICIPATED?

36 students participated in the course. The course was divided into a preliminary course at the first day, which gave a basic introduction to the topic of genetics/nucleic acids, and the actual 5-day Beginners’ course in Molecular Diagnostics. Each day consisted of a wet-lab part in the morning, which took place at Plexus Laboratories, and a theoretical part, which was composed of different lectures and in-silico training in the afternoon. Each student additionally received a C-CMBC manual and an accompanying home-work book. The course was conducted in English, while Prof. Andrea Ferreira-Gonzalez and Prof. Orland Díaz Gibert as native Spanish speaker translated whenever absolutely necessary.

Comparable to previous courses, this course also started with a blood draw, so that every student could isolate his own genomic DNA. This DNA and additionally prepared characterized patient samples were used for all experiments within the week. The experiments included measuring DNA quantity, gel electrophoresis, simplex-PCR, duplex-PCR, nested-PCR, allele-specific PCR, and RFLP (restriction fragment length polymorphism) analysis for genotyping. Within the lectures, the principle of DNA isolation and quantification, basics of quality assurance and requirements for organizing a genetic laboratory, nomenclature of genetic variants and their annotation, pharmacogenetics, methods used for genotyping, molecular oncology, infectious diseases, qPCR and state-of-the art technologies were addressed and discussed in detail. During the in-silico-training, we focused on nomenclature, PCR-design, RFLP-design as well as on interpretation of direct-sequencing files (abi-files) and medical report writing. Although, the days usually lasted from 9:00 am till 7:00 pm, we had a lot of fun together and were able to spend some time together outside the laboratory.
HOW IS IT GOING ON?
After an exhausting week, we had our final exam on the last day. Everyone was a bit nervous, but all of the students participated successfully. They received a certificate, a USB drive with all results of the course and lectures and before saying “Good bye”, we nominated Rodrigo Pessoa Rejas as the next junior member. He will join us for the next course and will help us to improve the course even a bit more.

This course will be remembered by all of us. We learned a lot from each other, made new friends, and had unexpected experiences. So, in the end we are very happy to have conducted such a course in 2020 and we are now looking forward to new applications for next year.

Update from the IFCC Committee on Clinical Laboratory Management (C-CLM)

by Praveen Sharma
Biochemistry, All India Institute of Medical Sciences, Jodhpur, India
Chair, IFCC Committee on Clinical Laboratory Management (C-CLM)
Chair, Congress and Conference Committee of Asia Pacific Federation of Clinical Biochemistry (APFCB)

The IFCC Committee on Clinical Laboratory Management (C-CLM) is a special group focusing on and setting up activities in line with the common interests and needs of clinical laboratories, particularly in developing countries. Who knew that 2020 would mark the emergence of the COVID-19 pandemic that would completely change our thinking and vision towards the planning of all activities? COVID-19 is still on the rise in several countries with no signs of effective treatment as of now. The preventive strategies of social distancing, appropriate hand hygiene and wearing a protective mask seem to be the only solution till an effective vaccine is released.

The primary goals of the C-CLM are:

- to provide education and training on good laboratory practice and on structuring laboratory management in compliance with the globally recognized framework of quality system essentials.
- to help set standards/guidelines/requirements for quality manage-
The activities of the C-CLM have been hit badly due to COVID-19. The risks, as well as restrictions in travel, have compelled the members to re-think about their meeting participation. The C-CLM had one symposium and one full-day workshop (AACC University) in the IFCC WorldLab Congress, 2020 (Seoul) and the AACC Annual Meeting, 2020 (Chicago) respectively, which are now postponed. Most of the meetings scheduled in 2020 are either delayed, cancelled or have been shifted to the new virtual/hybrid mode. Thus, alternative routes for maintaining the workflow of the committee need exploration.

The C-CLM members have also been affected by this pandemic and are presently busy in coping up with the new lifestyle, technology and changing environments. They are finishing up three monographs entitled “Practical Approaches to Quality Systems Set-up for Compliance with the Internationally Acceptable Requirements”, “Basic Problem-Solving Tools or Basic Tools for Quality Improvement” and “Project Management Basics for Laboratory Leaders”. The textual materials for a Laboratory Leadership Training Certificate Program are getting ready.

This pandemic has forced us to think outside the box and to set a new norm in terms of dissemination of scientific education, delivering training, conducting meetings and participating in conferences or congresses. The development of virtual routes of conducting webinars and conferences seem to be the new standard and will probably be the future until this pandemic subsides. The members are thinking of topics of interest for webinars in line with the new IFCC strategic plan, in which, the IFCC will strive to be the largest provider of free eLearning programs globally with a focus on developing countries as well as young scientists, students, and trainees.

News from the IFCC Website

eJIFCC Vol 31 n°4 - November 2020

eJIFCC Vol 31 n°4 is now available!

In this issue, the focus is on ethics in laboratory medicine. The Guest Editor is Dr. Nilda Fink (Argentina), on behalf of the IFCC Task Force on Ethics (TF-E).

The field of ethics involves concepts and rules of right and wrong behaviour. Bioethics is defined as a branch of applied ethics that studies the philosophical, social, and legal issues arising in medicine and life sciences.

Presently it is mandatory for different areas of Medicine to comply with ethical standards, and the field of Laboratory Medicine is no exception.

This eJIFCC special issue presents a series of manuscripts that summarize relevant aspects of Ethics. Seven manuscripts are included; four of them are updating on classical ethical topics, two refer to more recent challenges in Ethics, and finally, but equally important, an opinion paper.

The issue is completed by four other articles, two of them on COVID-19.
For the first time in its history, the 52nd National Congress of the Italian Society of Clinical Biochemistry and Laboratory Medicine (October 6th-8th) took place in virtual mode, due to the SARS-CoV-2 pandemic.

The Congress was organized by the SIBioC President, Dr. Laura Sciacovelli, by the Board of the Society, with the auspices of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) and the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) and the institutional greetings of both the Presidents during the Opening Ceremony.

The theme of the Congress, “Laboratory Medicine: old and new interlocutors for a winning alliance”, was chosen with the aim of highlighting the value of Laboratory Medicine by sharing objectives, strategies and practices with all its stakeholders. The Scientific Program gives an overview to focus on the importance of the culture of strategic alliances, in which there is a clear and transparent definition of roles, skills and practices for the achievement of common objectives, to achieve effective synergies to improve innovation and patients/citizens safety.

Article continued on next page
The management of COVID-19 emergency has been addressed by eminent speakers, as Proff. Giuseppe Lippi and Mario Plebani with the moderation of Proff. Sergio Bernardini, Maurizio Ferrari and Laura Sciacovelli. The scientific sessions and workshops ranged from various fields of Laboratory Medicine, such as the integration of Laboratory data in diagnostic-therapeutic paths, Big Data analysis to evaluate performance levels and support decisions.

The SIBioC YS-WG organized a joint session with the IFCC TF-YS addressing the issue of the possible alliance between Media and Laboratory Medicine. The talks of Proff. Eugenio Iorio and Rossella Tomaiuolo focused on the role of the influence of the infosphere on disinformation, and the relationship between Social Media and Health Information. Finally, Marie Lenski and Claudia Bellini presented the Global Community of IFCC and SIBioC Young Scientists, the initiatives and opportunities offered through the use of media for personal and professional growth.

The SARS-CoV-2 pandemic has forced everyone to adapt and face new challenges, such as integrating into the digital era to continue being present. In this challenging period, the Congress offered an excellent opportunity for exchange and participation. All the YSs must look up and continue with value and positive energy to promote collaboration all over the world.
News from the IFCC Website

APFCB News - Issue no. 2 of 2020

The Asia-Pacific Federation for Clinical Biochemistry and Laboratory Medicine News 2020, issue 2, is now available. Despite these challenging times, Dr. Raja Elina, Chief Editor APFCB News, is pleased to bring you the second issue of the APFCB News 2020. Many countries around the world have been affected by COVID-19 pandemic. It has caused a global healthcare crisis and brought much sorrow. The COVID-19 pandemic has drawn attention to and shown the importance of clinical laboratory testing to the overall treatment outcome of the patient like never before. Many among us are directly or indirectly involved and have contributed to the COVID-19 crisis, ranging from establishing a diagnosis, prognosis, disease staging, therapeutic drug monitoring, and epidemiologic surveillance studies. Although clinical laboratory professionals provide crucial data to doctors, they are often the “forgotten warriors” in the fight to save a patient’s life.

In this issue of the APFCB News, Mr. Joseph Lopez, past President of the APFCB, has contributed a lovely poem as a tribute to all Covid-19 fighters in healthcare and especially to those working in the laboratory. I take this opportunity to thank the IFCC for sharing the information on the various initiatives undertaken by the IFCC Global Taskforce on COVID-19. The work of this task force has been invaluable in supporting clinical laboratories around the world in the fight against COVID-19. Continuing with tradition, the cover-page of this issue of the APFCB News features the image of a painting graciously provided by Dr. Tan It Koon, founder and past President of APFCB. We are grateful to Dr. Tan It Koon for his unfailing support to the APFCB and for sharing with us his beautiful blue painting to view and enjoy in these difficult and troubling times.

Read more
Ortho introduces the VITROS® SARS-CoV-2 Antigen Test – your choice for high-throughput acute detection of the SARS-CoV-2 virus.

- Available on the same high-throughput, random access, fully automated VITROS® system running Ortho’s VITROS® COVID-19 Antibody Tests – ideal options for mass testing both SARS-CoV-2 infection and immune response.

- Providing short turnaround time for a high volume of tests.

- Supporting labs in their quest to operate more efficiently - the VITROS® COVID-19 Dashboard helps you visualize SARS-CoV-2 testing data across your network of labs.

- Test performance enhanced by the proprietary technologies and benefits ONLY available on Ortho’s VITROS® system, enabling consistently fast, accurate and reliable results.

Learn more at OrthoClinicalDiagnostics.com/global/covid19
Mentorship interview

Presented by the IFCC Task Force for Young Scientists

AN INTERVIEW WITH PROF. PETER KAVSAK (THE MENTOR) AND DR. SARANYA ARNOLDO (THE MENTEE)

THE MENTOR

Background

Dr. Peter Kavsak is a clinical chemist and professor in the Department of Pathology and Molecular Medicine at McMaster University. He is interested in cardiac and cancer care, especially as it relates to laboratory testing. Dr. Kavsak is situated at the Juravinski Hospital and Cancer Centre, a hospital part of Hamilton Health Sciences, and participates in regional coverage through the Hamilton Regional Laboratory Medicine Program.

