



**EUROMEDLAB**

ATHENS 2017

11-15 JUNE

**UPDATED**  
01/06/17

# Scientific Program

22<sup>nd</sup> IFCC - EFLM European Congress of Clinical Chemistry and Laboratory Medicine

25<sup>th</sup> Meeting of Balkan Clinical Laboratory Federation

15<sup>th</sup> National Congress of GSCC-CB

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- Posters
- General information
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- Breaking news

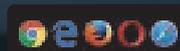
NEW

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- Participate to surveys posted by the speakers
- Rate the Scientific Session

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## SESSION DESCRIPTIONS

To make it easier for you to arrange your schedule, each session has a level of content:

Basic, Intermediate or Advanced:



**BASIC** For participants who lack previous training or experience in the subject or whose experience is minimal.



**INTERMEDIATE** For those with knowledge of basic theory of the topic, and who have prior training and education.



**ADVANCED** For attendees with specialized content and working knowledge of current theory and practice who want to refine their skills or learn about new principles and techniques.

## PLENARY SESSIONS

Designed for all levels, the Plenary Sessions feature renowned speakers in Laboratory practice, research, education and policy who are visionaries on the future of laboratory medicine and healthcare.

### PLENARY SESSION TIMES

**MONDAY - THURSDAY 09:00 - 10:00**

## OPEN DISCUSSIONS - DEBATES

**NEW**

An EuroMedLab congresses innovation, these sessions following the plenaries presentations, will be open to the general public and the press. Controversial issues that concern the utilization of laboratory medicine services and concern the general public will be debated in these sessions.

*The sessions require previous free registration in order to finalize the room and admission arrangements.*

### OPEN DISCUSSIONS TIMES

**MONDAY - WEDNESDAY 12:30 - 14:30**  
**THURSDAY 10:30 - 12:30**

## SYMPOSIA & SCIENTIFIC WORKSHOPS

Presented by experts actively involved in the field, the Symposia provide a broad subject overview designed for basic, intermediate or advanced participants. These 34 Symposia and 2 scientific workshops coordinated by SPC will cover a wide spectrum of important topics, including new areas of research and development. They will mostly consist of three invited lectures and two presentations selected from the posters' abstracts. A short Q&A session is featured at the end of each lecture. We suggest you select specific Symposia based upon interests and level of experience.

### SYMPOSIA & SCIENTIFIC WORKSHOPS SESSION TIMES

**MONDAY - THURSDAY 10:30 - 12:30**  
**MONDAY & WEDNESDAY 14:30 - 16:30**  
**TUESDAY 16:00 - 18:00**

## ABBREVIATIONS

### AACC

American Association of Clinical Chemistry

### EFLM

European Federation of Clinical Chemistry and Laboratory Medicine

### EuSPLM

European Specialist in Laboratory Medicine

### FIFBCML

Fédération Internationale Francophone de Biologie Clinique et de Médecine de Laboratoire

### IFCC

International Federation of Clinical Chemistry and Laboratory Medicine

### NACB

National Academy of Clinical Biochemistry

### PoCT

Point of Care Testing

### TFG

Task and Finishing Group

### TF

Task Force

### WG

Working Group

## MEET THE EXPERT SESSIONS

**NEW**

In cooperation with the Young Scientists (YS) division of IFCC we have prepared, for the first time in the EuroMedLab congresses, six interactive "meet the experts" sessions covering subjects of general interest and not only addressed to the young colleagues. These are your opportunity to join a small group of interested colleagues for intense, interactive discussions with plenary speakers and other experts.

Each session has a type of content:



**MENTORING**



**CLINICAL**



**TECHNICAL**



**YOUNG SCIENTISTS COORGANIZATION**

*The sessions require previous free registration on a first "come first served" basis, as the attendance will be limited for practical reasons.*

### MEET THE EXPERT SESSION TIMES

**MONDAY 14:30 - 16:45 & 16:45 - 18:00**  
**TUESDAY 15:30 - 16:45 & 16:45 - 18:00**  
**WEDNESDAY 14:30 - 15:45 & 16:45 - 18:00**

## PRESIDENT'S INVITED SESSION

**NEW**

The EuroMedLab president created this special session of particular importance to Congress attendees featuring a renowned scientist presenting his awarded work.

**TUESDAY 14:30 - 16:30**

## EDUCATIONAL WORKSHOPS

The Educational Workshops will be organized with the active support of IVD Industry, and they will be reviewed by the SPC, in order to be fully integrated in to the EuroMedLab Congress.

### EDUCATIONAL WORKSHOPS SESSIONS TIMES

**MONDAY - WEDNESDAY 14:30 - 18:00**

## POSTER SESSIONS

Featuring the newest and ongoing research, Poster Sessions are a highlight of the EuroMedLab Congresses.

### POSTER SESSIONS TIMES

**MONDAY - THURSDAY 12:30 - 14:30**

## SATELLITE MEETINGS

Four Satellite Meetings will be organized before and after the main Congress in collaboration with other Scientific Societies from Greece and other European countries.

## EXHIBITION

During EuroMedLab Athens 2017 a large, interesting and detailed exhibition of IVD industry products will be organized. In Athens several thousand square meters will be allocated to offer space in order that the latest innovations in the field of the clinical chemistry, molecular diagnostics, cell counting, immunochemistry, and several other will be exhibited.

### EXHIBITION TIMES

**MONDAY - WEDNESDAY 10:00 - 17:30**



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*Timetable & Exhibition Plans*

**Insert**





**Alexander Haliassos,**  
EuroMedLab Athens 2017

*Congress President*

Dear Colleagues and Friends,

On behalf of the Greek Society of Clinical Chemistry - Clinical Biochemistry (GSCC-CB) and the Congress Organizing Committee, I would like to invite you to the 22<sup>nd</sup> IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine "EuroMedLab Athens 2017" taking place in Athens, Greece, on June 11-15 2017 at Megaron - the Athens Congress Center. The Congress will be co-organized along with the 25<sup>th</sup> Balkan Clinical Laboratory Federation (BCLF) meeting and the 15<sup>th</sup> National Congress of GSCC-CB, offering a fruitful exchange of opinions and visions among the Greek, European and International colleagues.

The scientific program, containing an amalgamation of presentations, symposia, discussions, open sessions and workshops, describing recent state of the art innovations in 21<sup>st</sup> century Laboratory Medicine, has been finalized in collaboration with the European Societies through the International Scientific Advisory Board. During EuromedLab Athens 2017 a large and detailed exhibition of IVD industry products as well as many Industry Sponsored Workshops will take place. In Athens, several thousand square meters are allocated to offer ample space for the latest innovations in the fields of clinical chemistry, molecular diagnostics, cell

counting, immunochemistry, and several other to be exhibited.

Athens, a city famous all over the world for its history and culture, is abundant with places of interest within a relatively small area surrounding the city center (Syntagma Square) and in walking distance from the congress venue. The downtown Congress Center is also conveniently situated nearby to the districts of Plaka and Monastiraki (old town) as well as Kolonaki (shopping and museums area and night life district). Acropolis, the New Museum and charming historic quarters with restored 19<sup>th</sup> century neoclassical homes, picturesque pedestrian streets, shops and restaurants, and ancient monuments from classic and Roman era will offer you unforgettable memories to take back home.

Looking forward to welcoming you in Athens in June 2017,

*A Haliassos*

Alexander Haliassos







**Yorgos Kaminis**

*Mayor of the city of Athens*

As mayor of the city of Athens, I would like to pledge my full support as well as the support of the city of Athens Convention & Visitors Bureau, to Greek Society of Clinical Chemistry & Clinical Biochemistry in its effort to host the 2017 Meeting of EuroMedLab.

An event of such magnitude would undoubtedly constitute an honor for the City of Athens and for the entire scientific community of Greece, as well as for the public.

I am certain that the Greek Society of Clinical Chemistry & Clinical Biochemistry shall exceed itself to ensure the organisational and scientific success of the EuroMedLab. I personally believe the the exchange of information and knowledge is of crucial significance to scientific advancement and I am fully convinced that EuroMedLab 2017 in Athens will promote science and give the ideal opportunity to scientists and researchers from all over the Europe to meet and produce outstanding result of high scientific value.

I look forward to welcoming the EuroMedLab in Athens in 2017.

Yours sincerely,

Yorgos Kaminis



**Maurizio Ferrari**

*IFCC President*

Dear Friends and Colleagues,

It is my great pleasure to announce that the 22nd IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine "EuroMedLab Athens 2017" will be held in Athens, Greece, June 11th – June 15th and to invite you to participate to this very interesting conference. Whether you work in a hospital, a university, in private practice or in the diagnostics industry "EuroMedLab Athens 2017" will be the place to come.

