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International Federation of Clinical Chemistry and Laboratory Medicine





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## EDITORIAL

### Message from the eNews Editor

*by Katherina Psarra*  
eNews Editor

Dear colleagues,

I was thinking about this editorial and I have been editing some of the files you were so kind to send to the eNews.

I admire how much is done all over the world to improve laboratory work in terms of effectiveness, of accuracy, of new tests discovery for the benefit of the patients.

I admire all the laboratorians and I would like to thank them on the part of IFCC, because despite their high work burden, they offer some of their precious time to IFCC by sending this valuable information.

Go ahead and have a look at all this valuable information. You will be inspired, and you will definitely look at your everyday routine with a different perspective.

Your contributions to the eNews, your remarks about a better presentation, or any other comments are always very welcome.

Katherina Psarra



**BARCELONA 2019**  
19-23 MAY 23<sup>rd</sup> IFCC-EFLM European Congress  
of Clinical Chemistry and Laboratory Medicine

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## Call for manuscript submissions for a thematic eJIFCC issue on “Flow cytometry”

Guest Editor for the “Flow cytometry” issue: Katherina Psarra

Multiparameter Flow Cytometry (FCM) is a recent technology of very high performance developed for a vast variety of diagnostic applications.

Is there really a limit of future cytometry? Will the evolution and transformations arrive at a limit or will they go on and on? Will the effort be the one that really matters? We hope to offer you some insight into this bright future with an eJIFCC issue dedicated to cytometry.

We invite you to submit a paper on “**Flow cytometry**” to be published in this thematic issue.

That way the message will be carried on to fellow laboratorians about the importance, the magic and the charm of this evolving technology.

Submitted papers will be reviewed according to the regular procedure of the eJIFCC.

### *Important deadlines*

- Deadline for submission of the tentative title (to the Guest Editor): **April 11th, 2019**
- Deadline for submission of the manuscript: **May 31st, 2019**

### *Type of articles*

- Original Papers
- Critical Reviews
- Case studies

### *Manuscripts to be submitted by e-mail to:*

- the Editor-in-Chief: [ejifcc@ifcc.org](mailto:ejifcc@ifcc.org)
- with a copy to the Guest Editor: [kpsarra@outlook.com](mailto:kpsarra@outlook.com)

### *Guest Editor*

Katherina Psarra  
Immunology – Histocompatibility Department  
Evangelismos Hospital  
Athens, Greece

# Call for manuscript submissions for a thematic eJIFCC issue on “Improving the preanalytical phase in laboratory medicine”

Guest Editor for the “Pre-analytical phase” issue: Gabriel Lima-Oliveira

The pre-analytical phase encompasses all the procedures before the start of laboratory testing. This phase of the testing process is responsible for a great deal, possibly the majority of the laboratory errors.

Diagnosis, management, treatment of patients and ultimately patient safety itself can be compromised by:

- patient preparation;
- patient posture;
- phlebotomy quality;
- kind/type of evacuated tube used to draw blood samples;
- sample centrifugation;
- sample transportation;
- sample contamination;
- time to analyze;
- sample storage;
- and more...

We aim to prepare a special thematic issue of the eJIFCC, entitled **“Improving the preanalytical phase in laboratory medicine”**, to be published in November 2019, to inform the laboratory

professionals and to seek to guarantee patient safety.

The electronic Journal of the IFCC (eJIFCC) is a platinum open-access journal, i.e. there is no charge to read, or to submit to this journal. Our numerous high-quality articles, debates, reviews, case studies and editorials are addressed to clinical laboratorians. We aim to assist the development of the field of clinical chemistry and laboratory medicine worldwide. Manuscripts are fully peer reviewed and immediately free to access and download from [www.ifcc.org](http://www.ifcc.org).

Submitted manuscripts shall be reviewed normally, according to the regular procedures of the eJIFCC.

As Guest Editor, I would like to invite researchers from a wide range of disciplines to contribute to papers on recent and innovative research on Pre analytical phase.

### **Important deadlines**

- Deadline for submission of the tentative title (to the Guest Editor): **May 1, 2019**
- Deadline for submission of the manuscript: **July 31, 2019**

### Types of articles

- Original Papers
- Critical Reviews
- Case studies

### Manuscripts to be submitted by e-mail to:

- the Editor-in-Chief: [ejifcc@ifcc.org](mailto:ejifcc@ifcc.org)
- with copy to the Guest Editor:  
[dr.g.lima.oliveira@gmail.com](mailto:dr.g.lima.oliveira@gmail.com)

### Guest Editor

Gabriel Lima-Oliveira, Ph.D.  
Researcher, University of Verona, Italy  
Chair, COLABIOCLI WG-PRE-LATAM  
Expert/Consultant, EFLM WG-PRE

## The IFCC C-MHBLM on the go



Bernard Gouget

**by Bernard Gouget**

*Chair, Committee on Mobile Health and Bioengineering  
in Laboratory Medicine (C-MHBLM)  
Past-Chair, IFCC Nominations Committee (NC)  
SFBC-International Committee  
General Secretary of the International Francophone Federation  
of Clinical Biology and Laboratory Medicine (FIFBCML)  
President - Healthcare Division Committee - Comité Français  
d'accréditation (Cofrac)*

Digitalization has been a revolutionizing movement in manufacturing and since then moved into many areas in society including medicine. The use of modern technologies and digital services are not only changing the way we communicate, but also offering very innovative ways for monitoring health and well-being of populations. The reach of mobility transcends the boundaries of health, information, knowledge, and services accessed anywhere, anytime, it is transforming the way medical laboratories and health organizations are operating bringing a paradigm shift in healthcare delivery processes.

The digitalization of healthcare is becoming inevitable, the amount of medical knowledge continuing to grow rapidly. Under the term «digital health», advanced medical technologies, disruptive innovations and digital communication have gradually become inseparable from providing best practice healthcare. Digital health encompasses many sub-sectors including e-health, telehealth, telemedicine, health information technology and m-Health. M-Health is revolutionizing approaches to patient care and management, point-of-care support, health education, remote monitoring, diagnostics, supply chain management and logistics and more.

Mobile phones and other remote monitoring devices have the ability to transform the delivery of health services all over the world. The growing appeal of mobile solutions for health promotion and health care delivery can be attributed in part to the accessibility of technology, the level of personalization that technology enables,

valuable location-based services, and timely access to information through data, voice, and/or video media. The increased dissemination of mobile devices as well as the expanding wireless network coverage provides new possibilities to address challenges associated with accessibility, quality, effectiveness, efficiency and cost of healthcare.

M-Health is no longer just another buzzword, it is gaining a lot of momentum in the coming years. Medical practitioners and lab professionals are using mobiles and tablets not only for personal use but also for various aspects of their profession. M-Health can enhance the communication between healthcare providers and patients. It empowers patients to take charge of their health on their own. Additionally, m-Health is being used for storing patient records, interconnectedness with patients using wearable devices, emergency response and management, location-based medical services, etc. The increased number of mobile devices, their operation by non-professionals together with the use of health apps will enormously increase data volumes while decentralizing the flux of health data.

As the central provider of diagnostic health care information, the medical laboratory can expect to be widely affected in the predictable future by the new developments in m-Health and its impact on data integration and communication. These capabilities also pose new ethical challenges that the specialist in lab medicine will need to manage. By reassessing classical tasks as well as adopting new ones, digitalization in lab medicine will provide exciting time and will address new challenges for the specialists in laboratory medicine at improving the health and wellbeing of each human person and specially of some of the world's most vulnerable populations.

The times ahead with digitalization and m-Health are both exciting and challenging. Also, an IFCC Committee on Mobile Health and Bioengineering in Laboratory Medicine (IFCC-CMHBLM) was established at the beginning of 2019 as part of the IFCC-Emerging Technologies Division. The full members are: Kazuhiko KOTANI (JP) and James Harold Nichols (US). As corresponding members, Anna Füzéry (CA) and Zihni Onur Uygun (TR); Ramy Khalil (EG) is the Young scientist; Frank Desiere- ROCHE (CH) and Mike Heydlauf-SIEMENS (US)

are the Corporate Representatives, Damien Gruson (BE) acts as EC-ETD liaison, and Bernard Gouget (FR) as C-MHBLM chair. The C-MHBLM envisions a world where digitalization and m-Health innovations support improved health and contribute to better quality, accessibility and sustainability of health services and health outcomes, not only in the developed countries but also in the fragile and underserved populations in low resource environments.