Being a mentor

Dr. Kavsak has proudly mentored in McMaster University’s postdoctoral training program in clinical biochemistry since 2006. He always has the pleasure to supervise and mentor many outstanding postdoctoral fellows. Besides postdoctoral fellows, he has also mentored graduate students and tutored medical students annually. The mentorship program has kept him in contact with students as they progress through various stages of their careers.

When asked about the most valuable aspect of his mentor and mentee relationship with Dr. Arnoldo, Dr. Kavsak found it difficult to narrow down to just one aspect since the relationship has grown overtime. Using his own words, he mentioned:

Throughout this mentorship program, Saranya and I both shared a strong commitment for testing excellence; with this serving as a springboard to many and on-going discussions regarding laboratory medicine. It’s always a pleasure to read an email, hear a voice message, or have a conversation with Saranya as you know the topic will be important and hopefully our interaction will lead to better testing and patient care.
Maintaining a long-lasting good mentoring relationship like in Dr. Kavsak’s case doesn’t come easily. He shared some of his tips:

*The best advice from me to be a good mentor is to find great mentors. I have used the plural form here as I have had many outstanding mentors advising me on clinical chemistry, clinical management, clinical studies, research grants, teaching, administration/management etc.. Mentor-mentee relationships are important and every relationship is unique; however, these relationships are most rewarding for people who are involved. I have been lucky to be a participant on both sides.*

### Common challenges faced by Young Scientists

Dr. Kavsak has seen some young scientists try to do too much and learn too much too soon. He believes that the info-omics age has put a lot of pressure on trainees who have the desire to start and continue research programs. “The clinical chemistry service and research are a team effort,” he further elaborated, “and in this environment, it’s always good to ask for help, seek clarification, communicate, and build relationships.”

### Advice from a mentor for Young Scientists

Dr. Kavsak strongly recommends young scientists seeking advice from more experienced laboratory professionals during times of uncertainty since the field of clinical chemistry and laboratory medicine is changing. He also pointed out that the more trusted information obtained, the more likely the young scientists can make an informed decision to grow in their training and career.

On how young scientists seek out mentors, Dr. Kavsak suggested:

*Don’t limit yourself to just one mentor because many different approaches are available. However, a suggestion would be to avoid those individuals who only take and don’t give, who are too busy, who are unresponsive, etc. It’s a relationship. Your time is valuable, so only seek advice from someone who is committed.*

Dr. Kavsak concluded his advice for young scientists by suggesting embracing critical thinking and positioning yourself as a problem solver and a facilitator for high-quality laboratory testing.
THE MENTEE

Background

Dr. Saranya Arnoldo is an assistant professor in the Department of Laboratory Medicine and Pathobiology at the University of Toronto. She is also a clinical biochemist at William Osler Health System. There she provides oversight of the Core Laboratory, Special Chemistry, and Point-of-Care testing (POCT) programs. Currently, her responsibility has been expanded to oversee the specimen management area.

Previously, she worked as a medical laboratory technologist after obtaining her bachelor's degree in allied health sciences in Thailand. She won the Royal Golden Jubilee Ph.D. Scholarship and pursued her Ph.D. in immunology in Thailand. Later, she got accepted into the clinical biochemistry training program at McMaster University. She has been working with Dr. Kavsak in a formal mentorship during her time at McMaster University.

Mentee-mentor relationship

Dr. Saranya Arnoldo was a mentee to Dr. Peter Kavsak for two years during Dr. Arnoldo’s training from 2012 to 2014. The mentorship journey is rewarding, and the bond formed between them lasted beyond her training. After graduating from McMaster University, Dr. Arnoldo continued working with Dr. Kavsak on a few projects. Dr. Arnoldo said the mentor-mentee relationship continues to evolve from a professional relationship to friendship.

This is what she recalled for their first meeting:

Dr. Kavsak and I first met at the interview for the clinical biochemistry fellowship program in February 2012. During the interview, I felt like I didn’t do well but the interview panel, including him, provided positive feedback simply with the smiles on their faces. After a few weeks of nervousness, I finally got accepted into the training program. It has been a turning point for my career, from medical laboratory technologist to clinical biochemist.

According to Dr. Arnoldo, she would continue working with Dr. Kavsak and reaching out to him when she has questions. The timely exchanges on topics ranging from specific subject matter expertise to career advice have brought invaluable benefits to her career. Dr. Arnoldo is grateful for Dr. Kavsak’s “24/7 response through email” and continual “real-time” support.

Guidance to accomplish projects

Dr. Kavsak has guided Dr. Arnoldo in many projects within the areas of clinical services and research. When Dr. Arnoldo was a fellow doing clinical services, she once discussed with the clinical leads at William Osler...
Health System about the necessity of dual reporting when changing manufacturers for the serum tumor marker assays. She asked Dr. Kavsak for advice and they had a discussion on possible next steps. Oncologists were appreciative of the collaboration because the joint effort allowed them to catch falsely low results due to some immunoassay interference.

Dr. Arnold is also thankful for how her mentor guided her in getting sponsorship for research. She went on:

*For research, Dr. Kavsak guided me to reach out to manufacturers for sponsorship. We evaluated the impact of various sample types for different high-sensitivity cardiac troponin assays. With his guidance, we were able to receive sponsorship. Eventually, our findings have been published.*

She is certain that she will have opportunities to work with Dr. Kavsak in the future.

**Advantages of working with a mentor**

Dr. Arnoldo praised highly of her mentorship program. Dr. Kavsak always encourages her to share her thoughts, present at scientific conferences, and write manuscripts. Under his support, Dr. Arnoldo became competent and proficient in knowledge transfer. Dr. Kavsak has become one of her role models when it comes to work, teach, and support/guide young staff.

Dr. Arnoldo saw advantages of working with her mentor, Dr. Kavsak, through his enthusiasm and passion and ability to start fun discussions. Arnoldo highlighted the following examples:

- **Enthusiasm/passion:** As a mentor, he is always willing to teach what he knows, which is above and beyond fellow’s expectations. He accepts mentee from where they currently are in their training program, either just starting or about to finish. His teaching style is not only “talk the talk,” but “walk the walk.” He leads by example. For instance, you will see him in the lab. He sometimes spends hours in discussing with the laboratory team. His door is always open for everyone including laboratory assistants, medical laboratory technologists, managers, fellows, and other colleagues. This open-door policy provides an approachable atmosphere that is appreciated by all.

- **Creating fun discussions:** Residents/fellows love reaching out to him and enjoy working with him. He can spend 4 hours on one specific topic in our weekly tutorial. All fellows are amazed about how many publications he can cite and how precise each citation is.

**Advice from a mentee for Young Scientist**

Dr. Arnoldo encourages young scientists to reach out to different mentors to decide who is the right mentor. “Asking someone to mentor you is nerve-racking, especially if the mentor is already well-known in the field,” she admits.

She encourages Young Scientists to identify mentors who show passion for teaching and are willing to find time for mentees. Dr. Arnoldo feels very fortunate that her mentor Dr. Kavsak is always available for mentees even though he is well recognized worldwide for his work in cardiac biomarkers and he has received many awards and grants.
Hemolysis free blood sampling

Point of care detection of hemolyzed blood samples can increase patient safety and create major time and cost savings for healthcare

Hemolysis – the most common pre-analytical error
Hemolysis is well documented as the globally most common pre-analytical error in laboratory medicine. The incidence of hemolyzed blood samples varies and is normally most common in emergency departments often having a hemolysis rate of 5-12%.

Hemolyzed blood samples in vacuum tubes are usually detected in central laboratories, often resulting in a delay of 60-120 minutes in acute situations for correct test results, as the blood samples must be recollected. This can lead to increased waiting times and costs and a patient’s condition not being treated in time, which might have severely negative consequences for patient safety in individual cases.

Although it is proven that hemolysis is common in blood gas samples and that several analyzes performed are significantly affected by hemolysis, there is no built-in hemolysis control in any blood gas instruments on the market. Healthcare staff will therefore regularly risk basing clinical decisions on incorrect test results or repeating analyzes or sending supplementary samples to the laboratory, which increases lead times and costs and reduces the value of the blood gas analysis.

Unique POC-concept for hemolysis detection
Hemcheck has developed a CE-marked solution for fast detection of hemolysis in whole blood samples in vacuum tubes (v-Test) and blood gas syringes (s-Test).

The user-friendly system is small, robust and portable and can be used anywhere, but is especially valuable for units having a high rate of hemolyzed blood samples and where the clinical impact and cost of each hemolyzed sample is high.

The v-Test enables hemolysis detection and direct sample retake in connection with blood collection and aims to improve the flows of samples and patients, reduce turnaround time, waiting times and patient length of stay, decrease staff workload, increase patient safety and save costs. The s-Test enables hemolysis detection either in connection with blood sampling or blood gas analysis, and aims to contribute to more informed, reliable and timely clinical decisions and thereby improved patient safety.

Cost/benefit analysis shows substantial time and cost savings
Clinical studies show that the tests can effectively identify hemolyzed blood samples and, in case of vacuum tubes, greatly reduce the number of hemolyzed blood samples that reach the laboratory. The total cost for a rejected blood sample has been estimated in scientific articles to be above EUR 100 per sample and implies that Hemcheck’s products are cost-effective even at lower levels of hemolysis. The positive effects of the concept in terms of reduced patient length of stay and cost savings, can be evaluated using the interactive, customized cost/benefit model.

Perform your own cost/benefit analysis

High user satisfaction and several new and ongoing customers
A user survey targeting all nurses enrolled in a clinical study at Capio S:t Göran hospital in Stockholm showed 100% user satisfaction with the products. The products are implemented in clinical practice at for example Tartu University Hospital in Estonia for usage at the oncology and hematology clinic and SYNLAB Sweden in primary care. Hemcheck is looking for other interesting projects and collaborations and offers healthcare providers the possibility to test the concept free of charge.

For further details, please contact: peter.andersson@hemcheck.com

Facts about Hemcheck
• Hemcheck produces and commercializes a unique concept for point of care detection of hemolysis in venous and arterial blood samples, contributing to more efficient and patient-safe care.
• The products are CE-marked and developed in Sweden together with healthcare staff.
• The technology has patent protection in Europe and the USA.
• The company is listed on Nasdaq First North Growth Market since 2017.

www.hemcheck.com
The UNIVANTS of Healthcare Excellence Award Program has recently announced their 2020 winners. Foundational principals across all winning teams include “UNIFYING” across the care continuum for the development and implementation of “AVANTE-GARDE” processes with measurable differences to clinical care. Winning best practices embrace collaboration and the power of laboratory medicine to drive successful outcomes across the healthcare ecosystem.