The chance to combine leading world experts with the unique art treasures of Athens represents a valuable opportunity to promote Art and Science meeting and to allow people coming from all over the world to gather and exchange ideas. This will be a special conference held in the excellent at Megaron – the Athens Congress Center in the wonderful city of Athens.

EuroMedLab 2017 will cover all the scientific, doctrinal and technological aspects of Laboratory Medicine. We are expecting thousands of participants from all over the world and a great contribution from exhibitors. A well calibrated program of oral and poster presentations, and dedicated workshops,

will guarantee an efficient exchange of ideas and allow productive discussions.

The organization of the congress is already completed. I am certain the organizing did an outstanding job in delivering a program of high quality and interest containing innovative ideas and of direct relevance to modern laboratory medicine. The accompanying industrial exhibition will provide information and advice on the most up to date equipment, diagnostics, informatics and professional practice.

These are exciting times in the world of laboratory medicine. Therefore, laboratory medicine specialists and the diagnostic industry have a responsibility to work together to convert data into knowledge which can be used to add value to patients health.

I look forward to welcoming you in Athens

Yours sincerely,

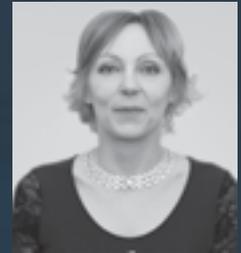
Prof. Maurizio Ferrari





**Sverre Sandberg**

*EFLM President*



**Najdana Gligorovic Barhanovic**

*BCLF President*

Dear Colleagues,

It is indeed a great pleasure to welcome you to Athens and to Euromedlab 2017. We organise these conferences for many reasons. Most important to disseminate new information that we hope can contribute to improved patient care in the short or in the long run. Secondly, to meet people and to exchange ideas and experiences. This is as important since implementation of new ideas needs communication between laboratory professionals. We also need to bring the information from conferences back to our hospitals where we must engage in dialogue with our clinical colleagues. They must learn about how to interpret laboratory tests, how much can they trust them, what are the uncertainties, what are significant changes between serial results. We have to learn about the consequences of laboratory results, how do clinicians use them, how do they benefit patients. We are living in a time with huge changes also for laboratory medicine and we have to be informed of these changes and the possibilities to be able to transform our laboratory and our hospitals in an efficient way.

So - these are your tasks in Athens: To learn, to be inspired, to start - and to facilitate cooperation, to meet old friends and to get new friends and to be part of an international network in laboratory medicine. EFLM, the European Federation of Clinical Chemistry and Laboratory Medicine welcomes especially its 40 member societies, representing more than 22 000 specialists in laboratory medicine, to this event. EFLM wants to stimulate the scientific, regulatory, professional and clinical aspects of laboratory medicine in Europe. I do look forward to seeing you during the conference.

Yours sincerely,

Prof. Sverre Sandberg



Dear colleagues,

On behalf of Balkan Clinical Laboratory Federation it is a great pleasure to welcome you all to the 22nd IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine and 25th BCLF Meeting.

Looking at the final program it is obvious that Athens from June 11-15 2017 will be a place of utmost importance for all the European and international community of specialist in laboratory medicine. The organizers have taken a great effort to fulfill broad range of demands for an up to date scientific program that will further contribute to the future of promising development of laboratory medicine. Planned innovations will give all of us the opportunity to actively participate in finding solutions for common challenging areas of our profession.

As a regional organization, BCLF gathers laboratory medicine specialists from the entire Balkan region with the aim of improving clinical laboratory practice in each of the Balkan countries. Our joined efforts result in close collaboration, establishment and encouragement of high professional standards in clinical laboratory science and its service to humanity. EuroMedLab Athens 2017 is another exciting opportunity for us to get together, strengthen friendship and cooperation with colleagues from other countries, as well as stay abreast of the latest developments in clinical chemistry and laboratory medicine.

Athens procured a significant part of the foundations of modern democracy, science and medicine, but it is also a place of outstanding hospitality and friendliness. This ancient and modern city, with equal measurements of grace and strength, will ensure an exquisite location for our meeting with countless opportunities for an exciting social program.

I sincerely hope that EuroMedLab Athens 2017 will be remembered as an excellent and exhilarating scientific event that will bring us new knowledge, ideas for research and improve the quality of work delivered by our medical laboratories.

Yours sincerely,

Prof. Najdana Gligorovic Barhanovic



# Committees

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Dr. Alexander Haliassos

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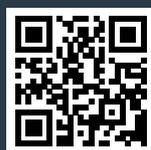
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Find online the abstracts of the

Oral presentations, Posters Plenaries, Symposia, Meet the experts



Scan the QR code or click [here](#)



Starting at 20.00

# IFCC Task Force of Young Scientists (TF-YS) event

An Interesting event co-organized with the IFCC Task Force of Young Scientists (TF-YS) and the International Society of Enzymology (ISE) will combine a scientific presentation by Dr. Nader Rifai, Editor in chief of "Clinical Chemistry", entitled "Communication of Scientific Information" and a musical performance of the well-known Mikis Theodorakis Orchestra.

There will be a Get Together Dinner, offered by the GSCC-CB, while overlooking the Acropolis and the Parthenon. The evening will continue in a friendly musical atmosphere.

For more information the YSs should contact the GSCC-CB secretariat to book a free ticket ([info@eekx-kb.gr](mailto:info@eekx-kb.gr)).

This event is also open to all other delegates but they need to purchase a ticket (80 euros per person) by writing to Amanda Goddard ([amanda.goddard@sinaihhealthsystem.ca](mailto:amanda.goddard@sinaihhealthsystem.ca)). Space is limited and tickets will be sold on a first-come first-served basis.



### gazarte

32-34 Voutadon Str.  
Gazi - Athens 11854  
Tel.: +30 210 3460347



Kerameikos Station

## ABOUT THE SPEAKER & THE CHAIR



**Nader Rifai** is Professor of Pathology at Harvard Medical School, the Louis Joseph Gay-Lussac Chair in Laboratory Medicine and the Director of Clinical Chemistry at Boston Children's Hospital. He is also the Editor-in-Chief of Clinical Chemistry, founder and co-chair of the Clinical Chemistry Trainee Council, a multilingual e-learning program for laboratory medicine trainees, the Senior Editor of the Tietz Textbook of Clinical Chemistry and Molecular Diagnostics, and co-chair of the Area9/AACC Adaptive Learning Initiative. His research focuses on the biochemical risk markers of coronary heart disease.



**Pradeep Kumar Dabla** is Associate Professor, Dept of Biochemistry, G.B.Pant Institute of Postgraduate Medical Education & Research (GIPMER), Maulana Azad Medical College, Govt of NCT of Delhi (IN). He is serving as Chair-IFCC Task Force for Young Scientists (IFCC-TF YS). He is Qualified NABL Assessor as per ISO 15189: 2012 for Clinical Laboratory and has Advanced Training in Supply Chain Management as well. He pursued the Business Administration & Hospital Management after completing MD, Biochemistry from Delhi University, India. He has been awarded three times for his research work in "Postmenopausal Women CAD Risk & Gene Polymorphism", "Diabetic CAD Risk" and received five Awards & Travel Grants at International level. He has more than 30 publications, 4 chapters and 2 books to his credit in national and international journals.

*Limited attendance all delegates need a special ticket (free for YS)*

# SUNDAY JUNE 11

## OPENING CEREMONY

20.15 - 20.30

ARRIVAL  
of delegates

20.30 - 21.00

WELCOME ADDRESSES

*President of EuroMedLab Athens 2017* Alexander Haliassos

*President of IFCC* Maurizio Ferrari

*President of EFLM* Sverre Sandberg

*President of BCLF* Najdana Gligorović-Barganović

*Announcements of Awards*

21.00 - 21.30

OPENING LECTURE

*The original Olympic spirit:*

*The evolution of athletes and the tiny margins between good and great*

**David Epstein**

21.30 - 21.40

INTERMISSION

21.40 - 22.00

CULTURAL EVENT "FACADES"

*A ballet specially created for EuroMedLab Athens 2017*

**by Andonis Foniadakis**

22.00

WELCOME GET TOGETHER

*In case of inclement weather the opening ceremony instead of Herodion will take place at the same time at Megaron.  
To be informed please visit [www.athens2027.org](http://www.athens2027.org) or your incoming email folder.*



## *The original Olympic spirit: The evolution of athletes and the tiny margins between good and great*

David Epstein (USA)

21.00 - 21.30

Herodes Atticus Theatre (Herodion)

### SUMMARY

The original Olympic Games, started in Greece in the 8<sup>th</sup> Century B.C., were meant to honor Zeus, and yet, they were distinctly secular. From the very beginning, the Games were meant to display aspects of the physical form, which ancient Greeks already displayed in sculpture, and to celebrate the evolution of performances achieved by young athletes. That is, from the very beginning, the Games were created with the expectation that it would give a stage both to human physical diversity, and to a relentless march of improvement. It is amazing to think that ancient Greeks already had an idea of the evolution of sports performances, and the symbol of an improving society that they could provide. Still, it's unlikely that even the prescient founders of the Olympics could have envisioned the level of performance today.