The mission statement emphasizes both innovation and goal of universal access. The C-MHBLM aims to provide guidance to promote use of increased confidence in health apps and smart devices by supplying good practice guidelines for IFCC members and the healthcare community relevant to Clinical Chemistry and Laboratory Medicine, directed at scientific, managerial, clinical, ethical and patient issues.

***To accomplish this mission, the C-MHBLM will:***

- review the current concepts of digitalization, e-Health and m-Health,
- promote the potential of e-Health and m-Health in laboratory medicine to improve service delivery for patients with more medical-cost effective models of care,
- conduct a systematic review of the literature to evaluate the effectiveness of m-Health such as in supporting the adherence of patients to chronic diseases management,
- identify m-Health areas of relevance to Clinical Chemistry and Laboratory Medicine, that will affect the expertise of the lab professionals and the organization of the medical laboratory,
- facilitate integration of m-Health into routine practice and guide specialists in Lab medicine to function optimally with these new connected technologies in a changing environment,
- establish collaborations and partnerships with the other organizations concerned with e-Health/ m-Health and clinical societies and international organizations/bodies.
- promote an environment where digitally enabled and integrated systems help specialists in laboratory medicine to deliver patient-centered health experiences and quality health outcomes.



- actively participate in programs of IFCC Congresses and Scientific Meetings
- produce IFCC documents
- respond to the needs of IFCC Members in Digitalization, Artificial intelligence and m-Health managerial skills, and to Corporate Members needs

*The C-MHBLM will implement this strategy by:*

- **Leadership**
  - providing IFCC leadership in digital health (m-Health, e-Health, and ICTs),
- **Knowledge management**
  - providing Lab professionals with knowledge, skills on how to make the best use of m-Health and ICT in healthcare
- **Communication**
  - facilitating sharing of experiences, lessons learned and resources and offering a collaborative gathering space for IFCC members to exchange perspectives on digital health topics, resources, and practical guidance related to implementation across a range of technical and clinical areas (lectures, congresses, e-discussions, evidence-based guidelines...)

- **Promising Practices**
  - identifying, developing, promoting and advising the best available approaches for the development, implementation, and evaluation of digital health projects and practices as well as creating and sharing tools and resources that enable adoption of promising practices and their adoption
- **Collaboration**
  - fostering dynamic exchanges between IFCC and ICT industry, to identify and facilitate opportunities for joint activities and partnerships

The future is coming quickly, the digitalization of the healthcare sector comes with immense opportunities. We are entering in the new unplugged medicine. On top of large amounts of quality data, a change in culture in the sector and solid evidence-based outcomes are still necessary for m-Health and AI to be adopted in the workplace. Within the federation, we need to be visionaries to discuss the future of digitalization of lab medicine, to overcome certain barriers before it can take full advantage of the benefits of digitalization and to consider the best ways to leverage mobile technology with a focus on patient relevant outcomes!

## IFCC: THE PEOPLE

### Welcome and thanks to the Chairs

#### FAREWELL TO ROSY TIRIMACCO

**Rosy Tirimacco** completed her second term as inaugural Chair of the Point of Care Testing Task Force in December 2018. During her term, the TF held three successful high quality PoCT Satellite meetings in Cancun, Istanbul and Durban. In addition, the group developed two useful PoCT resources: “Thinking of Introducing PoCT” and “A Primer of Point of Care Blood Gas Testing for Laboratorians”.

Under her leadership, the profile and importance of PoCT within the IFCC community was raised. The focus

of the education provided by the PoCT TF during this time has been around the importance of implementing POCT within a quality framework and improving utility by integrating PoCT into clinical care.

Rosy is currently the Operations and Research Manager of The Integrated Cardiovascular Clinical Network within Country Health South Australia. Within this role, she is responsible for implementation and management of PoCT across a million square kilometres in country South Australia, involving over 500 PoCT instruments. In addition, her team have developed a chronic disease home monitoring program for heart



Rosy Tirimacco

failure, hypertension, diabetes and chronic obstructive pulmonary disease. Her belief is that PoCT includes all testing that occurs at the bedside and scientists should widen their scope to include a wide variety of devices used to support chronic disease.

She is passionate about ensuring patients have access to good services to manage acute and chronic conditions no matter where they live.

Rosy is the current chair of the AACB PoCT Committee and Program Manager of the Australian Point of Care Practitioner's Network.

Thank you, Rosy, for your hard work and commitment to sharing knowledge!

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### WELCOME TO ADIL KHAN

**Adil Khan**, (CA), MSc PhD, is the new chair of the IFCC Committee on PoCT.

He is Director of Point of Care Testing at Temple University and Episcopal Hospitals, Director of the Clinical Chemistry Laboratories at Temple University and Episcopal Hospitals and Northeastern Ambulatory Care Center, Philadelphia, Pennsylvania, United States and Director of the Clinical Chemistry Residency Program. He is an Associate Professor on the clinician-scholar track at Temple University Lewis Katz School of Medicine, and teaches at the medical and podiatry schools, as well as to pathology residents and endocrinology fellows. His research interests include understanding the role of adhesion molecules in leukocyte recruitment in health and disease; identifying novel markers of inflammation, clinical trials of point of care testing devices/clinical laboratory instruments, and assay development.

Dr. Khan completed his Master of Science in Immunology of Infectious Diseases from the London School of Hygiene and Tropical Medicine and his PhD in Immunology from Hammersmith Hospital Campus of Imperial College London, followed by Research Fellowship at the University of Calgary (CA) and a Clinical Chemistry Postdoctoral Training Fellowship from the University of Texas Southwestern Medical Center, Dallas.

Previously a member of the IFCC Task Force on Point-of-Care Testing, he is a member of the Canadian Society of Clinical Chemists and American Association of Clinical Chemistry and served as the Treasurer and Chair for the Philadelphia Section of the American Association for Clinical Chemistry. He is currently working with the Pediatric and Maternal-Fetal Division of American Association for Clinical Chemistry on developing curriculum guidelines.



Adil Khan

## Open positions within IFCC



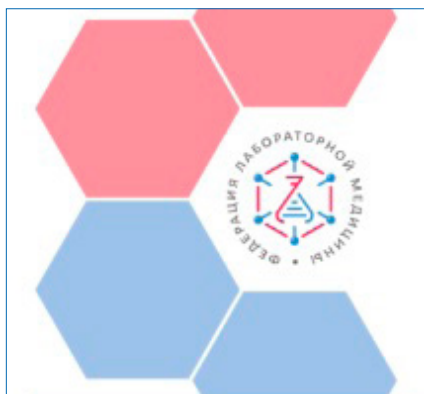
The following call for nominations is currently open within the:

**Committee on Point of Care Testing (C-PoCT)** – one Corporate position within the Committee.

Applications should be sent via e-mail to the IFCC Office ([cardinale@ifcc.org](mailto:cardinale@ifcc.org)), no later than **8 April 2019**.

**If you are interested, please refer to your National Representative or Corporate Representative for information on procedures for nominations.** To find your representative [click here](#).

## Changes in FLM, SEBIOCLI and PSCP



### **The Russian Federation of Laboratory Medicine (FLM)**

On October 5, 2018, after elections during the IV Russian Congress of laboratory medicine there were changes in the presidium and the Bureau of the presidium Russian Federation of Laboratory Medicine (FLM).

Mikhail Godkov is the new President of Russian FLM, Andrey Ivanov is the Vice-President, Arkadiy Goldberg the Executive Director and Sergey Shcherbo is the Chief Scientific Secretary.

Congratulations to the newly elected board!



### **The Ecuadorian Society of Clinical Biochemists (SEBIOCLI)**

The Sociedad Ecuatoriana de Bioquímica Clínica (SEBIOCLI) is pleased to announce that on the 16th of March 2019, the new Executive Board of the Society was elected.

The new President for the term 2019-2021 is Dr. Francisco Vallejos.

Best wishes to him and the Ecuadorean Board!



## The Pakistan Society of Chemical Pathology (PSCP)

The Pakistan Society of Chemical Pathology (PSCP) elected a new President:

Dr. Aysha Habib Khan, Head Subcommittee on International relation, PSCP, Associate Professor and Section Head Chemical Pathology in the Department of Pathology and Laboratory Medicine, at the Aga Khan University, Karachi, Pakistan

Best wishes to Dr. Aysha Habib Khan so that she will contribute with fresh energy and new ideas on the path of her predecessors!