The 2020 submissions included hospitals, commercial laboratories, reference laboratories, clinics and rural community care. Applications included best practices across key areas of unmet needs, with representation from every region of the world, spanning both emerging and established markets. Following comprehensive judge review, the outcomes revealed three top winners, nine teams of distinction, and 12 teams of achievement. These teams are changing the healthcare industry in innovative ways for patients, clinicians, health administration systems, and payors.

The program is made possible by eight leading healthcare organizations who have partnered together to inspire and recognize integrated clinical care teams who have achieved exceptional outcomes in healthcare. The founding program partners include the 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 Laboratories.

More details about the UNIVANTS of Healthcare Excellence program or 2020 best practices can be found on the program's website at www.UnivantsHCE.com or by following the program on social media, including on LinkedIn: #UNIVANTS.

The success stories are especially meaningful in 2020 during unprecedented times for patients, communities and healthcare professionals. They are definitive proof that there is a core of vital partnerships and healthcare providers that work together and accomplish better patient care. It is with great honor that we congratulate all participating teams while celebrating strategic activation and insights from clinical and health systems.

The details for the teams that received the prestigious UNIVANTS of Healthcare Excellence Award are outlined on the following three pages.
UNIVANTS OF HEALTHCARE EXCELLENCE GLOBAL WINNERS

Reducing Patient Risk and Enhancing Care through the Development and Implementation of a New Chest Pain Pathway, Expedited by and for the COVID-19 Era
Canterbury District Health Board
* ASIA PACIFIC AREA WINNER

Early Diagnosis and Improved Management of Patients with Diabetes through Strategic and Automated Test Algorithms via Primary Care
Hospital Universitari Sant Joan d’Alacant
* EUROPE AREA WINNER

Kidney Check: The Next Generation of Surveillance for Hypertension, Diabetes and Chronic Kidney Disease
Chronic Disease Innovation Centre, Seven Oaks General Hospital
* NORTH AMERICA AREA WINNER

Reducing Medical Errors and Enhancing Patient Care through Pathology Lead Strategic Activation of Point-of-Care Testing in an Emerging Market
Aga Khan University Hospital, Nairobi
* LATIN AMERICA AREA WINNER

Reducing Post-Operative Complications in Cardiac Surgery Patients
Hospital Virgen Macarena

Use of Faecal Immunochemical Tests (FIT) Unlocks the Door to Efficient and Effective Investigation of Patients with New Bowel Symptoms
NHS Tayside
* MIDDLE EAST & AFRICA AREA WINNER

Novel Collaborative Approach among Public and Private Sectors for Streamlined SARS-CoV-2 Testing towards Optimized Patient Outcome during COVID-19 Pandemic
Dubai Health Authority

Improved Safety for Patients with Indeterminant Pulmonary Nodules through Optimized Diagnostic Pathways for Lung Cancer
The First Affiliated Hospital, Sun Yat-sen University

Enhanced Identification and Care for Patients with Undetected HCV and/or HIV via Opt-Out ED Screening with Active Education and Linkage to Care
University of Alabama Birmingham Hospital

List of winners continued on next page
<table>
<thead>
<tr>
<th>Category</th>
<th>Title</th>
<th>Institution</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognition of Achievement</td>
<td>Improving Patient Experiences via Reliable Pre-Surgical Biomarker Risk Assessments in Patients Undergoing Eye Surgery</td>
<td>St. Petersburg Hospital Number Two</td>
<td>Timur Akhmedov, Vadim Nikolaenko, Alexandr Pushkin, Alexey Lebedev</td>
</tr>
<tr>
<td></td>
<td>Improving Population Health through Screening for Hepatitis C to Enable Treatment for Undetected Viral Infections</td>
<td>Biomédica de Referencia</td>
<td>Clara Corona de Lau, Dina Lau Corona, Evelin Nájera López, Emma Alicia Arana Grimaldo, María Concepción Gutierrez Ruiz</td>
</tr>
<tr>
<td></td>
<td>Improving Care and Overall Experience for Patients who Present to a Tanzania Clinic with Suspected Cardiovascular Diseases</td>
<td>Faith Medical Tanzania Clinics</td>
<td>Joyce B Mung’ong’o Muzuma, Felician Kibacha, Pendo Kibona, Saum Seif</td>
</tr>
<tr>
<td></td>
<td>Optimizing Detection and Management of Thyroid Dysfunction During Pregnancy for Improving Maternal and Offspring Outcomes</td>
<td>Hospital Virgen de la Luz</td>
<td>Enrique Prada de Medio, Dulce María Calderón Vicente, Andrés Moys Plaza, Vanessa Martínez Madrid, Sandra Serrano Martínez</td>
</tr>
<tr>
<td></td>
<td>Procalcitonin: A Successful Clinical Formula for the Early Recognition and Management of Sepsis in the Emergency Department</td>
<td>The Princess Alexandra Hospital NHS Trust</td>
<td>Helen Pardoe, Andrea Annioni, Nicholas Kroll, Marie Parsons</td>
</tr>
<tr>
<td></td>
<td>Maintain High Quality Patient Care During the COVID-19 Pandemic</td>
<td>Institut für Medizinische und Chemische Labordiagnostik, Mein Hanusch Krankenhaus</td>
<td>Nazanin Sédille-Mostafae, Johann Bartko, Andreas Krauter, Elisabeth Zwettler, Felix Keil, Andrea Schlogl</td>
</tr>
<tr>
<td></td>
<td>Maximizing Delivery Method and Clinical Resources for Timely Patient Communication of COVID-19 Status</td>
<td>Nova Scotia Health</td>
<td>Jamey Martell, Amy MacDonald, Pam Butler, Don Doiron, Linda Plummer</td>
</tr>
<tr>
<td></td>
<td>Increased Detection of Acute Myocardial Infarction in Women Using Sex-Specific Upper Reference Limits in Clinical Pathways for Patients Presenting with Suspected Acute Coronary Syndrome</td>
<td>Kokilaben Dhirubhai Ambani Hospital &amp; Medical Research Institute</td>
<td>Barnali Das, Jamshed Dalal, Sanjay Sm Mehta, Prashant Nair, Santosh S Shetty</td>
</tr>
<tr>
<td></td>
<td>Strategic SARS-CoV-2 Testing for Risk Mitigation and Optimal Health of Healthcare Workers and Patients</td>
<td>Marienhospital</td>
<td>Matthias Orth, Markus Bauer, Stefan Reinecke, Sr. Karin Johanna Haase</td>
</tr>
<tr>
<td></td>
<td>Enhanced Discovery of Unidentified Comorbidities and Diagnosis Through the use of Diagnostic Logics Empowered by Laboratory Medicine and Informatics</td>
<td>Seirei Hamamatsu HP</td>
<td>Kentaro Naoda, Keiko Oba, Osamu Yonekawa, Kentaro Usui, Hidenori Nakamura, Akira Yamamoto</td>
</tr>
</tbody>
</table>
### UNIVANTS OF HEALTHCARE EXCELLENCE AREA WINNERS

<table>
<thead>
<tr>
<th>Category</th>
<th>Title</th>
<th>Location</th>
<th>Winners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia Pacific</td>
<td>Reducing Patient Risk and Enhancing Care through the Development and Implementation of a New Chest Pain Pathway, Expedited by and for the COVID-19 Era</td>
<td>Canterbury District Health Board</td>
<td>Martin Than, Jacques Loubser, John Pickering, Chris Florkowski, Sally Aldous</td>
</tr>
<tr>
<td>Europe</td>
<td>Early Diagnosis and Improved Management of Patients with Diabetes through Strategic and Automated Test Algorithms via Primary Care</td>
<td>Hospital Universitari Sant Joan d’Alacant</td>
<td>Maria Salinas, Emilio Flores, Beatriz Massa, Maite López-Garrigós, Francisco J. Pomares-Gómez</td>
</tr>
<tr>
<td>Latin America</td>
<td>Reducing Catastrophic Adverse Events in Patients with Hemorrhagic Shock through Early Recognition of Risk and System-Wide Automatic Alerts</td>
<td>Hospital Israelita Albert Einstein</td>
<td>João Carlos de Campos Guerra, Priscilla Bento Matos Cruz Derogis, Michele Jaures, Roseny dos Reis Rodrigues, Carlos Eduardo dos Santos Ferreira</td>
</tr>
<tr>
<td>Middle East &amp; Africa</td>
<td>Novel Collaborative Approach among Public and Private Sectors for Streamlined SARS-CoV-2 Testing towards Optimized Patient Outcome during COVID-19 Pandemic</td>
<td>Dubai Health Authority</td>
<td>Rana Nabulsi, Hussain Al Samt, Mohammed Daoud, Hanan Al Suwaidi, Laila Al Dabal</td>
</tr>
<tr>
<td>North America</td>
<td>Kidney Check: The Next Generation of Surveillance for Hypertension, Diabetes, and Chronic Kidney Disease</td>
<td>Chronic Disease Innovation Centre, Seven Oaks General Hospital</td>
<td>Paul Komenda, Barry Lavallee, Binh Nguyen, AbdulRazaq Sakoro, Adeera Levin</td>
</tr>
</tbody>
</table>

### Reducing Patient Risk and Enhancing Care through the Development and Implementation of a New Chest Pain Pathway, Expedited by and for the COVID-19

The novel Corona Virus or COVID-19 has changed the world from what we once knew. It has required all industries to pivot, and in some cases, shutdown. Healthcare, like so many of our vital services, has been forced to become even more agile, reshaping itself to not only fight the virus, but to ensure high standards of patient care.

Of critical importance is the continued availability of emergency services, with safe and effective triage. The ability to continuously provide excellent emergency care to patients, while reducing and mitigating risk of transmission has been a key focus at Canterbury District Health Board, New Zealand.
Patients presenting with symptoms of a heart attack need immediate care. They represent common presentations to the Emergency Department (ED) and are also the most common cause of hospital admissions (~15%). Thus, the burden is substantial.