Over the last few generations, sport has opened to the world. (Another aspect of the ancient Games was the truce that was mandated during the contests, to provide unity to the Hellenic world.) A consequence of the spread of competition has been an extraordinary acceleration in performance levels. Excellence has spread so thoroughly that, today, the difference between an athlete who is legendary, like Usain Bolt, and one who finishes in anonymity just a single stride behind

him, is less than 1% of performance. The evolution of sport that ancient Greeks began has led us to a place of such narrow convergence, that the difference between good and great is vanishingly small. The question, then, is how we got here, and how athletes can continue to carry on the legacy bestowed by the original Olympians. This talk will address how athletes got here, and how they can push ever faster, higher, and stronger.

David Epstein will demonstrate the tiny gaps in performance that have come to separate elite athletes, and will explain the often surprising skills that separate the very best athletes from everyone else. He will address how those skills are developed, and whether anyone can develop them. He will then lead the audience on a tour through the remarkable differences that have emerged in the last century in the bodies of elite athletes, and how this has pushed sport forward. Epstein will discuss his own experience as a competitive runner, and use it to explain the most important breakthrough in sports genetics. Ultimately, he will show what this generation of athletes should do if they are to find the ever smaller advantages that will continue the evolution of performance first envisioned in ancient Greece, and thereby embody the original Olympic spirit.

### ABOUT THE SPEAKER

**David Epstein** is an investigative science reporter at ProPublica, a non-profit corporation based in New York City, and author of the New York Times bestseller *The Sports Gene*, an exploration of the nature of athleticism that has been translated into 16 languages. Previously, he was a senior writer at *Sports Illustrated*, where he authored or co-authored many of the magazine's most high profile

stories, like the 2009 revelation that Yankees' third baseman Alex Rodriguez, the highest-paid player in history, had used steroids. He has lived on a ship in the Pacific Ocean, in a tent in the Arctic (prior to becoming a writer, he was training to be a geologist) and now lives in Brooklyn, New York. His 2014 TED Talk was one of the most viewed of the year.

# MONDAY JUNE 12

09.00 - 10.00

## PLENARY SESSION

*New vaccines and immunotherapies for AIDS and cancer*

George Pavlakis

10.00 - 17.30

## EXHIBITION

10.30 - 12.30



## EFLM SYMPOSIUM

*Harmonisation in laboratory medicine*

Ana Maria Simundic, Wim Huisman, Gilbert Wieringa, Elizabeta Topic

10.30 - 12.30

## SYMPOSIA

*Advances in cancer biomarker discovery*

Vathany Kulasingam, Henry Rodriguez, Catherine Alix-Panabières

*Laboratory diagnosis of pathological conditions in pregnancy*

Stefan Hansson, Moshe Hod, Voula Velissariou



*The role of laboratory in stroke diagnosis and monitoring of patients - stroke biomarkers*

Georgios Tsigoulis, Jakob Ström, Konstantinos Makris

*Biomarkers of inflammation and vascular damage*

Warren Zapol, Triantafyllos Chavakis, Christos Tsatsanis, Marta Kalousová, Tomáš Zima

*Challenges in the diagnosis and follow-up of multiple myeloma*

Efstathios Kastiritis, Ioannis Papassotiriou, Ourania Tsitsilonis



*Traceability in laboratory medicine: A matter of patient safety*

Federica Braga, Ilenia Infusino, Sara Pasqualetti, Andrea Mosca

12.30 - 14.30

## DEBATE

*Lessons from 30 years of cancer screening*

Anne McTiernan / Karen Anderson

12.30 - 14.30

## POSTER SESSION

14.30 - 16.30



## IFCC SYMPOSIUM

*Standardization in endocrinology*

Philippe Gillery, Eef Lentjes, Catharine Sturgeon, Linda Thienpont

14.30 - 16.30



## SYMPOSIA

*New perspectives in clinical flow cytometry*

Frank Preijers, Silvia Della Bella, Bruno Brando

14.30 - 16.45

## MEET THE EXPERTS

*Accreditation and laboratory management - Why and how to do it*

Wim Huisman, Michel Vaubourdolle, Hélène Mehay, Elizabeth Frank

16.45 - 18.00

*Success in research-academic career: Lessons and opportunities*

Eleftherios Diamandis

16.30 - 18.30

## AUTHOR WORKSHOP

*How to write a great research paper, and get it accepted by a good journal*

Antony Newman, Mario Plebani

## EDUCATIONAL WORKSHOPS

- 14.30 - 15.30  
**SYSMEX**  
*Exclude malignancies and characterise infections with the XN-Series*  
Jarob Saker, Marion Eveillard
- 14.30 - 15.30  
**ROCHE DIAGNOSTICS**  
*Digital diagnostics - Decision support from laboratory to bedside*  
Tim Jaeger, Van Diest
- 14.30 - 15.30  
**ABBOTT**  
*Improving healthcare outcomes in the emergency setting*  
Agim Beshiri, Phillip Schuetz
- 14.30 - 15.30  
**SIEMENS**  
*Early diagnosis of acute myocardial infarction*  
Christian Mueller, Mario Plebani
- 15.45 - 16.45  
**BIO-RAD**  
*Applications of droplet digital PCR solutions in the clinical laboratory*  
Svilen Tzonev
- 15.45 - 16.45  
**ABBOTT**  
*Approaches to achieve measurably better healthcare performance*  
Dominic Harrington, Erna Lenters-Westra
- 15.45 - 16.45  
**ROCHE DIAGNOSTICS**  
*Laboratory's role in enhancing clinical decision making for cardiac and pregnancy care*  
Antoni Bayes-Genis, Ziad Hijazi, Stefan Verlohren
- 15.45 - 16.45  
**ORTHO CLINICAL DIAGNOSTICS**  
*Acute kidney injury and the role of cell cycle arrest biomarkers in medical management today*  
R. Rivero, L. Forni
- 17.00 - 18.00  
**WERFEN**  
*Glycated albumin: From laboratory medicine to clinical practice*  
E. Dozio, E. Kilpatrick
- 17.00 - 18.00  
**SEBIA**  
*FLC testing: Fixing the past for a better future*  
Marc Drayson, F.M. Jacobs
- 17.00 - 18.00  
**BECKMAN COULTER**  
*Combining advantages of hematology and flow cytometry for better patient care*  
M. Vasse, M. Roussel
- 17.00 - 18.00  
**BECKMAN COULTER**  
*Utilization of automation technology to implement process improvement helping to relieve the cost pressure in daily laboratory routine*  
D.R. Kahn, M. Obermeier
- 17.00 - 18.00  
**IMMUNDIAGNOSTIK – ANACHEM**  
*Intestinal disorders - Biomarkers and beyond*  
Jürgen Stein, Wolfgang Reichert



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## *New vaccines and immunotherapies for AIDS and cancer*

George Pavlakis (GR, USA)

09.00 - 10.00

ROOM: LAMBRAKIS HALL

CHAIR: Angeliki Magklara (GR)

### SUMMARY

The Human Retrovirus Section designs, develops and tests vaccines and immunotherapies for AIDS and cancer. We develop and test new technologies including nucleic acid delivery methods in vivo, prophylactic and therapeutic vaccines and immunotherapies. We study the role and application of cytokines in vaccines and cancer immunotherapy.

The Human Retrovirus Section focuses on the development of innovative vaccines and immunotherapies for AIDS and cancer based on the understanding of basic mechanisms, and by combining our expertise in molecular biology, virology and immunology.

A major focus is presently directed towards DNA

vaccine development. We aim to improve DNA vaccine platform technology and develop immunogens able to prevent HIV infection or progression to AIDS. This is achieved by optimizing DNA vaccine expression, delivery, immunogenicity as well as synergy with other vaccine modalities. The strong and effective cellular immunity achieved by optimized DNA is also an important consideration for the expanding field of cancer vaccines. A related focus area is the study of the biology and clinical applications of cytokines in vaccines and immunotherapies for cancer.