## IFCC: THE YOUNG SCIENTISTS

### Meeting report from Pakistan: Conducting research in laboratory medicine—an online interactive session via ZOOM with the experts

*by Sibtain Ahmed*

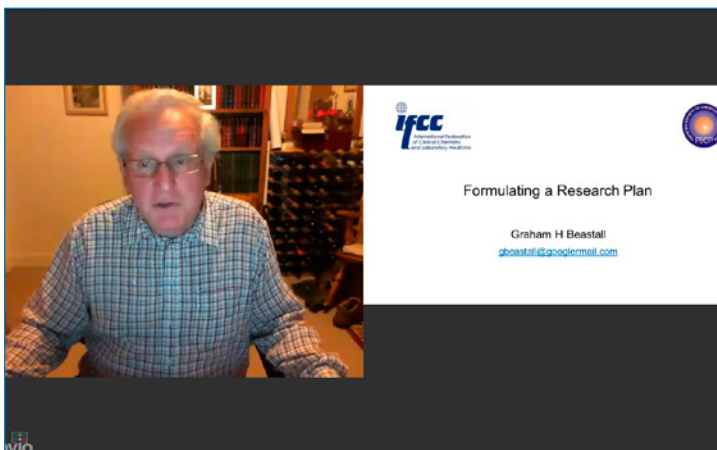
*Consultant Chemical Pathologist  
Aga Khan University (AKU), Karachi, Pakistan*

An interactive Zoom session was organized by the section of Clinical Chemistry, Department of Pathology and Laboratory Medicine of the Aga Khan University (AKU) from Karachi, Pakistan, under the auspices of the Pakistan Society of Chemical Pathology (PSCP) and IFCC on the 13th of March 2019, from 10 am to 12 pm. The agenda of this virtual podium was to ensure collaboration between the IFCC senior members and the young scientists from Pakistan. The session was structured in

order that the vast experience of well renowned scientists and senior members from PSCP and IFCC; alongside their overall vision related to research methodology is shared with the budding scientists and Chemical Pathologists in the region at various levels of their profession and career.

Participants from Karachi assembled at AKU, whereas more than 70 participants, from 25 different centers across 14 cities in Pakistan were connected through ZOOM. The program began with an introductory and welcome note by Dr. Sibtain Ahmed (Senior Instructor, Clinical Chemistry AKU).

The first talk was delivered by Dr. Ashlin Rampul (Core member IFCC task force for young scientists). He gave an overview of the aims and vision of the task force and encouraged young scientists from the region to actively support and participate in the initiatives of this group. He further emphasized the importance of conducting research in Laboratory Medicine and provided guidance for the selection of appropriate research projects based on certain parameters. The



Dr. Graham Beastall delivering his presentation

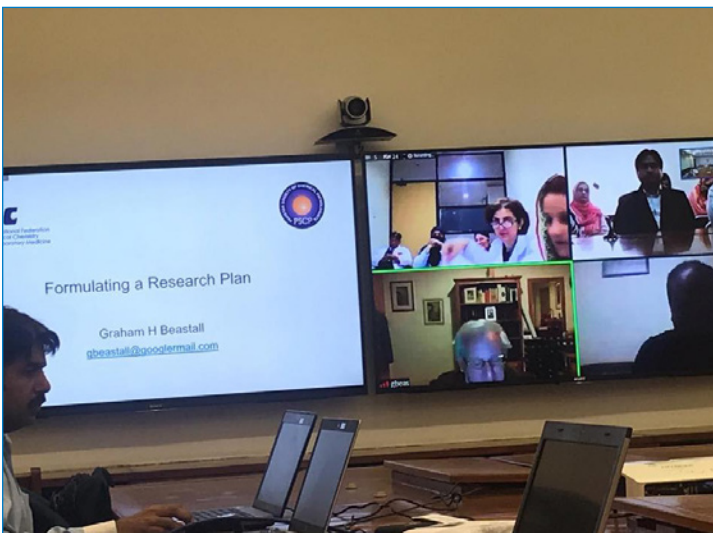
next presentation was the highlight of the program, it was delivered live by eminent scholar Dr. Graham Beastall (Former President, IFCC). He gave an introduction to the IFCC research guide available free of cost on the IFCC webpage; followed by a detailed and comprehensive lecture on formulating a research plan, conducting the study and analyzing findings.

The two talks were followed by 15 minutes of question and answer session, the two speakers and especially Dr. Beastall responded to the queries pertaining to funding opportunities and lowcost research projects for the underdeveloped regions.

The final one hour of the virtual session included presentations from senior faculty of Clinical Chemistry in

Pakistan. Focusing on dissemination of research findings which is the high need of time, Dr. Imran Siddiqui (Professor, Department of Pathology and Laboratory Medicine, AKU) gave some golden tips to ace the poster and oral presentations at various platforms. Dr. Lena Jafri (Assistant Professor, Department of Pathology and Laboratory Medicine, AKU) enlisted the pearls and key steps in write-up of a manuscript and submission for publication.

As selection of journals for publication along with adequate impact, authenticity and indexing is vital, this topic was addressed by Dr. Aysha Habib Khan Associate Professor, Department of Pathology and Laboratory Medicine, AKU) an eminent and devoted scholar. Most of the young trainees in Pakistan, when enrolled



Participants connected via ZOOM



Participants from Bahwalpur



Participants from Karachi gathered at AKU



Participants from Lahore

in fellowships of the College of Physicians and Surgeons Pakistan in Clinical Chemistry, face the dilemma of deciding between dissertation and publication of research articles in order to sit the examination. Dr. Adnan Zubairi (Professor, Department of Pathology and Laboratory Medicine, Ziauddin Medical University Karachi) compared the two of them, highlighted the pros vs cons and encouraged the need of quality research publications from the country.

The program was highly informative and aimed on building a strong collaboration between centers across Pakistan and globally with the eminent scholars.

Dr. Adnan Zubairi concluded the session with a note of thanks and appreciation. The feedback from participants was centered on the need for more such virtual sessions in the region as they proved to be highly beneficial especially for trainees working in far flung areas.

Dr. Beastall thanked Dr. Sibtain Ahmed and congratulated PSCP; for the vision to hold this event and for making the arrangements. Speaking on the utility of such sessions he commented 'the ability to hold national and international meetings at virtually no cost is clearly a model that will be adopted widely.'

## NEWS FROM REGIONAL FEDERATIONS AND MEMBER SOCIETIES



### News from the Spanish Society of Laboratory Medicine (SEQC<sup>ML</sup>)

#### Consensus document on the use of cardiac troponin in the Emergency Department

*Prepared by the Spanish Society of Laboratory Medicine (SEQC<sup>ML</sup>), the Spanish Society of Urgent and Emergency Medicine (SEMES), and the Spanish Society of Cardiology (SEC)*



- ➔ **The concentration of cardiac troponin increases early in blood when there is myocardial damage from any cause**
- ➔ **Increases in cardiac troponin, together with clinical signs and symptoms, make it possible to diagnose acute myocardial infarction with certainty and precocity**
- ➔ **The absence of an increase in cardiac troponin rules out the existence of significant myocardial damage; this allows shorter observation times to rule out acute myocardial infarction in patients who do not suffer from it**

**Madrid, November 6, 2018** - The possibility of measuring cardiac troponin (TNC) has been for many years a major step forward in the diagnosis of acute myocardial infarction (AMI) and other cardiac and extra-cardiac pathologies affecting the heart.

Currently, in clinical practice, there are coexisting methods that allow for the measurement of normal, low, or very low TNC concentrations with the recommended analytical quality. Measuring very low concentrations of TNC (high sensitivity TNC, TNC-hs) allows for the identification of myocardial damage that is not detectable with methods that do not measure such low

concentrations (TNC-contemporaneous) with the recommended quality. Given this varying ability of analytical methods to recognize myocardial damage, the use of TNC in cardiac diagnosis can generate confusion in certain circumstances.