Recognizing that there would be added and significant resource pressure on the ED, including marked risk of potential cross-infection to patients when the COVID-19 virus arrived in New Zealand, an integrated care team involving the ED, Cardiology, Laboratory Medicine, and Management and Clinical Data Sciences sought to safely reduce time spent in the ED by maximizing early ED discharge and reducing the number of patients who are admitted to the hospital. Collectively, this approach sought to reduce transmission risk, while also ensuring safe and effective triage and treatment for patients with chest pain.

This was achieved through evaluation of laboratory data in conjunction with patient diagnosis, thus enabling strategic redesign of patient care pathways according to predicted risk of major adverse cardiac events (MACE) within 30 days.

Strategic and expedited implementation of this accelerated diagnostic protocol resulted in a 55% increase in the number of patients safely ruled-out for a heart attack using a single troponin result. Consequently, fewer patients require multiple troponin results for ruling-in heart attacks, leading to 45% and 35% increase in the total number of patients safely sent home within 2 hours and 3 hours of presentation respectively, and without the need for prolonged further workup. On average, patients spend approximately 30 minutes less time in the ED since implementation of their novel protocol, elevating care while also reducing exposure to COVID-19 and potential transmission.

More remarkable is that despite a 25.2% increase in patients presenting to the ED with chest pain during COVID-19, the ratio of ‘cardiac admissions ultimately not diagnosed as a MACE’ to ‘patients presenting with chest pain’ has decreased by an impressive 8%. This substantiates impressive and cohesive implementation while further reducing the risk of exposure and transmission of COVID-19.

These impressive outcomes are the collective result of the agility, forethought and teamwork of the integrated care team at Canterbury District Health Board. Although many interdisciplinary team members have played an integral part in the implementation of this strategic protocol, special congratulations are due to the innovators and recipients of the 2020 UNIVANTS of Healthcare Excellence Award for Outstanding Health Outcomes at Canterbury District Health Board: Martin Than, MD, Emergency Medicine, Sally Aldous, MD, Cardiologist, Chris Florkowski, PhD, Consultant Biochemist, Jacques Loubser, MD, Emergency Medicine and John Pickering, PhD, Data Scientist.

THREE KEY TAKEAWAYS

1. Leveraging the analytical sensitivity of high-sensitivity troponin assays can enable early rule-out strategies in the ED

2. Implementation of evidence-based acute coronary syndrome protocols can substantially reduce patient risk, especially during the COVID-19 era, reduce admissions, and reduce costs, while safely providing emergency care to those with suspected heart attacks.

3. Cross-disciplinary involvement is essential for ensuring safe, rapid and cohesive activation of strategic diagnostic protocols
Chronic kidney disease (CKD) is a debilitating illness that has asignificant impact on not only quality of life, but also longevity. Additionally, healthcare costs associated with treatment and dialysis are substantial at >$60,000/patient per year. Modifiable risk factors for CKD include hypertension and diabetes. As such, early detection and management of these conditions can substantially reduce CKD risk and improve outcomes.

Maximizing kidney health can be achieved through comprehensive screening and treatment programs that focus on early recognition and treatment in high-risk groups. Unfortunately, challenges can exist in ensuring equitable access to ongoing and long-term care for patients in rural remote communities. An integrated care team from Winnipeg, Manitoba identified an opportunity to improve CKD awareness, detection and treatment of CKD in patients living in rural First Nations Communities in Northern Manitoba through a novel program called ‘Kidney Check’.

Kidney Check is a comprehensive screening, triage, and treatment initiative that brings preventive kidney care to rural and remote First Nations communities across Canada. This is achieved by utilizing the portability of point-of-care testing (POCT) to identify CKD, diabetes, and hypertension in individuals ages 10 and up, regardless of pre-existing risk factors. Using the Kidney Failure Risk Equation (age, sex, eGFR and proteinuria) high-risk individuals are identified and linked to appropriate care.

Since inception, Kidney Check has reached >5500 registered on-reserve adults, across 11 communities. Strong collaboration with patient partners has resulted in more than 1700 First Nations People opting-in for screening, of which, 1168 patients have been identified as high-risk for CKD and subsequently linked to appropriate care. Importantly, 21.8% of screened children had at least one risk factor for CKD identified, thus enabling an opportunity for early intervention and prevention or mitigation of downstream complications.

In a climate where mistrust and apprehension are often associated with traditional medicine, 100% of patients first seen in these rural communities have been referred for appropriate follow-up care and/or have extended invitations for the care team return to the communities for further care.
With such strong initial success, it is not surprising that the Kidney Health program has expanded to four additional Provinces across Canada. This subsequent expansion is the next step in improving the health trajectory of patients in Canada who are at risk for CKD.

Although many interdisciplinary team members across several partnering organizations have played an integral part in implementation of this screening initiative, a special congratulation is extended to the innovators and recipients of the 2020 UNIVANTS of Healthcare Excellence Award for Outstanding Health Outcomes at Seven Oaks General Hospital: Paul Komenda, MD, Nephrologist, CDIC, Abdul Razaq Sokoro, PhD, Executive Director, Provincial Laboratory Operations, Shared Health, Barry Lavallee, MD, Manitoba Keewatinawi Okimakanak Inc., Adeera Levin, MD, Nephrologist, Can-SOLVE CKD Network, Binh Nguyen, eQoL

THREE KEY TAKEAWAYS

1. Screening for kidney disease, hypertension, and diabetes with individualized risk scores can change delivery of care and improve patient wellness for patients in rural communities
2. Strategic use of high-quality point-of-care testing can help ensure rural and remote Indigenous communities have equitable access to preventative care
3. Cross-disciplinary involvement and collaborations, including patient partners, help ensure uptake and success

Diabetes is one of the leading causes of morbidity and mortality worldwide. Diabetes is also a significant cause of blindness, kidney failure, heart attacks, stroke and amputation. As such, diabetes not only impacts patients directly, but their loved ones, and the health care system as whole.

Fortunately, diabetes can be treated, and its associated complications can be avoided or delayed through diet, physical activity, medication and regular screening and treatment for complications. These opportunities are contingent on the ability to identify and monitor patients appropriately.
Not unlike many chronic diseases, diabetes is often left to primary care physicians (GPs) to identify, treat and monitor. With a growing and aging population, this may be overwhelming to the system and physicians. As the first line of defense against this chronic and debilitating disease, significant opportunities exist to ease this burden, while increasing appropriate screening and monitoring of diabetes for improved health outcomes.

An integrated clinical care team involving laboratory medicine, endocrinology and hospital leadership at Hospital Universitari Sant Joan d’Alacant in Spain identified this need and saw an opportunity to improve patient wellness through strategic and automated testing algorithms in primary care.

The automated algorithm is deployed in two ways. The first method aims to identify unknown/undiagnosed diabetes and prediabetes, whereby Hemoglobin A1c (HbA1c) is strategically and automatically added to all eligible requests from GPs for patients without known DM. The second method aims to enhance monitoring for patients with known diabetes in primary care with a laboratory order for diabetes. HbA1c, cholesterol, (high-density lipoprotein cholesterol (cHDL), low-density lipoprotein cholesterol (cLDL), triglyceride and urinary albumin to creatinine ratio (ACR) values are automatically added to test orders (if not already requested) and had not been requested in the guideline-recommended time period.

This strategic and automated algorithm has enabled the identification of diabetes in one in every 7 patients screened between the ages of 25-45 and one in every 19 patients aged 45-75, for a total of 229 newly identified cases of diabetes and >3000 new cases of prediabetes. Additionally, 14.4% of all known diabetics had improved diabetes monitoring. Consequently, since implementation, the proportion of patients with better controlled diabetes (HbA1c <8%) has significantly increased (3.9% improvement).

While the costs of additional screening and monitoring are small (<€15.7), the potential mitigated costs are substantial. Compared to the annual costs of treating diabetes and lost labor, the marginal costs of testing and reduced disease burden provide substantial savings opportunities for the patient and health system.

In order to successfully implement a testing algorithm of this magnitude and to ensure buy-in and follow-up occurs, partnership across disciplines is crucial. Although the dedication and investment of many individuals has enabled success, key leaders from Hospital Universitari Sant Joan d’Alacant were recently commended for Healthcare Excellence with a 2020 UNIVANTS of Healthcare Excellence Award.

Leaders associated with the recognition from Hospital Universitari Sant Joan d’Alacant include Maria Saline, PhD, Head of Laboratory Medicine, Beatriz Massa, MD, Chief Executive, Emilio Flores, PhD Consultant Laboratory Medicine, Francisco J Pomares-Gómez, MD, Endocrinology, Maite López-Garrigós, PhD, Consultant Laboratory Medicine.

THREE KEY TAKEAWAYS

1. Diabetes is a major public health issue and a significant cause of morbidity. Efforts to delay progression and minimize complications are conditional on the ability to identify and appropriately monitor these patients
2. IT-automated algorithms that leverage HbA1c in clinical practice can significantly improve identification of diabetes and prediabetes, as well as ensure guideline-recommended monitoring occurs
3. Cross-divisional involvement helps ensure patients receive appropriate treatment, thus reducing long-term complications and helping to avoid some of the long-term complications with minimal additional costs.
Free Educational Webinar

Solving Confusion with Regulations, QC Design, and Troubleshooting for SARS CoV-2 Assays

Friday 11th December
10:00 EST | 07:00 PST | 15:00 GMT

Join us for a webinar to learn about quality control (QC) regulations, setting the proper QC strategy/design, and troubleshoot SARs CoV-2 and other semi-quantitative tests in the laboratory. Sharon Ehrmeyer, Associate Professor from the University of Wisconsin-Madison will discuss regulations. Sten Westgard, Director of Client Services and Technology for Westgard QC, will cover QC design and troubleshooting the SARs CoV-2 and other semi-quantitative assays.

Understanding regulations and how to establish a strong QC design for semi-quantitative tests, leads to better proactive detection of assay problems and the potential identification of false results.

Key Learning Objectives
- Understand the regulations and QA practices required for semi-quantitative testing, like SARS CoV-2 testing
- Apply the best QC design strategies to monitor semi-quantitative assays to detect testing errors.
- Interpret errors in QC system and apply appropriate troubleshooting steps.

Register Here

Interlaboratory Peer Program

Analytical processes between laboratories and peer groups with the same lot number are compared with simple reports and sophisticated trouble shooting tools.