This work is a direct extension of our previous studies and represents a translational component of our basic science accomplishments.

### ABOUT THE SPEAKER

**George Pavlakis** received his M.D. from the University of Athens, Greece, and his Ph.D. from Syracuse University. He has been associated with the National Cancer Institute since 1980 and is currently Chief of the Human Retrovirus Section. He has directed both basic research and clinical development projects based on his pioneering research achievements. Dr. Pavlakis has extensive research and development experience in molecular biology, virology, and immunology. He is credited with the first production of mature human hormones in mammalian cells by recombinant DNA technologies. This methodology is still in commercial production (human Growth Hormone). He continues this work by the development of new production methods and clinical application of heterodimeric IL-15 (hetIL-15), a cytokine essential for NK and T lymphocyte development and function.

Dr. Pavlakis co-developed codon/RNA optimization methods that have found wide applications in biotechnology, gene therapy protocols and DNA vaccines. He developed DNA vaccines for

HIV and showed they provide strong and long lasting immunity. He developed strong fluorescent GFP mutants that are in wide use in biology. He studied the molecular biology, genetic organization and expression strategy of HIV and discovered important functions of its regulatory factors Tat and Rev. He described the first transcriptional activator on oncoretroviruses, the Tax protein of HTLV-I and the first posttranscriptional regulatory factor controlling mRNA export from the nucleus, the Rev protein of HIV-1. His studies have provided new insights on the biology of several viruses, and have aided the development of diagnostic and therapeutic procedures. His work has also led to the development of innovative biotechnology drugs and gene therapy procedures.

Dr. Pavlakis is member of several professional societies, including the American Society for Clinical Investigation and the American Association of Physicians. He is a highly cited researcher, has authored more than 200 publications and is inventor of more than 50 US and International patents.

## Harmonisation in laboratory medicine

CHAIR: *Maria Stella Graziani (IT)* CO-CHAIR: *Paiivi Laitinen (FI)*



10.30 – 12.30

ROOM: SKALKOTAS HALL

COOPERATION WITH: *European Federation of Clinical Chemistry & Laboratory Medicine (EFLM)*

4 LECTURES

### LECTURES

**Ana Maria Simundic (HR)**

*The contribution of the EFLM WG-PRE to the harmonisation of preanalytical phase of laboratory examination process in Europe*  
(25 min + 5 min discussion)

**Wim Huisman (NL)**

*Harmonisation of medical laboratory accreditation: The importance of being involved in all steps*  
(25 min + 5 min discussion)

**Gilbert Wieringa (UK)**

*Harmonising the recognition of specialists in laboratory medicine across Europe*  
(25 min + 5 min discussion)

**Elizabeta Topic (HR)**

*Steps towards harmonisation of the evaluation process in the continuous professional development of laboratory medicine specialists in Europe*  
(25 min + 5 min discussion)

### SESSION OVERVIEW

Harmonisation is a fundamental aspect of quality in laboratory medicine; its main goal is to provide a better patient outcome producing comparable laboratory information irrespective of where and how the laboratory data have been obtained. Harmonisation involves all the steps of the total testing process (pre-analytical, analytical, and post analytical phase); it embraces however any aspect of the profession: from laboratory accreditation to professional development, to the recognition of laboratory medicine specialists in Europe. The symposium covers these topics with lectures dealing with the harmonisation of the pre-analytical phase, the medical laboratory accreditation, the recognition of the profession in Europe, the continuous professional development.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Operate to harmonise the steps of the preanalytical phase.
2. Understand the need to achieve a uniform accreditation system in Europe.
3. Recognize the importance to promote the free movement across Europe borders of laboratory medicine specialists assuring that competencies are practiced at an equivalent high quality level.

### ABOUT THE SPEAKERS



**Wim Huisman** was the Head of the Laboratory for Clinical Chemistry and Hematology at the Medical Centre Haaglanden in Leidschendam (now retired). He is active auditor/member in ISO-TC-212, in NEN (National Standard Body) and in RvC (Netherlands Accreditation Council). He is currently the Chair of the Quality and Regulations Committee of the EFLM. In the past he had active roles in the Netherlands Society for Clinical Chemistry and Laboratory Medicine (NVKC); Secretary of the Executive Board from 1987 to 1992 and Chair of the Quality Committee from 1990 to 2000. He has published many manuscripts and delivered many presentations during international and national congresses focusing on the topic of ISO-15189.



**Elizabeta Topic** is specialist of medical biochemistry is the Head of Laboratory for Immunology and medical Biochemistry Polyclinic Imunomed and Professor of Medical Biochemistry at Faculty of Pharmacy and Biochemistry University of Zagreb. She was former President of Croatian Society for medical Biochemistry and Laboratory Medicine and the Director of University Department of clinical chemistry University Hospital Centre Sestre milosrdnice. Her scientific interest in laboratory medicine is pharmacogenetic, molecular diagnostics, laboratory organization and management and she has established the first pharmacogenetic laboratory in Croatia in 1995. She published more than 300 books and articles. Prof. Topic chaired the EFLM Committee for Education and Training.



**Ana-Maria Simundic** has received her graduate and postgraduate education at the Faculty of Pharmacy and Medical Biochemistry at the Zagreb University where she currently holds a professor position at the department of Medical Biochemistry. She is also the Head of the Department of Medical Laboratory Diagnostics of the University hospital Sveti Duh. Prof. Simundic is the President of the Croatian Society of Medical Biochemistry and Laboratory Medicine (CSMB) and serves as Executive Board Secretary of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM). She chairs the EFLM working group for Preanalytical phase (WG-PRE). Prof. Simundic has or co-authored numerous peer reviewed manuscripts and serves as the Editor-in-chief of the journal *Biochemia Medica*, published by CSMB. Her research activities focus on quality management and preanalytical phase.



**Gilbert Wieringa** in previous lives he was healthcare scientists program lead in the Department of Health (2007), Greater Manchester primary care trusts' pathology lead in 2006, and diagnostics lead for Greater Manchester Strategic Health Authority over 2004/05. His main interest is the use of PoCT in primary care for which he headed a Department of Health-sponsored project over 2005-07 providing cholesterol and HbA1c testing in high street pharmacies across Manchester for patients with diabetes and/or heart disease. He was appointed clinical lead for laboratory medicine in Bolton in 2010 where he has established the largest quality assurance scheme in UK for high street cholesterol testing. He became chair of the EC4 Foundation Board and EFLM's Profession Committee in 2011.

## Advances in cancer biomarker discovery



CHAIR: Eleftherios Diamandis (CA, GR) CO-CHAIR: Vathany Kulasingam (CA)

10.30 – 12.30

ROOM: LAMBRAKIS HALL

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Vathany Kulasingam (CA)**

*Mass spectrometry for cancer biomarker discovery*  
(25 min + 5 min discussion)

**Henry Rodriguez (USA)**

*Proteogenomic analysis of cancer: New opportunities in cancer biology and precision medicine*  
(25 min + 5 min discussion)

**Catherine Alix-Panabières (FR)**

*Detection, characterization and ex-vivo expansion of viable circulating tumor cells*  
(25 min + 5 min discussion)

### ORAL PRESENTATIONS

*Novel lectin-nanoparticle concept to specifically recognize cancerous isoforms of glycoproteins biomarkers of different cancers*

K. Gidwani, H. Kekki, J. Terävä, U. Lamminmäki, K. Pettersson

*K-ras mutations detection in circulating exosomes of patients with pancreatic ductal adenocarcinoma: a study on analytical feasibility*

C.F. Zambon, M. Pelloso, D. Bozzato, A. Padoan, A. Aita, V. Aneloni, C. Sperti, C. Pasquali, D. Basso, M. Plebani

### SESSION OVERVIEW

Cancer biomarker testing represents a major part of clinical biochemistry service. Cancer biomarkers are used for screening, diagnosis, prognosis, prediction of therapeutic response and monitoring of patients with cancer. The last 20 years, various omics technologies promised to revolutionize cancer biomarker discovery and validation. However, the reality is that no major new cancer biomarkers have been introduced in the clinic the last 10 years. This symposium will examine strategies for discovering and validating novel cancer biomarkers by using a combination of omics technologies (system biology approaches).

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Understand how systems biology can contribute to new biomarker discovery.
2. Realize the difficulties associated with cancer biomarker discovery.
3. Understand as to why many promising cancer biomarkers fail in the clinic.
4. Learn strategies for avoiding false discovery, through elimination of biases in the discovery and validation process.
5. Appreciate the value of using high quality clinical material for both biomarker discovery and validation.