For this reason, the Spanish Societies of Laboratory Medicine (SEQC<sup>ML</sup>), Urgent and Emergency Medicine (SEMES), and Cardiology (SEC) have developed a consensus document on the use of TNC in the differential diagnosis of AMI, whatever the measurement method used. This document has been published in the journal *Emergencias*, an organ of the SEMES, and can be accessed through the SEMES website and in the member-restricted area of the SEQC<sup>ML</sup> website.

“TNC is very commonly used in emergency services because it is very simple to determine and the information it provides is very valuable. It allows for rapid differentiation between a potentially serious patient with high TNC and a potentially less severe patient with a non-elevated TNC; this differentiation is an excellent help for Emergency Department doctors”, explains Dr. Juan Sanchís, head of the Interventional Cardiology Unit of the Hospital Clínic Universitari de Valencia. Dr. Sanchís points out that a high concentration of TNC may be indicative of diseases other than AMI, so it is necessary to interpret this biomarker well. “One of the drawbacks of the measurement of TNC, especially if it is measured with high sensitivity methods, is to cause over-diagnosis of AMI, because it tends to prioritize this diagnosis over other alternatives that a patient with elevated TNC may present”, adds the specialist.

“Despite all the valuable contributions of TNC, some doubts have been generated in the interpretation of its results, which this consensus document aims to clarify,” says Dr. Sanchís. These questions are summarized in three questions to which the document gives an answer: “How do the various immunoassay methods for measuring TNC differ?”; “Does a normal troponin result rule out an AMI and can it guarantee a rapid and safe discharge of the patient from the emergency department?”; and finally, “When does an elevated TNC indicate an AMI and when does it signal other causes of myocardial damage?”.

Dr. Aitor Alquézar, medical staff of the Emergency Department in the Santa Creu i Sant Pau Hospital in Barcelona and co-author of the consensus, agrees on the reasons that made this document necessary. “In the first place, there is a great diversity of immunoassay methods to measure TNC, with different decision values and different diagnostic performance. This situation can generate errors in the interpretation of TNC values if the doctor evaluating the patient does not know the characteristics of the method available in his center,” he explains, before adding that it is necessary to reach an agreement on which TNC concentrations are significant from the clinical point of view. “For the Emergency Physician, the main objective is to avoid inappropriate discharges (avoid false negatives), while for the cardiologist it is important to admit patients with a high probability of AMI (avoid false positives)”, concludes Dr. Alquézar.

### HIGH SENSITIVITY METHODS

Given that the absence of elevated TNC allows one to rule out the existence of myocardial damage, the current challenge for the clinical use of the biomarker is to shorten the observation times to rule out AMI in those patients who do not present it. This shortening of observation times is achieved by measuring the TNC with so-called high sensitivity methods (TNC-hs). “The measurement of cardiac troponin (TNC) is available in practically all healthcare centers involved in the diagnosis or exclusion of myocardial infarction. Another thing is what happens with the measurement of high sensitivity troponin (TNC-hs), which is widely implemented in tertiary hospitals, but not so much in other levels of care,” explains Dr. Jordi Ordóñez, member of the Spanish Society of Laboratory Medicine and senior consultant in Clinical Biochemistry at the Hospital de la Santa Creu i Sant Pau.

“In this sense,” he explains, “given the greater sensitivity of the TNC-hs to detect myocardial damage, this measure should be used systematically in these evaluations. However, not all centers have the necessary equipment to measure TNC-hs. For this reason, this consensus deals with the advantages and disadvantages of using both the TNC measurement with high sensitivity methods and with the preexisting methods, which are still in use”.

“Currently, methods are being developed with even greater sensitivity than those of high sensitivity, which could identify with almost 100% security if a patient does not have an AMI at the time or two hours after the onset of symptoms,” concludes the specialist.

### **WHAT DOES THE MEASUREMENT OF CARDIAC TROPONIN CONTRIBUTE TO THE CLINIC?**

TNC is a biomarker that increases in blood when the heart muscle (myocardium) suffers damage. The precision and analytical sensitivity of the methods to measure TNC have improved from the first generation of reagents (developed 25 years ago) to the most recent ones, called high sensitivity, which allow for the detection of even minimal myocardial damage.

When TNC is measured with a high sensitivity method, a normal result of it in serial samples (e.g. at admission and at 1-2 hours), allows us to rule out an AMI with very high probability in a patient with chest pain (thoracic pain). The security of being able to discharge a patient who has suffered an episode of chest pain and shows a normal TNC result is the main contribution of TNC to the clinic. Given that the majority of patients who consult in the Emergency Room for chest pain do not have an AMI, their early, safe discharge improves the functioning of saturated emergency services.

The elevation of TNC in successive blood samples indicates an AMI if the patient’s symptoms and/or electrocardiogram are compatible with this diagnosis. However, TNC also rises in numerous heart diseases, other than AMI, and extra-cardiac issues, which cause damage to the heart by mechanisms other than infarction. This may cause some diagnostic uncertainty for AMI with unclear clinical signs, but the value of TNC is always of clinical importance because its increases, whatever their cause, are associated with a high risk of complications and require careful evaluation of patients.

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### ***About the Spanish Society of Laboratory Medicine (SEQC<sup>ML</sup>)***

The Spanish Society of Laboratory Medicine (SEQC<sup>ML</sup>) -founded in 1976- currently includes more than 2,500 professionals, and its main objective is to bring together

all scientists interested in the field of Laboratory Medicine, to promote the dissemination of scientific and technical publications, to organize meetings, courses and congresses of a national and international nature, to cooperate with other Scientific Societies, and to defend and promote the specialties within Laboratory Medicine as well as its associates. Likewise, the Society wishes to contribute to the study and recommendation of standardized methods and the establishment of guidelines and recommendations for training in the field of Laboratory Medicine. More information at [www.seqc.es](http://www.seqc.es).

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### ***About the Spanish Society of Cardiology (SEC)***

The Spanish Society of Cardiology (SEC) is a scientific and professional non-profit organization dedicated to increasing the state of knowledge about the heart and circulatory system, to advance in the prevention and treatment of their diseases, and to improve survival and quality of life of cardiac patients. The SEC has among its main objectives to reduce the adverse impact of cardiovascular diseases and promote better cardiovascular health among the public. To this end, it works to contribute to an improvement in quality of care, promote cardiovascular education and research, promote cardiovascular health and prevention, as well as create national and international links with homologous societies, and represent all professionals interested in the area of cardiology.

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### ***About the Spanish Society of Urgent and Emergency Medicine (SEMES)***

The Spanish Society of Urgent and Emergency Medicine (SEMES) aims to promote the existence of assistance systems for urgent care and health emergencies that provide coverage to the entire population, provide ongoing training of health and non-health personnel, ensure the quality and dissemination of knowledge to health, non-health, and general population personnel, promote research in urgent care and emergency assistance, and to promote excellence, quality and safety in Emergency Services and Urgent Care in Spain. SEMES, has more than 11,000 members among doctors, nurses and health technicians spread throughout Spain and Latin America. More information at [www.semes.org](http://www.semes.org).





## ZACB launches national Cancer Nutrietics Cure Campaign

**Integrated early prevention diagnostics and cure**

by Matarira H.<sup>1</sup>, Ozben T.<sup>2</sup>, Musarurwa C.<sup>3</sup>

<sup>1</sup>President of the Zimbabwe Association of Clinical Biochemists (ZACB)

<sup>2</sup>Akdeniz University, Medical Faculty, Dept. of Clinical Chemistry, Antalya, Turkey

<sup>3</sup>Chairman/Lecturer Chemical Pathology, UZ-College of Health Sciences, Harare, Zimbabwe



The Zimbabwe Association of Clinical Biochemists (ZACB) founded in 1992 launched a national programme entitled “Cancer Nutrietics Campaign and Cure” on 19th November 2018 in the presence of Dr. Obadia Moyo, the Honourable Ministry of Health and Child Care (MHCC), and Professor Tomris Ozben, IFCC Treasurer and Executive Board member and Board of Directors, IFCC Foundation for Emerging Nations (FEN), Akdeniz University, Turkey.

### HIGHLIGHTS OF LAUNCH SPEECH BY HON DR. OBADIA MOYO, MINISTER OF MHCC: CANCER NUTRIETICS CAMPAIGN CURE FACT SHEET

1. Zimbabwe is in Sub-Saharan Africa (SSA) and has some 7000 new cancer cases and 3500 cancer related deaths annually. These rates are the tip of the iceberg/underestimated as reports are largely from urban centers in Harare and Bulawayo. 20% of deaths are related to nutritional and dietary contribution.