Powerful Reporting and Sophisticated Trouble-shooting Tools
- Peer Reports
- Group Coordinator Report
- Levey Jennings Report
- Monthly Standard Report Exception
- Notes Report
- Youden Plot Report
- Measurement of Uncertainty
- Sigma Metrics
- Bias Report
CRITICAL ROLE OF CLINICAL LABORATORIES IN THE COVID–19 PANDEMIC

IFCC GLOBAL CONFERENCE ON COVID–19 (SECOND ANNOUNCEMENT)

ABSTRACT SUBMISSION

REGISTRATION ONLINE

FEBRUARY 15–17, 2021

IFCC Scientific Symposia will be presented in the morning. Afternoon will be mostly dedicated to industry Educational Workshops.

TIME SCHEDULE: PROGRAMME WILL START AT 08.00 AM, US EASTERN TIME (CORRESPONDING TO: 14.00 ROME; 21.00 BEIJING)
All sessions will be recorded and fully available for registered people.
Vaccine boom: glimmers of hope

by Bernard Gouget

The COVID-19 pandemic has led to multiple reactions from countries with very varied health, economic and societal capacities. Coronavirus has killed hundreds of thousands of people and has strained health systems around the world. The highest mortality rates are found in countries where life expectancy has skyrocketed. The COVID crisis has clearly revealed the fragilities of our modern societies, which have pushed natural human limits related to health, lifespan, and natural resources. In so doing, they gained wealth and became accustomed to a comfort that has increasingly proven to be illusory, as well as becoming more fragile. Their vulnerability has increased over time and when a climatic or health event occurs suddenly, they are hard hit and helpless.

Even as science began to unravel many of the virus’s mysteries, how it spreads, how it kills, a fundamental unknown about vaccines is still hanging over the pandemic and our collective human fate: Vaccines can stop many viruses, could they stop this one. Vaccines have changed the way we think about infectious diseases. In many parts of the world, diseases that were once responsible for millions of deaths a year are now considered a thing of the past. Smallpox has been eradicated, polio is on its way out, and there is a decline in a wide range of other vaccine-preventable diseases like measles, diphtheria, and pertussis. The rapid development of new vaccines for novel threats is direly needed. This is particularly needed in areas where vulnerable populations live, where the risk of outbreaks can be higher.

The COVID-19 vaccine is the key that the whole world awaits to get back to normal life after months of anxiety and drama. Drug companies are racing against time to develop and produce a vaccine. Press releases are coming out one after another; it is necessary to learn how to read between the lines: “encouraging”: a few positive signals, nothing more; “promising”: some good leads, but adjustments are needed to stay in the race; “outstanding” is promising and “groundbreaking”: this is it, we are on the right track!

Although research is complicated, remember that we have vaccine guidance due to the considerable work already having been undertaken following the respective emergence of the SARS and MERS coronaviruses, even though no vaccine has reached the marketing stage. Several vaccine candidates are in contention. There are projects using inactivated vaccines which, subject to the right adjuvant, remain capable of eliciting an immune system response:

- mRNA vaccines based on the viral RNA segment coding for all or part of the S-protein; they are relatively easy to produce, but exhibit lower immunogenicity in humans than in animals so that several doses are required (an innovative strategy never before used in humans);
- vaccines in units or conjugates containing all or part of the S-protein or in the form of “virus like
particles”, like the oncogenic HPV virus vaccine, with an adjuvant to optimize their immunogenicity quantitatively and qualitatively; and, finally
• live recombinant vaccines expressing all or part of the S-protein in a virus that is non-pathogenic in humans such as the murine vesicular stomatitis virus used for the VSV-EBOV Ebola vaccine. Another type of recombinant vaccine using the measles vaccine strain is also being developed by the Institute Pasteur, and other avenues involve mucosal vaccines administered nasally.

Close to 200 COVID-19 vaccine projects are underway worldwide, according to a note from the World Health Organization, published on November 12th. The 48 most advanced projects currently tested in human beings include the Pfizer-BioNTech and Moderna vaccine projects, as well as the one from the Chinese biopharmaceutical company Sinovac, the one from the Novavax company (United States), the one from AstraZeneca and Oxford University (United Kingdom) or even the vaccine candidate resulting from the French-British alliance between Sanofi and GSK. But since these projects are still ongoing, caution is in order. Research on the Pfizer-BioNTech and Moderna vaccines, which has sparked a wave of hope around the world, has not yet been peer-reviewed or published in a scientific journal.

The stakes are high, the race to develop a COVID-19 vaccine has caught the attention of cybercriminals. Researchers, big pharma, startup healthcare institutions and the supply chain are all potentially under threat. Pharmaceutical and biotech companies are racing to capture the financial and reputational advantage of being first-to-market. Manufacturers are expecting the biggest contract manufacturing sales in recent history. To-date, in addition to $11 billion in grants, there may be ten times as much in investors’ money riding on the out. Stock prices for some competing companies are trading around record highs.

Regardless, there are many questions as to feasibility, mass production, acceptability of vaccination and the indications for such vaccines. New funding models are necessary to secure the entire development chain and ensure availability to everyone, both haves and have-nots. The vaccine must ultimately have a universal appeal, with a coverage rate to achieve the level of collective immunity necessary to break the virus transmission chain.

Given the limited production capacities of pharmaceutical groups, it will not be possible to immunize everyone right away. “The goal here is that every country should be able to immunize 20 percent of their population by the end of 2021,” recommended Katherine O’Brien, director of WHO’s immunization department. The epidemiological data also emphasize the need for equitable distribution of the vaccine for maximum efficacy. To counter the selfish interests of each country, WHO launched the COVAX platform, which brings together governments, scientists and members of civil society and the private sector, aimed at ensuring a fair and equitable distribution of the vaccine. In each country, the first doses will start “with the most exposed categories, such as the elderly and health workers,” said Guido Rasi, director of the European Medicines Agency. With the assumption of a vaccine reaching the market in January, its first effects on spread of the virus “will be visible in five to six months, mainly next summer” he estimates.

Vaccine resistance could hinder vaccine coverage. The temporary stopping and then resuming of several clinical trials on candidate vaccines, due to health problems detected in some participants, may have raised fears that drug design is being too rushed. Conspiracy theories are rife. A highly effective and safe vaccine that can be produced is only of public health value if it reaches the people it needs to protect and is widely used by the population. There is also a question of the duration of immunity: six months, a year, two years, more? Only time will tell. We also do not yet know how effective a vaccine will be in the elderly. More than ever, COVID-19 vaccine deployment faces an unprecedented degree of uncertainty and complexity that will be extremely difficult to communicate. Vaccine acceptability will also come into question if highly effective treatments eliminate the risk of severe forms of COVID-19.

Vaccine acceptance by the public depends on who is best on spreading the message and militant antivaccination campaigning has gained ground due to social media. Vaccine adoption will involve engaging in
Dialog both online and on the local level, with people on the ground who understand their own communities. The messaging needs to be in line with daily experience and be attractive and adaptable. The dialog must address legitimate public fears and concerns. In addition, we are not talking about “a vaccine” but rather several vaccines, each with distinct precautions.

We are now in the third beta-coronavirus zoonosis in twenty years causing severe respiratory distress. Due to the rapid circulation of the virus, it is urgent, as Ph. Sansonetti of the Collège de France emphasizes in “The perfect storm”, to install a strong culture of prevention and ensure control of ecological, zoological, anthropological and commercial causes, to strengthen the culture of immediate alerting and to acquire the means for a fast and appropriate response.

Vaccine candidates cannot prevent the rise in the severe case hospitalization and death curves for the next few months. But they give hope that the pandemic will end. The scientific world has kept its promises in record time. This highlights the role of the free circulation of knowledge, capital, and humans to push the limits of the possible. The spread of infection that we are trying to combat by mask wearing and physical distancing will be countered by equitably distributed vaccines.

Vaccination strategies must be adopted, mastered, and explained relentlessly. Solid vaccination programs not only prevent resurgences of diseases that appear to be on the decline but are a strong protective armor for the eradication of new global health threats. Life will get back to normal. There is light at the end of the syringe!

NEWS FROM REGIONAL FEDERATIONS AND MEMBER SOCIETIES

News from the Japan Society of Clinical Chemistry (JSCC): 2020 JSCC Academic Award

by Dr. Hideo Sakamoto
International Exchange Committee of JSCC

The Academic Award of the Japan Society of Clinical Chemistry (JSCC) is given to a person, who has made outstanding academic research in clinical chemistry. In 2020, Ryosuke Kikuchi, PhD, is the winner of the Academic Award. The award presentation was held at the 60th Annual Meeting of JSCC in Tokyo, Japan from October 30 to November 1, 2020 by livestreaming. At the award presentation, award winner Dr. Kikuchi was congratulated by Dr. Masato Maekawa, president of JSCC for his outstanding work in clinical chemistry.

In this issue, we would like to introduce the Academic Award winner, to distribute his outstanding work.

Ryosuke Kikuchi, PhD. (Biomedical Laboratory Scientist, Department of Medical Technique, Nagoya University Hospital) is the winner of the 2020 JSCC Academic Award, entitled with “Association of Vascular Endothelial Growth Factor-A and Metabolic Dominoes with Cardio-Renal Vascular Disease”.

Dr. Kikuchi started his career in the Nagoya University Hospital in 2007, practicing clinical laboratory services and research in a “Bedside to Bench and Bench to Bedside” bi-directional manner. His goal was to support medical care from the standpoint of a biomedical laboratory scientist.

Since 2008, Dr. Kikuchi has started his PhD. in angiogenesis, a highly advanced medical treatment, under the supervision of Prof. Toyoaki Murohara. After receiving his PhD., he conducted research on the relationship between peripheral arterial occlusive disease and the vascular endothelial growth factor, under the supervision of Prof. Kenneth Walsh at Boston University in the United States, while focusing on the...
inconsistency between clinical laboratory values and pathological states. This award-winning research is the culmination of his work to replicate the results of the basic research in an actual clinical setting. He will continue to conduct research that can be applied to clinical practice from a biomedical laboratory scientist’s perspective, in the spirit of the precision of clinical chemistry.

There is a clinical concept called “metabolic dominoes” that relates to the etiology, development and complications of metabolic syndrome and patient prognosis. Peripheral artery disease (PAD), which is downstream of the metabolic dominoes, is a condition in which peripheral arteries become narrowed due to atherosclerosis, resulting in impaired blood flow and tissue ischemia.