### ABOUT THE SPEAKERS



**Vathany Kulasingam** completed her PhD in the Department of Laboratory Medicine and Pathobiology, University of Toronto, Canada. Following her PhD, she completed a post-doctoral training diploma program in Clinical Chemistry at the University of Toronto. She is currently a clinical biochemist at the University Health Network in Toronto, an Assistant Professor at the Faculty of Medicine, University of Toronto and a Fellow of the Canadian Academy of Clinical Biochemistry. Her current interests include novel tumor biomarker discovery and application of proteomics to clinical practice.



**Catherine Alix-Panabières** received her PhD at the Institute of Virology, University Louis Pasteur, Strasbourg, France. She did postdoctoral research at the University Medical Centre of Montpellier, France. She is the expert for the EPISPOT technology that is used to detect viable tumor cells in the peripheral blood and the bone marrow of patients with breast, prostate, colon, head & neck cancer and melanoma. As an associate professor at the Faculty of Medicine of Montpellier (MCU-PH), she became the new director

of the Laboratory of Rare Human Circulating Cells (LCCRH) in the Department of Cell & Tissue Biopathology of tumors. She has authored more than 50 scientific publications including 10 book chapters and she is part of two big European projects: CTC-SCAN (Transcan project) and CANCER-ID (IMI project).



**Henry Rodriguez** is Director of the Office of Cancer Clinical Proteomics Research at the National Cancer Institute at NIH. He was Director of the Cell & Tissue Measurements Group, Director of the Tissue Engineering program, Principal Scientist in the DNA Damage and Repair program, and Program Analyst, at the National Institute of Standards and Technology. His research has focused on understanding mechanisms of cancer and age-related diseases, including the development of molecular-based technologies in basic and clinical science. He has authored more than 200 publications, (113 in peer-reviewed journals), reviews and chapters, and co-edited a book entitled Oxidative Stress and Aging. He received his B.S. in biology/chemistry and M.S. in biology/toxicology from Florida International University, Ph.D. in cell and molecular biology from Boston University, and M.B.A. in finance and management from Johns Hopkins University Carey Business School.

## Laboratory diagnosis of pathological conditions in pregnancy

CHAIR: Demetrios Rizos (GR) CO-CHAIR: Stauros Sifakis (GR)



10.30 - 12.30

ROOM: TRIANTI HALL

COOPERATION WITH: *Hellenic Society of Perinatal Medicine*

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Stefan Hansson (SE)**

*Free fetal hemoglobin in preeclampsia, a new etiological factor and a tool for prediction / diagnosis*  
(25 min + 5 min discussion)

**Moshe Hod (IL)**

*Biomarkers of diabetes mellitus in pregnancy*  
(25 min + 5 min discussion)

**Voula Velissariou (GR)**

*Advances in non-invasive prenatal testing for chromosomal abnormalities*  
(25 min + 5 min discussion)

### ORAL PRESENTATIONS

*Non invasive prenatal fetal blood group genotyping in the monitoring of alloimmunised anti-rh4 pregnant women: Experience of the french national center for perinatal hemobiology (CNRHP)*

N. Da-Silva Nelly, M. Vaubourdolle, S. Huguot-Jacquot, C. Toly-Ndour, E. Maisonneuve, S. Friszer, J. Jouannic, A. Cortey, A. Mailloux

*Pregnancy complications in women with lectin complement pathway deficiency*

K. Malickova, M. Koucky, Z. Kokrdova, M. Hindos, I. Francova, H. Hrbackova, A. Parizek, T. Zima

### SESSION OVERVIEW

Laboratory medicine has a crucial role in the diagnosis of pathologies that threaten both the health of the pregnant woman and the development and well being of the fetus (diabetes, hypertension, thyroid diseases, chromosomal abnormalities etc). The symposium will focus on advances that have been achieved in some of these areas.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Get more familiar with pregnancy as a particular period of woman's health.

2. Get acquainted with the most common pregnancy pathologies.

3. Learn about recent advances in the use of biomarkers in pregnancy.

### ABOUT THE SPEAKERS



**Stefan Hansson** works as professor and senior consultant in Obstetrics and Gynecology at Lund University and Skåne University Hospital in southern Sweden. He is since 2012, appointed vice Dean for research education at the Medical faculty, Lund university. He has a basic training in chemistry. He graduated from medical school in 1994, became licensed in 1999 and specialist in Obstetrics and Gynecology in 2004. Between 1994 and 1997 he held a postdoc position at National Institutes of Health, Bethesda, USA. Since 1994, over 80 papers have been published and four patents have been filed. Stefan became associate professor in 2004 and professor in Obstetrics and Gynecology in 2010 and is Head of Perinatal Laboratory at Lund University. His research has been focusing on preeclampsia. Free fetal hemoglobin has been shown to be a potential new predictive and diagnostic marker for preeclampsia that is further developed in a biotech company, PreeLumina Diagnostics, that Stefan is cofounder of. Furthermore, his research group is currently focusing on a new potential treatment for preeclampsia based on a free hemoglobin scavenger, alpha-1-microglobulin (A1M). A new potential therapeutic drug for preeclampsia is developed in A1M Pharma, another company that SH is cofounder of. In 2011 year SH was awarded the largest Swedish prize for clinical research, the Athena prize.



**Moshe Hod** is Director of the Maternal Fetal Medicine Division at the Helen Schneider Women's Hospital, Rabin Medical Center, and Professor of Obstetrics and Gynecology at the Sackler Faculty of Medicine, Tel-Aviv University, Israel. Moshe Hod was trained in Obstetrics and Gynecology in Israel and later in Perinatal Medicine in the leading world-known medical institutions: Hamersmith Hospital, the Royal Postgraduate Medical School, London, UK, and Northwestern University Medical School in Chicago, and the University of Texas in San-Antonio, Texas, US. Moshe Hod serves as Treasures and a member of the Executive Board of Directors of the European Association of Perinatal

Medicine (EAPM) and as the Chairman of the Working Group on Diabetes and Pregnancy of EAPM. Moshe Hod serves as Treasures and a member of the Executive Board of Directors of the International Association of Diabetic Pregnancy Study Groups (IADPSG). Moshe Hod was the Chairman of the Board of the Diabetic Pregnancy Study Group (DPSG) of the European Association for the Study of Diabetes (EASD) and a member of the postgraduate educational committee of the EASD. Prof. Hod is a Member of the Steering Committee and Regional Director of the Hyperglycemia and Adverse Pregnancy Outcome (HAPO), a National Institutes of Health (NIH) funded study. Moshe Hod is the editor of the second edition of the TEXTBOOK OF DIABETES AND PREGNANCY, Publishers: Informa Healthcare, London, UK as well as the author of more than 200 scientific publications. Prof. Hod has organized and chaired numerous international congresses and given workshops on various aspects of Perinatal Medicine.



**Voula Velissariou** is a Clinical Cytogeneticist with expertise in the field of Prenatal Diagnosis of Chromosomal Abnormalities. She has a BSc in Biology from the National University of Athens and a PhD in Genetics from the University of Cambridge. She worked as a postdoctoral fellow in Cambridge in Cytogenetics and specialized in Clinical Cytogenetics after training at Churchill Hospital, Oxford. She has worked in Prenatal Diagnosis at the Department of Medical Genetics of the 1st Pediatric Clinic of University of Athens at Aghia Sofia Hospital and the Department of Genetics at Alexandra Hospital, Athens. In 1998 she founded the Department of Genetics and Molecular Biology at Mitera Hospital, Athens where she was head until 2013. From 2013 to 2015 she was Director of Cytogenetics at AlfaLab of Hygeia Group. Currently, she is the Scientific Director of Cytogenetics and Molecular Cytogenetics at Biokatiki Health Services, Greece. She is the representative of Greece at the European Cytogeneticists Association, assessor of the Hellenic Accreditation System ESYD for Clinical Cytogenetics laboratories and member of the scientific board of NIPD, Genetics. She is the author of several articles in her field, reviewer and co-author of several articles in NIPT.