2. For people living in Sub-Saharan Africa/Zimbabwe there is nine times more risk of developing cancer and five times more risk of dying from cancer related illnesses. About 43% of women die from cervical cancer and of these, 60-70% are HIV infected relating to 3-4 deaths among women per day in Zimbabwe.

Globally, emerging nations carry 57% of the cancer burden and 65% of cancer mortality. Non-communicable diseases (NCDs) contribute 31% of total deaths globally. 53% of the diseases are non-communicable and keep rising including cancer, diabetes mellitus, malnutrition, cerebrovascular and heart diseases.

3. Oxidative free radicals generated by pollutants lower immunity, damage body cells and may have an important role in the development of cancer. Viral infections integrated into body cells might cause cancer.

4. We need to protect the bodies from toxic damage by eating organic foods high in antioxidants, namely



MHCC Hon. O. Moyo’s reception by ZACB 3 Ys Zandi, Tongo, and Lisa. Zandi and Lisa are beauty pageants at UZ and Gweru

mushrooms, avocados, dark grapes and pawpaw. Fruity diets starve cancer cells to death and keep the body alkalized at pH of 7.26. Solid foods such as high carbohydrate white maize 'sadza', white sugar and white bread promote cancer. We should prefer to eat 'sadza' from finger millet, sorghum and brown rice as these are healthier choices.

5. A solution of apple vinegar, lemon and bicarbonate of soda has been proven to have good antioxidant properties thus preventing development of cancer. Other drinks made of turmeric, ginger and lemon might be healthy.

6. Treatment with chemotherapy and radiotherapy is difficult to cure cancer as treatments destroy normal cells and are usually toxic. Surgery might promote spread of cancer. Immunotherapy is recommended by boosting immunity and targeting destruction of only cancer cells and any co-infections.

7. In the treatment of cancer, medicines having micro-nutrients such as selenium, oleostearic acid, vitamin B17, vitamin C, vitamin D, CTL019, CQ10, vitamin E, folic acid, B carotene, Zn, Cu, Vitamin B6, glutamine found high in fish and banana flakes have been demonstrated as having beneficial effects.



Prof. T. Ozben and ZACB YS Lisa and Zandi, students at UZ



Professor T. Ozben delivering launch speech



With Professor T. Ozben, from L-R: Drs .W Mujaji ZACB, Vice President; S. Munyati, Chairman Medical Research Council; O. Gudza, Secretary General ZACB; Profs. L. Gwanzura, MLCSCZ; H. Matarira, ZACB President and Director AFCC LabMed Internet Radio; C. Musarurwa, Head UZ Dept. Chemical Pathology representing Dean UZCHS



Hon. Minister of MHCC Dr. O. Moyo, at Official Launch of CNCC Programme with Prof. T. Ozben, Prof. H. Matarira and Dr. C. Musarurwa



Professor T. Ozben congratulates Hon. Dr. O. Moyo, Minister MHCC on National Launch of CNCC

8. Diet recommended is 75% fresh unprocessed foods and 25% cooked as well as 80% base and 20% acidic foods. Healthy foods include olive oil, spinach, cabbage, lettuce, raspberries, guavas, avocados, sweet potatoes, broccoli, green teas/herbs and red wine.

Alkaline forming foods include fruits, green vegetables, peas, beans, lentils, herbs and seeds. Acid forming foods include meat (red & white), fish, eggs, grains and legumes. The body pH can be checked by a simple urine Stix. Causes of acid pH include foods high in acids, emotional stress, toxins overload, immune reactions, oxygen deprivation and other nutrients.

Trace elements from the soil have been decreased by 85% per 100 years of agriculture. Micronutrients can overcome oxidative stress and their deficiencies cause chronic degenerative diseases such as cancer, diabetes mellitus, Parkinson's disease, asthma, heart and infectious diseases etc.

9. P4 Evidence-Based Laboratory Medicine, i.e. Preventative, Personalized, Predictive and Participatory is the scientific basis of healthcare and makes it accessible, affordable (it decreases cost) and available from local resources. Prevention via HIE, early detection via POCTs, counseling and treatment via effective POC Devices and organic nutrhetics help patients to be screened and treated efficiently.

Usually, there is a late diagnosis in 88-95% of cases as patients look for cheaper treatments or sometimes uncharacterized remedies due to poverty. Prevailing

cancer treatment cost is too high and we experience high drug shortages.

10. It is very important to avail locally developed vaccines as genomics of Africans vary a great deal from Asians and Caucasians. Vaccines for HPV, which causes cervical cancer, HBV, a risk factor for primary liver cancer etc. should be locally produced.

11. We can supplement our diet with fruits, vegetables and herbs. Farmers can efficiently produce healthy foods and reduce their costs. Sedentary lifestyle is an added risk factor in developing cancer. The Japanese and Mediterranean people are more likely to reach older ages, higher life span due to their diets. Africans should reverse bad eating habits in order to survive longer. They should have good moral social habits, which reduce sexual transmitted infections.

Cancer Nutrhetics Campaign involves several sectors: Health, Education, Agriculture, Industry, and Commerce.

## HIGHLIGHTS OF PROF. HILDA MATARIRA'S LAUNCH SPEECH

### 1. Health Information Education

The ZACB has developed over 5 years an effective cancer & nutrhetics HIE network with the MHCC, tertiary institutions, Zimbabwe Public Health Association, and UZ CHS. The ZACB members share experience with El

Microscopio, IFCC supported Internet Radio since the WorldLab Istanbul, Turkey in 2014. This resulted in FEN supported equipment grant to start an AFCC Internet Radio coordinated by ZACB Ys. AFCC LabMed Internet Radio, if fully funded, can be an effective integrative tool in MHCC in AFCC. Current ZACB initiative in the development of integrated digital health in all disciplines is most welcome.

In Zimbabwe, there are 3 000 MLCSCZ members who participate in national training of 10,000 nurses & 3 000 doctors in POCTs. In addition, there are 1300 students at Colleges of Health Sciences of 5 universities. These students are trained annually for Master and Doctorate degree qualifications using a large pool of 100 experts/supervisors over the past 38 years. The well-trained HR will be capable to participate in integrated activities in public health from villages to highest health institutions.

## **2. Promote Life Style Changes**

Promotions of walks, exercise at least 30min/day, adopting sport & healthy diets i.e. fresh: cooked in 3:1 ratio are recommended. In addition, fruits & some alkaline forming foods in diets are available to control body pH i.e. keep it alkaline. People should drink warm water.

## **3. Vaccinations**

The MHCC started a trial HPV vaccination program in primary school girls under 9 years old to prevent cervical cancer. The UZ CHS is seeking private partners to produce local vaccines together with Veterinary Services Department. The vaccines should be relevant to local genomics, hence more effective at reduced cost.

## **4. Promote Production of Healthy Crops**

Local production and use of fruits, vegetables, whole grains crops impact positively on health at reduced costs.

Industry should reduce refining foods, increase high soluble fiber & reduce costs of healthy products. The advocacy will include parliament to regulate fiber content of foods as done successfully with local iodization of salt.

## **5. Chronic Diseases & Challenges**

Africa including Zimbabwe has a high burden of chronic diseases. The country has 1.2 million HIV patients,

new cancer cases (7000/year) with 60% being HIV positive. HIV co infections with TB stands at 75%. Non-communicable diseases are currently at 53%. Cancer has a long duration causing a heavy burden cost to both patients & healthcare.

The challenges include poverty, poor diets, co-infections, polluted air and water, continuous inflammation & low tumor suppressing genes activity.

In addition, the percentage of late diagnosis is at 85-98% among patients due to limited patients' information, knowledge and lack of integrated healthcare

## **6. Treatment of Cancer**

Cancer treatment include surgery, chemotherapy & chemotherapy + radiation having very high cost. Targeted immunotherapy & complementary nutrients should be used.

Increasing diagnostic and prognostic tests and treatments (POCTs, POC Devices) reduce cost of cancer diagnosis and cure. Local devices, CIDN Kits have been developed via integrated health care research for the past 8 years are now available for national clinical evaluation.