Dr. Kikuchi’s research group found that an anti-angiogenic isoform of VEGF-A, VEGF-A$_{165b}$ was elevated in patients with PAD and prevented revascularization in a preclinical model of ischemia, suggesting new targets for relief of PAD symptoms (Nat. Med. 2014). Furthermore, they found that urinary VEGF-A$_{165b}$ levels in chronic kidney disease patients downstream of the “metabolic dominoes” decreased with the degree of renal dysfunction, that blood VEGF-A$_{165b}$ levels were elevated in patients immediately before dialysis induction (Clin. Chim. Acta. 2017), and they also found that circulating levels of VEGF-A$_{165b}$ represent a prognostic indicator in patients with acute myocardial infarction (Clin. Chim. Acta. 2018, Int. J. Cardiol. Heart. Vasc. 2018). In other words, VEGF-A$_{165b}$ may be profoundly associated with cardio-renal vascular disease caused by metabolic dominoes (Adv. Clin. Chem. 2019).
INTRODUCTION

The XIII Uruguayan Congress of Biochemical Chemistry under the theme “Talent, technology and time: the key to transformation” was hosted virtually by the “Asociación Bioquímica Uruguaya” (ABU). More than 700 participants attended the congress (clinical biochemists, pathologists, laboratory technicians, and students, among others) from 35 countries.

The theme of the congress related to the concerns that laboratory professionals have to adapt to the constant changes occurring in a laboratory. We believe that human talent is the most important resource that an organization has. Technology is necessary to achieve the goals and time is the key factor to convert opportunities to success. These 3 topics, if properly connected allow to move forward.

The core programme was prepared with a strong input from the Scientific Committee and the Congress Organizing Committee. The Scientific Programme covered the following topics: Biochemistry, Genetics, Coagulation, Hematology, Immunology, Laboratory Emergency, Microbiology, Neonatal Research, Quality Assurance, among a variety of others.

A wide range of scientific sessions were offered, comprising Courses, Symposia, Speeches, Plenary Lectures, as well as Poster Sessions.

The selected theme was developed with the participation of 51 speakers, with experts recognized at national, regional and international levels. There was a total of 36 foreign speakers from Argentina, Belgium, Bolivia, Brazil, Canada, Chile, Mexico, Netherland, Paraguay, Switzerland, Spain, United Kingdom and USA.
OPENING CEREMONY

At the opening ceremony there were brief speeches of welcome from the Dean of the Faculty of Chemistry (Dr. Alvaro Mombrú), the President of COLABIOCLI (Dr. Alvaro Justiniano-Grosz), the President of ABU (Q.F, B.C Fernando Antúnez), and the President of the Congress (Q.F; B.C Laura Yametti).

The opening ceremony ended with an impressive plenary conference, delivered by Prof. Damien Gruson entitled “The impact of digital transformation and artificial intelligence on laboratory services” who captivated the attention of the audience.

THE CONGRESS

There were three IFCC Visiting Lecturers:

- Alan Wu  USA
- Damien Gruson  Belgium
- Wytze Oosterhuis  Netherland

Prof. Alan Wu participated in two plenary lectures: “Promoting the value of clinical laboratory to the general public. The time to act is now” and “Implementation of high sensitivity cardiac troponin for acute coronary syndromes”.

Professor Alan Wu talked on: “Promoting the value of clinical laboratory to the general public”

Symposium: Thyroid pathologies in women (Dra Andrea Kozak, Dra Florencia Ambrosoni, Professor Damien Gruson)

Article continued on next page
Prof. Damien Gruson in addition to the plenary conference mentioned above, participated in a symposium on thyroid disease, and his presentation was “Thyroid an infertility”.

Prof. Wytze Oosterhuis presented his plenary talk: “Adding clinical utility to the laboratory reports” and participated in a symposium with his presentation “Measurement uncertainty, total error and analytical performance specifications”.

A broad spectrum of laboratory and clinical topics were included from all branches of laboratory medicine. Throughout the congress simultaneous translation was provided in one of the rooms whenever a talk was given in English or Spanish. The live activities were available to be seen on demand until November 9th, so participants had the opportunity to attend to them in anytime.

Two intra- congress courses were held on Thursday and Friday entitled: “Interference in immunoassays” and “Platelet rich plasma” with more than 100 attendees each one. During the congress eight workshops were held sponsored by the industry.

During the closing ceremony, Prof. Khosrow Adeli talked on: “Lipid Guidelines and the new evidence-based recommendations on laboratory assessment and clinical stratification of patients with lipid disorders”
There was also a commercial exhibition with 10 booths from industries and laboratories and another Professional formation exhibition with 8 booths. These exhibitions were also available on demand so participants could visit the stands in different moments.

There was a poster exhibition with a total of 24 posters. They were presented with a summary, a video and a ppt. The explanation was of 3 minutes duration and the idea was to listen to it at the time it was possible to see the ppt presentation. Two of the posters, one from Mexico and one from Uruguay received an award.

It was a honor for the congress to have as a keynote lecturer the President of IFCC, Prof. Khosrow Adeli, who gave an outstanding lecture at the closing of the congress entitled “Lipid Guidelines and the new evidence-based recommendations on laboratory assessment and clinical stratification of patients with lipid disorders”.

We seize the opportunity to thank everyone who helped us and who have made this successful event possible!
Many thanks to the Asociación Bioquímica Uruguaya (ABU) for kindly providing the IFCC the above very successful Virtual Booth free of charge!
Showcase your products and initiatives to more than 17000 laboratory medicine specialists throughout Europe, Asia-Pacific, Middle East, Africa and Latin America: laboratory directors, clinical chemists, and other clinical laboratory specialists and technologists, leading manufacturers, distributors and dealers in the field.

- Ten issues per year
- Free-of-charge to readers
- Interactive digital edition

IFCC Corporate Members receive a 25% discount on current prices

Published ten times a year:
- No 1/2 January/February
- No 3 March
- No 4 April
- No 5 May
- No 6 June
- No 7/8 July/August
- No 9 September
- No 10 October
- No 11 November
- No 12 December

For prices and formats and any further information on how your company can gain unique access to international markets through advertising with us, please email us at: enews@ifcc.org.

www.ifcc.org
European Biological Variation Study (EuBIVAS): within- and between-subject biological variation estimates for serum bio intact parathyroid hormone based on weekly samplings from 91 healthy participants


Reported by Aleksei Tikhonov, member-young scientist of EFLM WG-Promotion & Publications

The European Biological Variation Study (EuBIVAS) was created by the EFLM Working Group on Biological Variation to establish high-quality biological variation (BV) estimates for clinically important measurands. In this study, the aim was to deliver reliable BV estimates for the bio intact parathyroid hormone (PTH 1-84).

The within-subject BV [CVI (95% CI)] estimates were significantly different between men and women [13.0% (12.1–14.2%) and 15.2% (14.3–16.3%), respectively], while the between-subject estimates [CVG (95% CI)] were similar (men: 26.8% (21.4–35.1%), pre-menopausal women: 27.8% (22.7–36.1%]), allowing for delivery of updated analytical performance specifications and reference change values.

The EuBIVAS CVI estimates were lower than those delivered by previously published papers on bio intact PTH, possibly related to different statistical approaches and to the strict control of the fasting status. These EuBIVAS BV estimates, together with a suitable interpretation of the PTH 1-84 concentration changes, represent a key tool in medical practice for a correct diagnosis and monitoring of bone turnover and parathyroid glands pathologies, for patient management, for creating standardized protocols for the pre-analytical, analytical, and post-analytical stages of PTH evaluation, and for giving information about the analytical quality of the method used for PTH 1-84 evaluation.

Parathyroid hormone (PTH) is a key biomarker for diagnosing of parathyroid glands’ pathologies, calcium-phosphate metabolism disorders and for monitoring chronic kidney disease mineral and bone disorder. PTH 1-84 - form of biointact PTH, which is a peptide composed by 84 amino acids.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>All subjects</th>
<th>Men</th>
<th>Women</th>
<th>&lt;50 years</th>
<th>&gt;50 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of individuals</td>
<td>91</td>
<td>38</td>
<td>53</td>
<td>43</td>
<td>10</td>
</tr>
<tr>
<td>Total number of results</td>
<td>1,721</td>
<td>716</td>
<td>993</td>
<td>802</td>
<td>191</td>
</tr>
<tr>
<td>Mean number of samples/individuals</td>
<td>9.51</td>
<td>9.45</td>
<td>9.43</td>
<td>9.33</td>
<td>9.90</td>
</tr>
<tr>
<td>Mean number of replicates/samples</td>
<td>1.98</td>
<td>1.99</td>
<td>1.97</td>
<td>2.00</td>
<td>1.87</td>
</tr>
<tr>
<td>Mean value, ng/L (95% CI)</td>
<td>37.9 (37.2–38.6)</td>
<td>30.3 (39.3–40.3)</td>
<td>36.7 (35.6–37.6)</td>
<td>35.5 (34.6–36.4)</td>
<td>41.7 (39.4–43.9)</td>
</tr>
<tr>
<td>Analytical variation, CV% (95% CI)</td>
<td>3.3 (3.1–3.4)</td>
<td>14.7 (14.0–15.5)</td>
<td>15.2 (14.3–16.3)</td>
<td>15.5 (14.4–16.7)</td>
<td>14.2 (12.3–16.6)</td>
</tr>
<tr>
<td>Within-subject BV, CVI % (95% CI)</td>
<td>13.0 (12.1–14.2)</td>
<td>26.8 (21.4–35.1)</td>
<td>27.8 (22.7–36.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between-subject BV, CVG % (95% CI)</td>
<td>26.8 (19.6–35.1)</td>
<td>30.8 (21.3–62.3)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APS for imprecision, CVAPS %</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
<td>6.5</td>
</tr>
<tr>
<td>APS for bias, RBAPS %</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
<td>7.5</td>
</tr>
<tr>
<td>RCV % decrease/increase</td>
<td>~26.7; 36.5</td>
<td>~26.7; 36.5</td>
<td>~26.7; 36.5</td>
<td>~26.7; 36.5</td>
<td>~26.7; 36.5</td>
</tr>
</tbody>
</table>

Infographic by Aleksei Tikhonov (EFLM CC)
The Academy of the European Federation of Clinical Chemistry and Laboratory Medicine and the European Register of Specialist in Laboratory Medicine: Guide to the Academy and the Register, version 4 - 2020

Wieringa G, Jassam N, Homsak E, Rako I, Racek J

Reported by Tara Rolić, member of the EFLM WG-Promotion & Publications

The 4th version of the guide to the Register for European Specialist in Laboratory Medicine (EuSpLM) describes the transfer of the register to the EFLM in 2016, the extension in 2018 and transfer under the umbrella of the EFLM Academy in 2019 when the Academy was founded.