## The role of laboratory in stroke diagnosis and monitoring of patients - stroke biomarkers



CHAIR: Elvar Theodorsson (SE) CO-CHAIR: Konstantinos Makris (GR)

10.30 - 12.30

ROOM: HALL A

COOPERATION WITH: Hellenic Stroke Society

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Georgios Tsivgoulis (GR)**

*Stroke in the 21<sup>st</sup> century:*

*A critical overview*

(25 min + 5 min discussion)

**Jakob Ström (SE)**

*Stroke mechanisms - From preclinical models to clinical therapies*

(25 min + 5 min discussion)

**Konstantinos Makris (GR)**

*Biomarkers in stroke*

(25 min + 5 min discussion)

### ORAL PRESENTATIONS

*An immunohistochemical, histopathological and biochemical analysis of the neuroprotective effects of memantine, and curcumin after cerebral ischemia-reperfusion injury in elderly rats*

M. Cabalar, S. Altinay, A. Gulcubuk, F. Yildirim, D. Celik, O. Zengi, C. Isler, N. Isiksacan, A. Bajrami

*Do genes correlate with intelligence?*

M.S. Katsarou, N. Naziris, A. Athanasakis, A. Raptis, N. Drakoulis

### SESSION OVERVIEW

Stroke is the second most common cause of death in the world and a major cause of sequelae of chronic diseases. New therapeutic strategies are urgently needed together with new diagnostic markers to support therapies. For the effective introduction and support of new biomarkers of stroke, laboratory personnel should have a good understanding of stroke pathophysiology and mechanisms of ischemia unique to the brain. Knowledge on factors released in response to stroke, which are used as biomarkers is also essential.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. The causes and the acute and chronic clinical consequences of stroke.
2. The mechanisms unique to ischemia in the brain.
3. Preclinical models of stroke in relation to stroke in humans.
4. Therapeutic options in stroke.
5. Present and emerging biomarkers in stroke.

### ABOUT THE SPEAKERS



**Konstantinos Makris** graduated in Biology from Aristotelion University of Thessaloniki, Greece in 1981. From 1985 to 2002 he worked in the blood transfusion service of the KAT General Hospital in Athens, Greece. In 1996, he gained his PhD in laboratory hematology and transfusion medicine from the Medical School of the University of

Patras, Greece, with a research project on transfusion transmitted hepatitis. From 2002 he worked in the Clinical Biochemistry Department of KAT General Hospital in Athens, Greece. He has been a member of the European Registry of Clinical Biochemists since 2003, and fellow of the NACB since 2015. His main research interests include biomarkers for cardiovascular, renal and metabolic diseases. He has several publications in the fields of clinical biochemistry and transfusion medicine and is also a reviewer for Clinical Chemistry, JACC, CCLM and Journal of Translational Medicine.



**Jakob Ström** is Associate Professor in Clinical Chemistry at Linköping University and affiliated researcher at Örebro University. Dr. Ström received his Ph.D. in Medical Sciences at Linköping University in 2012, and is now resident physician at the University Hospital of Örebro, Department of Neurology. He has studied dose-related effects of estrogens on stroke, emphasizing the need of carefully controlling and monitoring experimental conditions and the mechanisms and pathophysiology of post-stroke fever.



**Georgios Tsivgoulis** is Associate Professor of Neurology at the University of Athens. He graduated from the Medical School of the University of Thessaloniki and received his Ph.D from the University of Athens. He is visiting professor at the University of Tennessee (Neurology Department). He has published more than 200 papers in international journals and more than 200 presentations in international congresses.

## Biomarkers of inflammation and vascular damage

CHAIR: Triantafyllos Chavakis (DE) CO-CHAIR: Christos Tsatsanis (GR)



10.30 - 12.30

ROOM: MITROPOULOS HALL

4 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Warren Zapol (USA)**

*Vascular damage from hemolysis; A role for therapeutic nitric oxide*  
(20 min + 5 min discussion)

**Triantafyllos Chavakis (DE)**

*Vascular inflammation and neutrophil migration*  
(20 min + 5 min discussion)

**Christos Tsatsanis (GR)**

*Serum miRNAs as biomarkers of inflammation: From bench to bedside*  
(15 min + 5 min discussion)

**Marta Kalousová (CZ)**

**Tomáš Zima (CZ)**  
*Vascular damage and inflammation in chronic hemodialysis patients*  
(15 min + 5 min discussion)

### ORAL PRESENTATIONS

*Predomination of angiogenesis in females and tissue remodelling in males - A gender-specific dysregulation of cytokines in early knee osteoarthritis*  
K. Kisand, A.E. Tamm, M. Lintrop, A.O. Tamm

*Serum concentrations of vascular endothelial growth factor in systemic lupus erythematosus - Association with autoantibody profile and cardiovascular involvement*

K. Fischer, H. Przepiera-BĘdzak, L. Ostanek, M. Sawicki, A. Walecka, I. Brzosko, M. Brzosko

### SESSION OVERVIEW

The symposium is focusing on the latest developments in the field of inflammation and vascular homeostasis and related biomarkers. Invited speakers will approach the topic starting from vascular physiology and damage, their clinical impact and new biomarkers (Prof. W Zapol, Harvard Medical School), continue with Prof T. Chavakis (Dresden Univ. Medical School) covering neutrophil adhesion, vascular inflammation and related biomarkers and Prof. C. Tsatsanis (Univ. of Crete) on the identification of serum miRNAs as mediators of inflammation and their value as biomarkers of inflammatory diseases. Invited talks will conclude with a focused topic from Prof. M. Kalousová and Prof. T. Zima (Faculty of Medicine, Prague) on the latest developments on biomarkers of vascular damage and inflammation in chronic hemodialysis patients.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Understand basic concepts of vascular physiology
2. Learn approaches on how to identify new biomarkers by exploring physiology and pathophysiology of endothelial function from animal studies

3. Be updated on new achievements in vascular inflammation and neutrophil adhesion and related biomarkers as well as serum miRNAs as biomarkers of inflammation
4. Obtain an overview of the biomarkers available for monitoring vascular inflammation

### ABOUT THE SPEAKERS



**Triantafyllos Chavakis** studied Medicine at Justus-Liebig-University of Giessen, Germany and received a Doctorate degree at Max-Planck-Institute for Physiological and Clinical Research, Bad Nauheim and Institute for Biochemistry, Justus-Liebig-University Giessen. He became Tenure-Track Principal Investigator, Head of the Inflammation Biology Section, Experimental Immunology Branch, Center for Cancer Research, NCI at NIH, USA. He is Professor of Medicine, Head of the Section for Vascular Inflammation, Diabetes and Kidney, Department of Internal Medicine III, University Hospital Carl Gustav Carus at the Technische Universität Dresden and is now Professor and Director of the Department of Clinical Pathobiochemistry. The scientific focus of his group is at the crossroads of Immunology, Inflammation, Vascular Medicine and Metabolism.



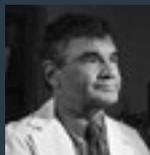
**Marta Kalousová** is professor of medical chemistry and biochemistry at the Institute of Medical Biochemistry and Laboratory Medicine of the First Faculty of Medicine, Charles University and General University Hospital in Prague. She is specialist in clinical biochemistry, EuSpLM, and in internal medicine-nephrology.



**Christos Tsatsanis** received his BSc in Biology from Athens University and his PhD from the University of Crete, Greece in collaboration with the University of Glasgow, Scotland. He is Professor of Clinical Chemistry, Medical School, University of Crete and Director of the Clinical Chemistry Laboratory of the University Hospital of Heraklion, Crete. Since 2014 he serves as Vice Dean of the Medical School and Member of the Research Committee, University of Crete.

His research is focusing on elucidation of molecular mechanisms regulating inflammation and macrophage activation, and identification of related biomarkers. He has published 88 peer

reviewed articles and serves as Associate Editor for the 'Journal of Immunology'.



**Warren Zapol** is Professor and director of Anesthesia Center for Critical Care Research at Massachusetts General Hospital, Harvard Medical School. He received his BSc at MIT, MD at Rochester University and is faculty member at Harvard University Medical School. Over the last 20 years, his laboratory has focused upon the physiological and pathophysiological roles of nitric oxide (NO). He has performed pioneering studies in vascular physiology analyzing the cardiovascular system in seals. His lab developed the FDA approved INO therapy to treat term newborn infants with hypoxic respiratory failure. He is presently studying the role of NO in preventing vascular injury and analyzing related biomarkers. He is a coauthor of nine international patents related to vascular homeostasis and of 246 research articles.



**Tomáš Zima** graduated on the Faculty of Medicine, Charles University of Prague in 1990. He is professor of medical chemistry and biochemistry and Head of Institute of Medical Biochemistry and Laboratory Medicine of the First Faculty of Medicine, Charles University and General University Hospital Prague. He is specialist in clinical chemistry, EuSpLM in internal medicine & nephrology. He was the Dean of the First Faculty of Medicine, Charles University and now, he is the Rector of the same University. His main research interests include oxidative stress, AGE's, experimental nephrology, tumor markers, laboratory management and accreditation. He is author of more than 400 articles, 7 books and co-author of 69 chapters in books (H-index 25). He is the Editor in Chief - Folia Biologica and Addictology. He is member of the Executive Board of EFLM and member of IFCC C-CC.