## **7. Public Health and Training: Patients and Students Centered**

ZIM-AFRO Integrated HealthCare 2018 conference and UZ CHS 2018 Workshop resolutions recommended vertical and horizontal integration during medical training and increased rural use of technology & modernization of MHCC public services.

## **8. Economic**

African countries should reduce poverty.

## **9. Recruitment of Volunteers**

Some 1000 volunteers are being recruited from 10 Provinces to carry out advocacy, participate in HIE & fundraise to assist in National Cancer Nutrietics Cure Campaign.

## **10. Medical Innovations**

CID Nutrietics: POCTs and POC Devices. Cancer diagnosis and treatment costs are unaffordable for 90% of the population. Preventing cancer by consuming healthy nutrients, all local accessible & available products versus treatment is about 1/3000 of cost.

## HIGHLIGHTS OF PROF. TOMRIS OZBEN'S LAUNCH SPEECH

She gave a brief introduction about IFCC and its support for ZACB and AFCC. The vision of IFCC is to advance excellence in laboratory medicine for better healthcare worldwide. She mentioned about the IFCC Foundation for Emerging Nations (FEN).

Her presentation continued about cancer and the effects of dietary and endogenous antioxidants. Although antioxidants have been demonstrated having preventive effects in cancer development, there are conflicting views of antioxidant use during cancer therapy and their potential interactions with radiation and chemotherapy. On one side, antioxidants protect and repair healthy cells that are damaged by chemotherapy or radiation therapy, decreasing severe side effects. On the other side, ample literature report that concurrent administration of antioxidants may interfere and eliminate ROS generated by chemotherapy and radiation therapy, therefore, their use should be avoided during cancer therapy. This argument continues, not only among scientists, but also in the media and among patients. These are big questions with no easy answers. There is an obvious need to identify and prove if antioxidants taken concurrently interfere with chemotherapy and radiotherapy, help normal cells to survive or tumor cells to thrive.

Although many chemotherapy drugs induce the formation of ROS, their anticancer effects do not, in general, depend on the formation of these free radicals. Consequently, antioxidant supplementation may in some circumstances help to prevent free-radical-induced side effects without inhibiting the positive effects of the chemotherapy and provides a safe and effective means of enhancing the response to cancer chemotherapy. Many cancer patients develop some form of clinical malnutrition and die not from cancer, but from malnutrition related complications.

According to the available evidence, it seems logical to advice taking antioxidants naturally from a diet rich in fruits and vegetables, rather than from consumption of antioxidant supplements. Many food supplements readily available in the market have no effect, or at the opposite, sometimes they produce negative health effects, so a supreme caution is imperative when offering patients such supplements. It is also known that nutrients may act much differently on humans when isolated from their natural matrix, and the synergistic effects of the intact natural product are lost.

The effect of antioxidant supplements taken at high pharmacological doses over years on cancer is expected to be different from their effects at physiological doses taken as part of a diet.



ZACB YS: Among them, first on the right is Dr. Henry Maronga, AFCC LabMed Internet radio producer; next to Prof. Ozben is Itai Chitungo, ZACB YS Representative; next on her left is Dr. Kuda Mandire, Molecular pathologist



## Multidisciplinary conference: Newborn Screening for Rare Disorders in Pakistan

**Bridging the gap: enlighten, engage & educate  
- conference report -**

*by Sibtain Ahmed*

*Aga Khan University (AKU), Karachi, Pakistan*

In line with the World Rare Diseases Day being held worldwide on February 28, a multidisciplinary Conference on Newborn Screening (NBS) for Rare Disorders in Pakistan was organized by the Section of Chemical Pathology, Department of Pathology and Laboratory Medicine, and Paediatrics and Child Health Aga Khan University (AKUH) under the auspices of Pakistan Society of Chemical Pathology (PSCP) and International Federation of Clinical Chemistry (IFCC) on March 1, at Pearl Continental Hotel, Karachi from 1-2 March 2019. The organizing committee was chaired and co-chaired by Dr. Aysha Habib Khan (Section Head and Associate Professor Clinical Chemistry AKUH) and Dr. Lena Jafri respectively and included Dr. Hafsa Majid, Dr. Sibtain Ahmed, Dr. Salman Kirmani, Dr. Sohail Salat, Dr. Bushra Afroze, Dr. Khadija Humayun, Dr. Aamir Ijaz, Dr. Muhammad Amir, Ms. Shamsha Punjwani and Mr. Karim Tejani as core members.

NBS aims at the earliest possible recognition of disorders to prevent the most serious consequences by timely intervention. However, neonates are not screened in Pakistan because the health policies have typically targeted mortality and infectious morbidities but not disabilities. The conference began with a welcome note by Dr. Imran Siddiqui (Professor and consultant Chemical Pathologist AKUH) followed by the presentation of Dr. Aysha Habib Khan who gave an overview of NBS, and its perspective with reference to Pakistan. It was followed by the plenary session which included a talk on experience of introducing NBS in Jordan and role of public and private sector partnership by Dr George Seyhoun (Chief Scientific Officer & Director Med Labs Reference Laboratory). He was followed by Dr. Hussain Askree (Vice-President of Operations, Genomics Lab USA) one of the guest speakers, who laid emphasis on confirmation of

positive NBS results and the dire need of adequate diagnostic facilities in the country. AKU launched NBS for Congenital Hypothyroidism recently in 2019, for all live births at AKU main campus stadium road, Karachi; based on dried blood spot samples collected from neonatal heel pricks with a projection to expand the program to its outreach centers alongside the expansion of testing menu for diseases screened in the near future. A formal cake cutting ceremony was held to mark the launch of NBS and Pak-IMD network (a group led by the PSCP to address the shortcomings in research, education and clinical practices in inherited metabolic disorders (IMDs) in Pakistan).

The conference was divided into themes. The first session was based on NBS for endocrinopathies and included presentations from Dr. Dr Jamal Raza (Professor Pediatrics, Director NICH), Dr Hafsa Majid (Senior Instructor & Consultant Chemical Pathologist, AKU), Dr Khadija Humayun (Associate Professor & Consultant Pediatrics, AKU) and Dr. Sibtain Ahmed (Senior



Conference participants and speakers

*Article continued on next page*



Workshop 1: Dr. Lena Jafri running parallel workshop



Workshop 2: Dr. Bushra Afroze running parallel workshop

Instructor & Consultant Chemical Pathologist, AKU). The speakers gave an overview of NBS for Congenital Hypothyroidism and Congenital Adrenal Hyperplasia along with the evidence for inclusion in NBS program. The next session was based on NBS for IMDs in Pakistan and was addressed by Dr Bushra Moiz (Professor Hematology, AKU), Dr Natasha Ali (Associate Professor & Consultant Hematologist, AKU), Col Zujaja Hina Haroon (Associate Professor & Consultant Chemical Pathologist, AFIP), Dr Lena Jafri (Assistant Professor & Consultant Chemical Pathologist, AKU) and Dr. Bushra Afroze (Associate Professor & Consultant Paediatrics, AKU).

Both sessions were followed by an intense panel discussion moderated by Dr. Salman Kirmani (Chair and Professor of Paediatrics, AKU) and facilitated by eminent Pathologists, Pediatricians and stake holders from Pakistan Pediatric Association (PPA). Dr. Kirmani gave the consensus statement along with the way forward based on the opinions raised by the panelists.

The conference also included a poster walk where the scientific work of young scientists, pathologists and pediatricians in the field of rare diseases was highlighted and the best poster was awarded based on the decision by the judges.

In the next morning, the conference was followed by two parallel workshops titled “Approach to patients with Inherited metabolic disorders (IMD) - problem based learning” and “Hands on Workshop on Organic Acid Testing” lead by Dr Bushra Afroze and Dr. Lena Jafri alongside her team comprising of Dr. Aysha Habib Khan, Dr. Hafsa Majid and Dr. Sibtain Ahmed

respectively. Both the workshops ran in parallel at the CIME building AKU Karachi on March 2nd 2019 and were based on a half day flipped activity for consultants and trainees and consultants working in Pediatrics and Pathologists and senior technologists involved in IMD diagnostics respectively. The two workshops included a Kahoot quiz to challenge participants’ thinking and lectures covering the basics in inherited metabolic disorders.