Furthermore, it elaborates the benefits of membership, including reduced registration rates at selected conferences and a free subscription to Clinical Chemistry and Laboratory Medicine (CCLM). With effect from 2020, eligibility was extended to anyone with interest in laboratory medicine. The updated guide describes the processes for individual membership and block enrolment and the steppingstones to recognition as an EuSpLM within the Academy.

Additionally, the guide explains the new ways of working for the EFLM Register and introduces the EFLM Academy. It includes an update for establishing the criteria for joining the Register and the Academy, the value to the individual and the profession in achieving recognition as a EuSpLM. In this guide, a process of individual or block registration and enrolment mediated by societies/organizations is described.

In updated criteria, new expectations across Europe in education, training, professional regulation, and qualifications are reflected. All this reflects EFLM’s leadership role in harmonizing high-quality laboratory medicine practice

*****
Harmonization of antineutrophil cytoplasmic antibodies (ANCA) testing by reporting test result-specific likelihood ratios: position paper


Reported by Lejla Alić, member of the EFLM WG-Promotion & Publications

Recently, many high-quality immunoassays for proteinase-3 and myeloperoxidase antineutrophil cytoplasmic antibodies (ANCA) have come up. Although reference materials and standards are available for these measurements, studies have shown that the harmonization of ANCA test results reporting is an open question. In this position paper authors propose harmonization of reporting test results of ANCA immunoassays using test-results specific likelihood ratios (LR). Eight different immunoassays were tested using samples of 924 disease controls (suspected for ANCA-associated vasculitis) and 251 diagnostic samples (confirmed ANCA-associated vasculitis, AAV). The test results specific LRs were estimated using derivative of the receiver operating characteristics (ROC) curve and by Bezier curves.

Authors propose reporting of the test results as LR of 0.1, 1, 10, and 30. This is based on the fact that test-results specific LRs consistently increased with increasing antibody levels, up to 93% AAV patients have LR > 10, cut-off values of most of the assays had a test-specific LR of around 1 and reference materials’ test-specific LRs were > 30.

*****

**HARMONIZATION OF ANTEUNETRPHIL CYTOPLASMIC ANTIBODIES (ANCA) TESTING BY REPORTING TEST RESULT-SPECIFIC LIKELIHOOD RATIOS: POSITION PAPER**


https://doi.org/10.1515/cclm-2020-1178

**LRR is the fraction of patients with a particular test result divided by the fraction of controls with the same test result.**

<table>
<thead>
<tr>
<th>test result-specific likelihood ratios (LR)</th>
<th>disease control samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1, 1, 10, 30</td>
<td>924</td>
</tr>
</tbody>
</table>

**LR should be reported as 0.1, 1, 10, 30 because:**

- test result-specific LRs consistently increase with increasing antibody level
- up to 93% of patients had a test result-specific LR > 10
- most of cut-off values determined by manufacturers had test result-specific LRs≈1
- reference materials had test-specific LR>30 in most of the assays

---

**INFOGRAPHIC BY LEJLA ALIĆ (EFLM-CC)**
The 18th Annual Conference of the Greek Society of Clinical Chemistry- Clinical Biochemistry took place between the 15th to 17th of October and was successfully organized for the first time as an online event, due to restrictions imposed because of the pandemic.

This year the Conference focused on ‘The role of the clinical laboratory in the management of the critically ill patient’, a topic that was timely due to Covid19 pandemic. A carefully balanced program with few selected presentations from international experts in each topic resulted in a vibrant program that covered a broad range of laboratory and clinical aspects on the management of critically ill patients, ranging from the management of sepsis in the ICU to diagnosis and management of renal disease in critically ill patients.

A symposium organized by EQALM-Trace Med Lab on “Standardization and Harmonization in Clinical Chemistry” updated participants on the latest developments in the area. To provide closer insight on the role of the clinical laboratory in the management of Covid19, during the last day of the symposium experts in the field of SARS CoV2 detection and Covid19 patient management provided the latest information on the battle against the disease.

Despite the lack of the in-person interaction between the delegates, the meeting provided an opportunity to reach a large number of scientists and students within and outside the country. The participation far exceeded expectations, and, with integration of the EQALM-Trace Med Lab Symposium, the conference attracted a large number of international participants.

Such a successful meeting paved the way to organize hybrid meetings in the future to outreach a wider audience in the field of Clinical Chemistry and Laboratory Medicine.
ΠΑΡΑΣΚΕΥΗΣ ΔΗΜΗΤΡΗΣ
Αναπληρωτής Καθηγητής Επιδημιολογίας και Προληπτικής Ιατρικής, Εργαστήριο Υγείας Επιδημιολογίας και Ιατρικής Στατιστικής, Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Αθήνα

PARASKEVIS DIMITRIS
Associate Professor of Epidemiology and preventive Medicine, Medical School, National and Kapodistrian University of Athens, Athens, Greece

ΡΙΖΟΣ ΔΗΜΗΤΡΙΟΣ
Καθηγητής Κλινικής Χημείας, Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Υπεύθυνος Ορμολογικού Εργαστηρίου, Αρτεμιαίο Νοσοκομείο, Αθήνα

RIZOS DIMITRIOS
Professor of Clinical Chemistry, Medical School, National and Kapodistrian University of Athens, Head of Hormone Laboratory, Aretaia Hospital, Athens, Greece

ΣΟΥΡΒΙΝΟΣ ΓΕΩΡΓΙΟΣ
Καθηγητής Κλινικής Ιολογίας, Πανεπιστήμιο Κρήτης, Ιατρική Σχολή, Τμήμα Εργατικής Ιατρικής, Εργαστήριο Κλινικής Ιολογίας, Κρήτη

SOURNINOS GEORGIOS
Professor of Clinical Virology, Medical School, University of Crete, Head of the Laboratory of Clinical Virology, University Hospital of Crete, Hersonissos, Greece

ΤΣΑΤΣΙΝΗΣ ΧΡΗΣΤΟΣ
Καθηγητής, Τμήμα Κλινικής Χημείας, Ιατρική Σχολή, Πανεπιστήμιο Κρήτης, Διευθύντης Εργαστηρίου Κλινικής Χημείας - Βιοχημείας, Πανεπιστημιακό Νοσοκομείο Ηρακλείου, Ηρακλείο, Κρήτη

TSATSAEANIS CHRISTOS
Professor, Department of Clinical Chemistry, Medical School, University of Crete, Head of the Laboratory of Clinical Chemistry - Biochemistry, University General Hospital of Heraklion, Crete, Greece

ΤΣΙΩΔΡΑΣ ΣΩΤΗΡΙΟΣ
Καθηγητής Παθολογίας Λοιμώξεων, Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Δ’ Πανεπιστημιακό Παθολογικό Κλινικό Νοσοκομείο "Αττικόν", Αθήνα

TSIORDAS SOTIRIOS
Professor of Medicine and Infectious Diseases, Medical School, National and Kapodistrian University of Athens, ‘Atikion’ General University Hospital, Athens, Greece

ΦΡΑΓΟΥ ΠΑΡΑΣΚΕΥΗ
Παθολόγος, Δ′ Πανεπιστημιακής Παθολογικής Κλινικής, Πανεπιστημιακό Γενικό Νοσοκομείο "Αττικόν", Χαλάρω, Αθήνα

FRAOU PARASKEVI
Pathologist, "Atikon" General University Hospital, Athens, Greece

ΧΑΝΙΑΣΟΣ ΑΛΕΞΑΝΔΡΟΣ
Μ.Ε. Ευρύτερη Ιατρική, Κλινικός Χημικός, ΕΣΕΑΠ, Διευρετικό Σχήμα Ελέγχου Ιατρικής Τηλεκπαίδευσης, Διαγνωστικών Εργαστηρίων, Αθήνα

HALIASSOS ALEXANDER
MD, PhD, EustPME, ESF Project Coordinator of Clinical Laboratories, Athens, Greece

ΧΑΤΖΙΔΑΚΗ ΕΛΕΥΘΕΡΙΑ
ΜD, PhD Επικεφαλής Καθηγήτρια Νεογνολογίας, Πανεπιστήμιο Κρήτης, Διευθύντρια Νεογνολογικής Κλινικής & Μονάδας Ενημερωτικής Θεραπείας Νοεμβρίου, Πανεπιστημιακό Γενικό Νοσοκομείο Ηρακλείου, Ηρακλείο, Κρήτη

HATZIDAKI ELEFTHERIA
MD, PhD, Assistant Professor of Neonatology, University of Crete, Director of Department of Neonatology, University General Hospital of Heraklion, Crete, Greece
**IFCC WELCOMES A NEW CORPORATE MEMBER**

**LumiraDx**

LumiraDx develops, manufactures and commercialises an innovative point-of-care diagnostic Platform. The LumiraDx Platform is designed to deliver lab comparable diagnostic results at the point of care in minutes. It is designed to be affordable and accessible for healthcare providers globally, and to strengthen community-based healthcare.

**Website:** www.lumiradx.com.

---

**News from the IFCC Website**

**IFCC Call for Nominations**

The IFCC invites nominations for the following positions:

- EMD Committee on Point of Care Testing (C-POCT): one corporate member position - applications close on 10th December 2020.
- EMD Executive Committee: one member position - applications close on 15th December 2020.
- EMD Committee on Clinical Laboratory Management (C-CLM): one member position - applications close on 10th January 2021.
- EMD Committee on Clinical Molecular Biology Curriculum (C-CMBC): one member position - applications close on 15th January 2021.
- SD Executive Committee: Secretary position - applications close on 10th December 2020.
- SD Committee on Nomenclature, Properties and Units (C-NPU) in collaboration with International Union of Pure and Applied Chemistry (IUPAC): one member position - applications close on 10th December 2020.

Refer to your National Representative or Corporate Representative for information on the procedures for nominations.

Read more
We advise readers to keep up-to-date about the evolving situation and possible rescheduled dates. Contact organizing secretariats for updates on upcoming events.