## Challenges in the diagnosis and follow-up of multiple myeloma



CHAIR: Ioannis Papassotiriou (GR) CO-CHAIR: Evangelos Terpos (GR)

10.30 - 12.30

ROOM: MC 3 HALL

3 LECTURES (+ 1 oral presentation of related abstract 15 min)

### LECTURES

**Efstathios Kastiritis (GR)**

*The role of free light chain in the diagnosis and follow-up of myeloma patients*

(30 min + 5 min discussion)

**Ioannis Papassotiriou (GR)**

*Diagnostic problems for the definition of response in myeloma patients who are treated with monoclonal antibodies*

(30 min + 5 min discussion)

**Ourania Tsitsilonis (GR)**

*Minimal residual disease for multiple myeloma: Can we do better?*

(30 min + 5 min discussion)

### ORAL PRESENTATION

*Identification and quantification of urinary monoclonal proteins by capillary electrophoresis in al amyloidosis*

G. Palladini, P. Milani, F. Russo, V. Valentini, M. Basset, T. Bosoni, G. Ferraro, L. Pirolini, A. Foli, F. LiBergolis, F. Lavatelli, G. Consogno, M. Nuvolone, R. Albertini, G. Merlini

### SESSION OVERVIEW

This symposium will update on challenging issues on the management of myeloma patients. The approval of five novel anti-myeloma drugs during 2015 and 2016 has created a puzzling environment for treatment decisions and for the follow-up of specific therapies. Three distinguished speakers will talk about the value of free-light chain serum measurement for diagnosis and follow-up of myeloma patients; they will describe the new response criteria of myeloma based on minimal residual disease evaluation with either next generation flow cytometry or next generation sequencing and will provide solutions for problems with the use of monoclonal antibodies, such as the definition of complete response or the typing of red blood cells unit for the transfusion of myeloma patients who receive the monoclonal antibody daratumumab.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Understand the use of free light chain (FLC) measurement for the diagnosis of multiple myeloma as well as to understand the stringent complete response criterion that is also based on the measurement of FLC.
2. Know how to evaluate complete response in a myeloma patient
3. Know how to evaluate the typing of the red blood cell units in myeloma patients who receive daratumumab.
4. Understand the new response criteria of myeloma based on minimal residual disease measurement.

### ABOUT THE SPEAKERS



**Efstathios Kastiritis** is Assistant Professor of Clinical Therapeutics-Internal Medicine in the Department of Clinical Therapeutics, National and Kapodistrian University of Athens, School of Medicine. He received his MD and Ph.D from the same University and was trained in Internal Medicine and Medical Oncology in the Department of Clinical Therapeutics. He worked as Post Doctoral Research Fellow at the Jerome Lipper Multiple Myeloma Center,

Division of Hematologic Neoplasia, Dana-Farber Cancer Institute, Harvard Medical School. His research focuses on clinical and translational research in plasma cell dyscrasias, such as multiple myeloma, primary systemic amyloidosis, Waldenström's macroglobulinemia and other monoclonal gammopathy related syndromes. Dr. Kastiritis has published over 170 papers in peer reviewed journals and has over 5000 citations and an h-index of 35.



**Ioannis Papassotiriou** is the Director of the Department of Clinical Biochemistry of "Aghia Sophia" Children's Hospital, Athens, Greece. He is a graduate of Biology Department, School of Sciences, University of Athens, Athens, Greece. He conducted his PhD Thesis in the Hematology Field in Athens University's Medical School. His major interests lie in the evaluation of new biomarkers of renal and cardiac function and diabetes as well as oxidative stress

and hemoglobinopathies. He is elected President of the Hemoglobinopathies Section of the Hellenic Society of Hematology. He serves as scientific reviewer for numerous Clinical Chemistry, Hematology and Endocrinology Journals. He has authored more than 200 peer-reviewed publications and invited reviews and book chapters.



**Ourania Tsitsilonis** is Associate Professor of Immunology in the Department of Biology, School of Science, at the National and Kapodistrian University of Athens, Greece. She received her BSc in Biology, MD and PhD from the same University and was trained in Biopathology. She worked as a post-doctoral research fellow at the University of Tuebingen, Germany and at St. Savas Cancer Hospital in Athens. The main research interests of her team focus on

the analysis of the mechanisms of action of biologic response modifiers and the study of novel compounds capable of optimizing lymphocyte activation towards cancer. She has co-authored several publications in the field of cancer immunology and immunotherapy. She is currently Secretary of the Hellenic Society of Immuno-oncology and Deputy Chairman of the Department of Biology.



## Traceability in laboratory medicine: A matter of patient safety



CHAIR: Mauro Panteghini (IT) CO-CHAIR: Christos Kroupis (GR)

10.30 – 12.30

ROOM: CONFERENCE ROOM 1

4 LECTURES

### LECTURES

**Federica Braga (IT)**

*Roles and responsibilities in verification of traceability of in vitro medical diagnostics (IVD)*  
(25 min + 5 min discussion)

**Ilenia Infusino (IT)**

*Progress and impact of enzyme measurement standardization*  
(25 min + 5 min discussion)

**Sara Pasqualetti (IT)**

*Pre-analytical and analytical aspects affecting clinical reliability of plasma glucose results*  
(25 min + 5 min discussion)

**Andrea Mosca (IT)**

*Traceability of HbA1c measurements: weak and strong points*  
(25 min + 5 min discussion)

### SESSION OVERVIEW

The primary goal of Laboratory Medicine is to provide information that is useful to assist medical decision-making and permits optimal health care. It is important to achieve a level of equivalence of laboratory results among the many measurement procedures available so that results are harmonized and interchangeable over space and time. The standardization of measurements is of high priority and achieves an important ethical dimension as it aims to affect the way diagnostic tests are used in order to guarantee optimal care for patients in a global world. The aim of this symposium is to discuss concepts related to the achievement of standardization by the implementation of a metrologically correct measurement system and highlight still unsolved issues, such as the lack of full information about sources of traceability and uncertainty of commercial calibrators, the lack of objective analytical specifications and the need to properly define and use 'traceable' reference intervals, by providing some examples based on the experience of experts in the field.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. List the tools for IVD traceability surveillance
2. Define the analytical performance to fulfill acceptable measurement uncertainty criteria defined to fit the intended clinical use
3. Describe the main aspects that oppose the complete achievement of standardization in clinical enzymology
4. Understand why a simple molecule, such a glucose in plasma, is not simple to quantify

### ABOUT THE SPEAKERS



**Federica Braga** received her post-graduation cum laude at the School of Specialization in Clinical Biochemistry of the University of Milan. Since 2008, she works at Clinical Pathology Unit of the "Luigi Sacco" University Hospital in Milan, Italy. Currently, she is member of the Biological Variation Working Group of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) and member of the EFLM

Task and Finish Group on Biological Variation Database, with the aim to generate a database with essential information about the biological variation and derived performance specifications for different measurands. She has authored and co-authored 31 papers published on peer-reviewed journals and 16 abstracts.



**Ilenia Infusino** is specialized in Clinical Biochemistry and Clinical Molecular Biology. She works at the Clinical Pathology Unit of the "Luigi Sacco" University Hospital in Milan, Italy. She is the Quality Manager of the Research Centre for Metrological Traceability in Laboratory Medicine (CIRME) of the University of Milan. She has authored 47 articles and about 25 abstracts.



**Sara Pasqualetti** received the graduation in Biological Science and the MSc in Biology Applied to Biomedical Research at the School of Mathematics, Physics and Natural Sciences of the University of Milan, Italy. She was post-graduated in Clinical Biochemistry at the Specialisation School of the University of Milan. She experienced a scientific background in basic, ap-

plied and clinical research in the field of biological science and laboratory medicine. Currently, she works at the Clinical Pathology Unit of the "Luigi Sacco" University Hospital in Milan and her main scientific interests are focused on pre-analytics, measurement standardization and quality indicators. She has authored or co-authored 15 peer-reviewed papers.