The motto of the first workshop was to enable Pediatricians to understand the basic concepts of IMDs, apply understanding of various groups of IMDs to interactive cases and develop an evaluation plan for each group of IMD. The second workshop was focused on lectures covering the basics in urine organic acid testing, chromatogram labelling and interpretation for IMD diagnostics. It was followed by a group activity aimed at chromatography labelling and interpretation and case presentations by each group.



Workshop participants gathered outside the CIME building, AKU, Karachi

*by Maria Stella Graziani**Chair, EFLM Communication Committee*

Some interesting EFLM papers have been published recently.

A consensus statement has been produced by the EFLM Working Group Accreditation and ISO/CEN standards (WG-A/ISO).

**Documenting metrological traceability as intended by ISO 15189:2012: A consensus statement about the practice of the implementation and auditing of this norm element.**

Thelen M, Vanstapel F, Meško Brguljan P, Gouget B, Boursier G, Barrett E, Kroupis C, Lohmander M, Šprongl L, Vodnik T, Bernabeu-Andreu F, Vukasović I, Sönmez C, Linko S, Brugnoli D, Vaubourdoles M, Huisman W, Panteghini M on behalf of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) Working Group Accreditation and ISO/CEN standards (WG-A/ISO)

*Clin Chem Lab Med 2018. doi.org/10.1515/cclm-2018-1212.*

This paper deals with ISO15189:2012 requirement for medical laboratories to document metrological traceability of their results and discusses how this requirement should be met by the medical laboratory and how this should be assessed by accreditation bodies.

The main scope of the document is to encourage the International Laboratory Accreditation Cooperation (ILAC) to revise its recommended policy for the assessment of metrological traceability in medical laboratories seeking ISO 15189 accreditation.

The statement stresses in particular that the accreditation policy should allow for risk mitigation by other means that are already obligatory in the accreditation process such as internal quality control, external quality assessment and risk management.

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The second one is a paper published by the EFLM Working Group on Preanalytical phase (WG-PRE)

**Preanalytical challenges – time for solutions**

Lippi G, Betsou F, Cadamuro J, Cornes M, Fleischhacker M, Fruekilde P, Neumaier M, Nybo M, Padoan A, Plebani M, Sciacovelli L, Vermeersch P, von Meyer A, Simundic AM on behalf of the Working Group for Preanalytical Phase (WG-PRE)

*Clin Chem Lab Med 2018. doi.org/10.1515/cclm-2018-1334.*

Education is (and has always been) a core activity of the WG-PRE; as a consequence, a series of European conferences have been organized every second year across Europe.

This collective article summarizes the leading concepts expressed during the lectures of the fifth EFLM Preanalytical Conference “Preanalytical Challenges – Time for solutions”, held in Zagreb, 22–23 March, 2019.

The topics covered include: 1. sample stability, 2. pre-analytical challenges in hematology testing, 3. Feces analysis, 4. bio-banking, 5. liquid profiling, 6. mass spectrometry, 7. next generation sequencing, 8. laboratory automation, 9. the importance of knowing and measuring the exact sampling time, 10. technology aids in managing inappropriate utilization of laboratory resources, 11. management of hemolyzed samples, 12. preanalytical quality indicators.

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A special issue of Clin Chem Lab Med has been dedicated to the 2nd Strategic Conference of the European Federation for Clinical Chemistry and Laboratory Medicine (EFLM) that was held from 18th to 19th June 2018 in Mannheim, Germany. The congress was entitled “The End of Laboratory Medicine as we know



it? Handling disruption of Laboratory Medicine in digital health”.

### The end of Laboratory Medicine as we know it?

Neumaier M and Watson ID

*Clin Chem Lab Med* 2018. doi.org/10.1515/cclm-2018-1264.

This is the Editorial which illustrates the content of the Conference and summarizes the key points of its five sessions:

1. Disruptive technologies in laboratory analytics
2. Disruption through biomedical informatics technologies
3. Integrating laboratory and clinical data - a game for the lab?
4. Interpretation and communication of test results: the stakeholder's perspectives
5. Patient empowerment and the laboratory

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**Sverre Sandberg, Ian Watson, Tomáš Zima**  
symposium chairs

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## PRELIMINARY PROGRAM

### Thursday, October 3<sup>rd</sup>, 2019

**11.00** Registration opens

#### PART A

**13.00 – 14.30** Opening Ceremony, Welcome

**Funding Models that Reward Laboratory Innovation with Savings for Frontline Services**  
Hugo Ribeiro (Abbott)

**The Business of Introducing New Biomarkers**  
Phillip Monaghan (The Christie NHS Foundation Trust)

Discussion

**14.30 – 15.00** Coffee break

#### PART B

**15.00 – 16.45** The “Omics” revolution

**Is there Synergism in Laboratory and Radiology Services Interaction?**  
Prof. Schonberg, prof. Neumaier

**NAVIFY A New Generation of Diagnostic Solution for Decision Making Processes in Oncology Treatments**  
JP Bogardi (Roche)

**How to Utilise Best Practices of Risk Management in Laboratory Medicine**  
Endang Hoyaranda (APFCB)

Discussion

**16.45 – 17.15** Coffee break

**17.15 – 18.30** We are Talking about Big Data – Are we using it?

**EU infrastructure – ELIXIR**  
Jiri Vondrasek (Czech Republic)

**Laboratory Medicine and Biobanking for Future Patient Benefit EU infrastructure BBMRI-ERIC**  
Dalibor Valik (Czech Republic)

Discussion

### Friday, October 4<sup>th</sup>, 2019

#### PART C

**9:00 – 11:00** Normalising Data to Aid Continuity

Mathias Orth

**Innovation in QC Practice**  
Tony Badrick (APFCB)

**Should we have Different Performance Specifications when we Know the Clinical Reasons for Requesting a Test?**  
Sverre Sandberg

**Reflective Testing – Who Decides what we are Allowed to do?**  
Julian Barth

Discussion

**11.00 – 11.30** Coffee break

#### PART C

**11.30 – 13.00** Panel Discussion – Pro vs Con

**Can a Centralised Laboratory Service Support Disseminated Healthcare?**  
Tomas Zima + Ian Watson

**Drone Transported Samples – Vision or Reality?**  
Timothy K. Amukele (USA)

**Zero Touch Sample Handling and Laboratory Resulting**  
Sunil Sethi (APFCB)

Discussion

**13.00 – 13.30** Discussion / Future Perspectives  
Closing remarks

**13.45** Lunch

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[www.ifcc.org](http://www.ifcc.org)



## NEW IFCC MEMBERS

### IFCC welcomes a new Corporate Member: Nittobo Medical Co. Ltd.



Since its inception in August 1987, Nittobo Medical Co., Ltd. has engaged in product development in association with customers in both the medical business and specialty chemicals business fields thriving to provide reliable products that are essential to daily life and medical treatment.

Our Medical Division is engaged mainly in the development, manufacture and sale of *in-vitro* diagnostics in the fields of immunology, biochemistry and haematology. Especially in the field of immunology, our *in-vitro* diagnostics reagents are widely accepted by clinical laboratories worldwide as well as in Japan. In addition, as “Nittobo of immunology”, we continue to make efforts on the stable supply of medicines and anti-serum for *in-vitro* diagnostics, and to meet the needs of clinical testing and medical fields on the frontline as well. Since our subsidiary, Nittobo America Inc., is a global major producer of goat anti-sera, we could establish a consistent system in the field of *in-vitro* immunoassay reagents from raw material procurement to commercialization. We offer a rich product line-up under the “N-assay” brand to meet the needs of the medical practitioners such as CRP, IgG, IgA, IgM, C3, C4, Urinary albumin, PreALB, RBP, etc. Further, we have developed a new ELISA kit for bone resorption marker “TRAP-5b (TRACP-5b)”, which is used as a supplementary indicator for treatment of metabolic bone disease such as osteoporosis.

Specialty Chemicals, another division of Nittobo Medical, has proprietary cationic polymer technologies. Working together with this “polymer specialist”, we have been actively involved in unconventional, epoch-making product development, and have succeeded in the commercialization of a novel pre-treatment

kit “rapid BACpro®” for MS (mass spectrometry) identification of pathogens in blood for diagnosis of sepsis. The commercialization of “rapid BACpro®” through collaboration that transcended divisional boundaries became a touchstone indicating the new possibilities of Nittobo Medical going forward.