### Calendar of IFCC Congresses/Conferences and Regional Federations’ Congresses

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 15 - 17, 2021</td>
<td>Critical Role of Clinical Laboratories in COVID-19 PANDEMIC Virtual conference</td>
<td></td>
</tr>
<tr>
<td>May 27 - 29, 2021</td>
<td>AFCB Congress 2021</td>
<td>Beirut, LB</td>
</tr>
<tr>
<td>Sep 23 - 25, 2021</td>
<td>AFCC Congress 2021</td>
<td>Lusaka, ZM</td>
</tr>
<tr>
<td>Nov 28 - Dec 2, 2021</td>
<td>XXIV IFCC - EFLM EuroMedLab Munich 2021</td>
<td>Munich, DE</td>
</tr>
<tr>
<td>Dec 6 - 7, 2021</td>
<td>IFCC-ICHCLR Workshop on overcoming challenges to global standardization of clinical laboratory testing: reference materials and regulations</td>
<td>Paris, FR</td>
</tr>
<tr>
<td>Date Range</td>
<td>Event Description</td>
<td>Location</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Mar 28 - Apr 2, 2022</td>
<td>XXV COLABIOCLI Congress</td>
<td>Leon, MX</td>
</tr>
<tr>
<td>Oct 15 - 18, 2022</td>
<td>XVI APFCB Congress 2022</td>
<td>Sydney, AU</td>
</tr>
<tr>
<td>May 21 - 25, 2023</td>
<td>XXV IFCC - EFLM WorldLab EuroMedLab - Rome 2023</td>
<td>Rome, IT</td>
</tr>
<tr>
<td>New date TBA</td>
<td>International Congress of Pediatric Laboratory Medicine</td>
<td>TBA</td>
</tr>
<tr>
<td>New date TBA</td>
<td>IFCC Forum for Young Scientists</td>
<td>TBA</td>
</tr>
</tbody>
</table>
### Other events with IFCC auspices

We advise readers to keep up-to-date about the evolving situation and possible rescheduled dates. Contact organizing secretariats for updates on upcoming events.

<table>
<thead>
<tr>
<th>Date Range</th>
<th>Event Title</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jun 3, 2020 - Jan 3, 2021</td>
<td>Virtual Postgraduate Course of Clinical Biochemistry</td>
<td>Mexico virtual page</td>
</tr>
<tr>
<td>Jul 1, 2020 - Apr 30, 2021</td>
<td>International Diploma in Quality Management According to ISO 15189</td>
<td>Mexico online event</td>
</tr>
<tr>
<td>Sep 3, 2020 - Dec 15, 2020</td>
<td>Course on Analytical Quality Control from ABC to SIGMA</td>
<td>Mexico online event</td>
</tr>
<tr>
<td>Nov 2, 2020 - Jul 4, 2021</td>
<td>Virtual Diplomat in Selected Topics of Diagnostic Hematology for the Laboratory (Advanced Level)</td>
<td>Mexico online event</td>
</tr>
<tr>
<td>Dec 8 - 11, 2020</td>
<td>Journées de l’innovation en biologie (JIB 2020)</td>
<td>France online event</td>
</tr>
<tr>
<td>Dec 9, 2020</td>
<td>MAMLS Annual Scientific Meeting</td>
<td>Malawi online event</td>
</tr>
<tr>
<td>Dec 16, 2020</td>
<td>Shift in Paradigm – Lab Medicine and COVID-19</td>
<td>India ACBI online event</td>
</tr>
<tr>
<td>Dec 18 - 20, 2020</td>
<td>Turkish Biochemical Society 31st National Biochemistry Congress</td>
<td>Turkey online event</td>
</tr>
<tr>
<td>Mar 4 - 5, 2021</td>
<td>XVIII Meeting of the SEQCML Scientific Committee</td>
<td>Madrid, ES</td>
</tr>
<tr>
<td>Mar 15 - 16, 2021</td>
<td>POCT: Making the point</td>
<td>Rome, IT</td>
</tr>
<tr>
<td>Apr 14 - 16, 2021</td>
<td>XXII Serbian Congress of Medical Biochemistry and Laboratory Medicine and 16th Symposium for Balkan Region</td>
<td>Belgrade, SRB</td>
</tr>
</tbody>
</table>

Calendar continued on next page
<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 24 - 27, 2021</td>
<td>10th Santorini Conference “Systems medicine and personalized health and therapy” – “The odyssey from hope to practice: Patient first – Keeps Ithaca always in your mind”</td>
<td>Santorini, GR</td>
</tr>
<tr>
<td>May 27 - 29, 2021</td>
<td>II National Meeting Conquilab and Technological</td>
<td>Mazatlan, MX</td>
</tr>
<tr>
<td>Jun 10 - 11, 2021</td>
<td>8th International Symposium on Critical Care Testing and Blood Gases</td>
<td>Biarritz, FR</td>
</tr>
<tr>
<td>Oct 6 - 8, 2021</td>
<td>4èmes Journées Francophone de Biologie Médicale</td>
<td>Rennes, FR</td>
</tr>
<tr>
<td>Oct 8 - 11, 2021</td>
<td>46th ISOBM Congress</td>
<td>Bled, SI</td>
</tr>
<tr>
<td>Feb 10 - 11, 2022</td>
<td>International Congress on Quality in Laboratory Medicine</td>
<td>Helsinki, FI</td>
</tr>
<tr>
<td>New date TBA</td>
<td>6th Serbian Biomarker Symposium (SERBIS): Lipid Metabolism in Health and Disease</td>
<td>Belgrade, SRB</td>
</tr>
<tr>
<td>New date TBA</td>
<td>The 13th International &amp; 18th National Congress on Quality Improvement in Clinical Laboratories</td>
<td>Tehran, IR</td>
</tr>
<tr>
<td>New date TBA</td>
<td>VI Jornadas Bioquímicas de Cuyo 2020</td>
<td>San Luis, AR</td>
</tr>
<tr>
<td>New date TBA</td>
<td>LabMed Next</td>
<td>Rome, IT</td>
</tr>
<tr>
<td>New date TBA</td>
<td>24th International Conference on Laboratory Medicine and Pathobiology: An Expert Forum on Innovation in Clinical and Laboratory Medical Sciences</td>
<td>Samos, GR</td>
</tr>
<tr>
<td>New date TBA</td>
<td>14th CIRME International Scientific Meeting &quot;Implementation of metrological traceability in laboratory medicine: where we are and what is missing&quot;</td>
<td>Milan, IT</td>
</tr>
<tr>
<td>New date TBA</td>
<td>54 èmes Journées de Biologie Praticienne - JBP</td>
<td>Paris, FR</td>
</tr>
<tr>
<td>New date TBA</td>
<td>7th Serbian Biomarker Symposium (SERBIS): Biomarkers of gastrointestinal diseases</td>
<td>Belgrade, SRB</td>
</tr>
</tbody>
</table>
### IFCC MEMBERSHIP

#### Full Members

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

#### Regional Federations

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

#### Corporate Members

- Abbott
- ADx Neurosciences
- Agappe Diagnostics, Ltd.
- Agilent Technologies Inc.
- Asahi Kasei Pharma Corp.
- BD Life Sciences – Preanalytical Systems
- Beckman Coulter, Inc.
- Beijing Dream Diagnostics Medicine (DDM)
- Technology Co. Ltd.
- The Binding Site Group, Ltd.
- Bio-Rad Laboratories
- C.P.M. Diagnostic Research, SAS
- DiaSys Diagnostic Systems GmbH
- Diatron
- ET Healthcare Inc.
- Fujifilm Wako Pure Chemical Corporation
- Fujirebio Europe
- Gentian, AS
- Helena Biosciencies Europe
- Hemas Hospitals (PVT) Ltd.
- HyTest, Ltd.
- Immunodiagnostic Systems - IDS
- Labtronics
- LumiraDx
- Maccura Biotechnology Co., Ltd.
- MedicalSystem Biotechnology Co., Ltd.
- Megalab, JSC
- A. Menarini Diagnostics
- Mitsubishi Chemical Europe, GmbH
- Nittobo Medical Co., Ltd.
- Nova Biomedical Corporation
- OneWorld Accuracy Collaboration
- Ortho-Clinical Diagnostics, Inc.
- Radiometer Medical ApS
- Randox Laboratories, Ltd.
- Roche Diagnostics
- Sarstedt ApS
- Sekisui Diagnostics Ltd.
- Sentinel CH SpA
- Shanghai Kehua Bio-Engineering Co., Ltd.
- Shenzhen Mindray Bio-Medical Electronics Co., Ltd.
- Siemens Healthcare Diagnostics
- Snibe Co., Ltd.
- Sysmex Europe, GmbH
- Thermo Fisher Scientific
- Tosoh Corporation
- Labor Dr. Wisplinghoff
- Wuhan Life Origin Biotech Joint Stock Co., Ltd.

#### Affiliate Members

- Brazil: Sociedade Brasileira de Patologia Clinica / Medicina Laboratorial (SBPC/ML)
- China: Lab Medicine Committee, China Association of Medical Equipment (LMC)
- Egypt: Egyptian Association of Healthcare Quality and Patient Safety
- France: French National Network of Accredited Laboratories of Medical Biology (LABAC)
- India: Association of Medical Biochemists of India (AMBI)
- Iran: Iranian Association of Clinical Laboratory Doctors (IACLD)
- Jordan: Society for Medical Technology & Laboratories (SMTL)
- Kazakhstan: Public Association - Federation of Laboratory Medicine (FLM)
- Mexico: Federación Nacional de Químicos Clínicos (CONAQUIC A.C.)
- Nepal: Nepalese Association for Clinical Chemistry (NACC)
- Philippines: Philippine Council for Quality Assurance in Clinical Laboratories (PCQAICL)
- Romania: Order of the Biochemists, Biologists, Chemists in Romanian Health System (OBBCSSR)
- Serbia: Serbian Society for Clinical Laboratory Medicine and Science (SCLM)
- Spain: Andalusian Society for Clinical Analysis and Laboratory Medicine (SANAC)
- Turkey: Association of Clinical Biochemistry Specialists (KBUD)
- Ukraine: Association for Quality Assurance of Laboratory Medicine (AQALM)
Publisher
Communications and Publications
Division (CPD) of the IFCC

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

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

Design & Production:
epub@insoftdigital.com

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

Deadlines for submissions
to the eNews
N° 1/2 – January/February: by mid January
N° 3 – March: by mid February
N° 4 – April: by mid March
N° 5 – May: by mid April
N° 6 – June: by mid May
N° 7/8 – July/August: by mid June
N° 9 – September: by mid August
N° 10 – October: by mid September
N° 11 – November: by mid October
N° 12 – December: by mid November

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

Copyright © 2020 IFCC. All rights reserved. Contents may not be reproduced without the prior permission of the Communications and Publications Division (CPD) of the IFCC.