Nittobo Medical’s innovative products are coming out from “Fukuyama Enterprise Center”, the base of the Nitto Boseki Group located in Koriyama. It is conducting the research and development of the Medical Division as the “MD Core Research Lab”. Furthermore, we established another research institute “Ni-Tech” in Kawasaki, in order to strengthen a new innovative technology development. Those two R&D laboratories are giving rise to numerous innovative products.

We are deeply grateful that IFCC welcomed us. As a corporate member of the IFCC, Nittobo Medical will contribute to the activities of the IFCC through the scientific knowledge and experience we have accumulated in the past.



Fukuyama Enterprise Center

# IFCC'S CALENDAR OF CONGRESSES, CONFERENCES & EVENTS

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

May 19 - 23, 2019		<i>XXIII IFCC - EFLM EuroMedLab Barcelona 2019</i>	Barcelona, ES
Sep 10 - 13, 2019	 COLABIOCLI	<i>COLABIOCLI Regional Congress 2019</i>	Panama, PA
Sep 26 - 28, 2019		<i>AFCC Regional Congress</i>	Marrakesh, MA
Nov 17 - 20, 2019		<i>APFCB Regional Congress 2019</i>	Jaipur, IN
May 24 - 28, 2020		<i>XXIV IFCC WorldLab Seoul 2020</i>	Seoul, KR
May 29 - 30, 2020		<i>IFCC - ICHCLR Workshop on reference materials and regulations for global standardization of clinical laboratory testing</i>	Seoul, KR

Calendar continued on next page

May 16 - 20, 2021		XXIV IFCC - EFLM EuroMedLab Munich 2021	Munich, DE
May 21 - 25, 2023		XXV IFCC - EFLM WorldLab EuroMedLab - Rome 2023	Rome, IT

## Calendar of events with IFCC auspices

Feb 23 - Dec 31, 2019	<i>Bolivian Continuing Education Program (PROBOECO) of the Bolivian Society of Clinical Biochemistry</i>	Different cities, BO
Apr 4 - 5, 2019	<i>10th European Symposium on Clinical Laboratory and In Vitro Diagnostic Industry: 'The Clinical Laboratory in the Pregnancy Monitoring'</i>	Barcelona, ES
Apr 5, 2019	<i>Cardiac Marker Dialogues</i>	Glasgow, UK
Apr 11 - 12, 2019	<i>The 15th Belgrade Symposium for Balkan Region</i>	Belgrade, SRB
Apr 17, 2019	<i>TBS-BD Preanalytical Phase Symposium</i>	Ankara, TR
Apr 18 - 21, 2019	<i>The 12th International &amp; 17th National Congress on Quality Improvement in Clinical Laboratories</i>	Tehran, IR
Apr 19 - 20, 2019	<i>International Congress of Laboratory Medicine in Kazakhstan</i>	Almaty City, KZ
Apr 25 - 27, 2019	<i>32th Biology National Days</i>	Hammamet, TN
May 1 - 3, 2019	<i>Focus 2019 – Annual Meeting of the ACB</i>	Glasgow, UK
May 16, 2019	<i>40th Conference LABAC</i>	Paris, FR
May 18, 2019	<i>VII International Symposium Laboratory Medicine and Quality - Satellite Meeting IFCC-EFLM EUROMEDLAB 2019</i>	Barcelona, ES
May 19, 2019	<i>International Symposium: Standardization and Recommendations in the Laboratory of Haematology - Satellite Meeting IFCC-EFLM EUROMEDLAB 2019</i>	Barcelona, ES

May 19, 2019	<i>International Symposium : Breast Cancer and Environment - Satellite Meeting IFCC-EFLM EUROMEDLAB 2019</i>	Barcelona, ES
May 22, 2019	<i>Regional Academic Workshop (Biomédicos de Mérida)</i>	Merida, MX
Jun 2 - 5, 2019	<i>CSCC 2019 Annual Conference</i>	Saint John, CA
Jun 5 - 7, 2019	<i>The 3rd Conference of Romanian Association of Laboratory Medicine (RALM)</i>	Iași, RO
Jun 5 - Dec 24, 2019	<i>Postgraduate course of analytical quality in the clinical laboratory</i>	Online event
Jun 29 - Jul 3, 2019	<i>The 23rd International Conference on Laboratory Medicine and Pathobiology: An expert forum in clinical and laboratory sciences</i>	Chios Island, GR
Aug 20 - 23, 2019	<i>73º Congreso Argentino de Bioquímica</i>	Buenos Aires, AR
Sep 9 - 14, 2019	<i>XLIII Congreso Nacional de Químicos Clínicos y Expoquim</i>	Mexico City, MX
Sep 10 - 13, 2019	<i>XXIV Congreso Latinoamericano de Bioquímica Clínica (COLABIOCLI) and XIV Congreso Nacional de Laboratoristas Clínicos de Panamá</i>	Panama City, PA
Sep 25 - 27, 2019	<i>Congreso Nacional Bioquímico CUBRA XV 2019</i>	Chaco, AR
Sept 26 - 28, 2019	<i>LMCE 2019 and KSLM 60th Annual Meeting</i>	Busan, KR
Oct 3 - 4, 2019	<i>CELME 2019</i>	Prague, CZ
Oct 16 - 18, 2019	<i>5th ESPT Congress – Precision Medicine and Personalized Health</i>	Seville, ES
Oct 23, 2019	<i>From Bench to Diagnostic-Therapeutic Pathways - Symposium dedicated to the Memory of Professor Angelo Burlina</i>	Padua, IT
Nov 1 - 4, 2019	<i>ISOBM Annual Conference 2019</i>	Athens, GR
Nov 1 - 4, 2019	<i>19 International Congress of the Colegio Nacional de Bacteriología, CNB Colombia</i>	Bogotá, CO
Nov 6 - 8, 2019	<i>3èmes Journées Francophones de Biologie Médicale</i>	Monaco, MC
Nov 7 - 9, 2019	<i>The Value of Laboratory Medicine into Clinical Medicine</i>	Erice, IT
Nov 28, 2019	<i>13th International Scientific Meeting - The Internal Quality Control in the Traceability Era</i>	Milan, IT
Dec 6 - 7, 2019	<i>53e JBP, Journées de Biologie Praticienne</i>	Paris, FR
Jun 9 - 12, 2020	<i>XXXVII Nordic Congress in Medical Biochemistry</i>	Trondheim, NO

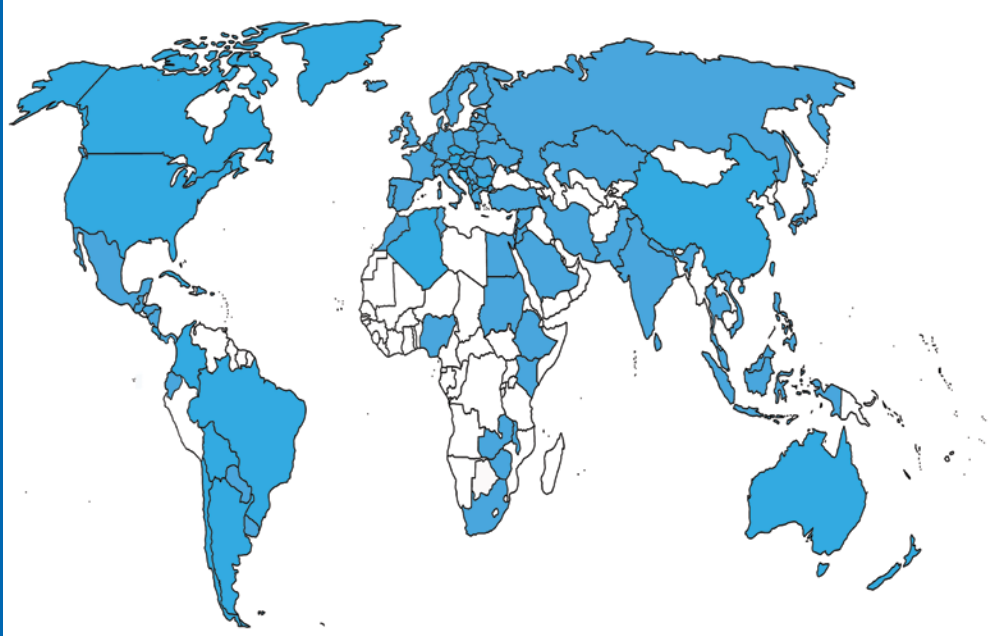
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