**Andrea Mosca** is full Professor of Clinical Biochemistry and Clinical Molecular Biology at University of Milano Medical School. His institutional positions are Director of the Chair of Clinical Biochemistry and Clinical Molecular Biology at the Medical School of the University of Milan and Director of the Specialization School of Clinical Pathology and Clinical Biochemistry at the same University. He has authored more than 100

manuscripts on international journals. Main interests on red cell senescence and post-translational modifications of proteins, particularly in the field of diabetes screening and monitoring, and diabetic complications. Interest is also in the field of thalassemic syndromes and red cell hereditary disorders, as well in the development of reference systems for minor haemoglobins, particularly with regard to clinical trials. Prof. Mosca has served in a number of international and national scientific activities in the field of Laboratory Medicine. He is currently National Representative of the Italian Society of Clinical Biochemistry and Clinical Molecular Biology (SIBioC) at the EFLM and IFCC.

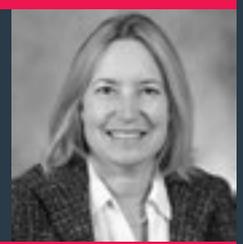


Anne McTiernan (USA)



## Lessons from 30 years of cancer screening

MODERATOR: Eleftherios Diamandis (CA, GR)



Karen Anderson (USA)

12.30 - 14.30

ROOM: LAMBRAKIS HALL

### SESSIONS OVERVIEW

Cancer screening has been around for at least 30 years but its usefulness to major cancer sites such as breast and prostate, is still controversial. In this point/counterpoint session I will provide evidence that breast and other cancer screening programs may contribute positively to citizen's overall health and prevention of serious diseases.

#### Objectives

1. Describe the population-level effects of screening for breast, prostate, colorectal, and cervical cancers.
2. Describe how biological heterogeneity of invasive cancers, and precursor lesions, can affect whether or not screening is beneficial or harmful.
3. Propose an approach to risk-based screening that incorporates currently available tools.
4. Briefly describe current evidence on prevention, as well as remaining uncertainties.

#### Takeaway points

1. Not all cancers are created equal
2. Not all precancers are created equal
3. Not all individuals will benefit equally from screening

### ABOUT THE MODERATOR & THE SPEAKERS



**Eleftherios Diamandis** is currently Hold'em for Life Chair in Prostate Cancer Biomarkers, Division Head of Clinical Biochemistry, Mount Sinai Hospital and University Health Network, and Professor & Head, Division of Clinical Biochemistry, Department of Laboratory Medicine & Pathobiology University of Toronto. He received his Ph.D & M.D from the University of Athens, Greece and was trained as a Clinical Biochemist in Toronto, Canada. He is a certified clinical biochemist by the Canadian Academy of Clinical Biochemistry and a diplomate of the American Board of Clinical Chemistry. His research focuses on discovery & validation of biomarkers for cancer and other diseases by using proteomics, genomics and system biology approaches. He published over 600 original papers and 100 reviews and has over 45,000 citations and an h-index of 105. He is an elected fellow of the American Association for the Advancement of Science.

**Anne McTiernan** is a Full Member at the Fred Hutchinson Cancer Research Center and Research Professor at the University of Washington Schools of Public Health and Medicine. Her research focuses on diet, obesity, exercise, chemoprevention, and risk for cancer development and prognosis. She was Principal Investigator of the NCI-funded Seattle Transdisciplinary Research on Energetics and Cancer program that investigated mechanisms linking obesity and sedentary lifestyles with cancer. She has received research funding from the NIH, the Breast Cancer Research Foundation, and Susan G. Komen. She is an elected Fellow in the American College of Sports Medicine and the Obesity Society. She has published more than 390 scientific manuscripts, is lead author of the book, *Breast Fitness* (St. Martin's Press, 2000), and Editor of *Cancer Prevention and Management through Exercise and Weight Control* (CRC Press LLL, 2005) and *Physical Activity, Dietary Calorie Restriction, and Cancer* (Springer; 2010). Her committee service includes the World Cancer Research Fund/American Institute for Cancer Research expert panel, the 2008 U.S. Physical Activity Guidelines Advisory Committee, the International Agency for Research on Cancer, and the American Cancer Society. Dr. McTiernan's memoir *Starved: A Nutrition Doctor's Journey from Empty to Full* (Central Recovery Press) will be published in November, 2016.

[Free online registration required](#)

**Karen Anderson** is an Associate Professor in the Biodesign Institute at Arizona State University and the Mayo Clinic Arizona, where she is a practicing breast cancer medical oncologist and translational researcher. She has been the Principal Investigator of NCI-led multi-institutional clinical studies of circulating biomarkers for breast cancer, and has been the co-chair of the Breast/Gyn Collaborative Group at the NCI Early Detection Research Network. Her research has focused on the development of methods for immunoprofiling cancers, and for proteome-wide immune monitoring. These studies have led to immune-based biomarkers for breast, ovarian, and HPV-related cancers.

## Standardization in endocrinology



CHAIR: Philippe Gillery (FR) CO-CHAIR: Marie-Françoise Gaudeau-Toussaint (FR)

14.30 - 16.30

ROOM: LAMBRAKIS HALL

COOPERATION WITH: IFCC Scientific Division

4 LECTURES

### LECTURES

**Philippe Gillery (FR)**

*Clinical needs for standardization in endocrinology*

(25 min + 5 min discussion)

**Eef Lentjes (NL)**

*Standardization of growth hormone*

(25 min + 5 min discussion)

**Catharine Sturgeon (UK)**

*Standardization of parathyroid hormone*

(25 min + 5 min discussion)

**Linda Thienpont (BE)**

*Standardization of thyroid function tests*

(25 min + 5 min discussion)

### SESSION OVERVIEW

Many biological tests used in the context of clinical endocrinology are not yet standardized. This leads to a lack of comparability of results between laboratories, which may impair patient management and induce misinterpretation of results. The establishment of reference materials and methods allowing standardization of assays is a goal which should allow to homogenize laboratory practices and to determine common decision limits. The examples of growth hormone, parathyroid hormone and thyroid function tests will be discussed in this session with respect to these different aspects.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Explain why endocrinology assays in clinical laboratory must be standardized or harmonized.
2. Appreciate the challenges related to the standardization of growth hormone, parathyroid hormone and thyroid function tests.
3. Appreciate the achievements of IFCC Scientific Division Committees / Working groups in the standardization / harmonization in endocrinology.

### ABOUT THE SPEAKERS



**Philippe Gillery** is Professor of Biochemistry and Molecular Biology at the Faculty of Medicine of Reims, University of Reims Champagne-Ardenne, France. He is the chair of the Laboratory of Paediatric Biology and Research and of the Biology and Pathology Department of the University Hospital of Reims. He is also President of the Champagne-Ardenne Regional Conference of Health and Autonomy. He served as President of the Société Française de Biologie Clinique and is currently appointed as Vice-Chair of the Scientific Division of the IFCC. He is Associate Editor of the CCLM Journal. His research interests are related to the effects of nonenzymatic post-translational modifications on protein structure and functions and to their involvement in the pathophysiology of diabetes mellitus and other chronic diseases. He has published more than 180 articles in peer-reviewed journals.



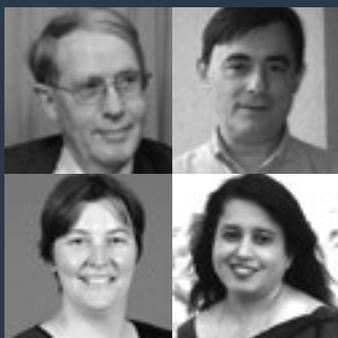
**Eef Lentjes** studied Chemistry and Medicine at the University of Nijmegen, the Netherlands. He was trained in clinical chemistry at the Leiden University Medical Center (LUMC). He was registered as a clinical chemist and as clinical chemist endocrinologist. He received his PhD at the Leiden University. He worked in the endocrine laboratory in the Laboratory of Clinical Chemistry at the LUMC and it was acting head of the department. He is at the Laboratory of Clinical Chemistry & Hematology at the University Medical Center Utrecht, responsible for the endocrine laboratory and laboratory for special techniques. In 2015 he became chairman of the Endocrine Section of the Dutch Foundation for Quality Assessment in Medical Laboratories.



**Catharine Sturgeon** is Consultant Clinical Scientist and Director of the UK National External Quality Assessment Service (UK NEQAS) unit at the Royal Infirmary of Edinburgh, where she also contributes to the interpretative service provided by the Department of Laboratory Medicine, as well as to teaching and multidisciplinary research. She has a particular interest in tumor markers and has worked to encourage their appropriate use through implementation of practice guidelines such as those of the European Group on Tumor Markers and the NACB. She has a long-standing interest in improving both analytical quality and clinical interpretation of laboratory tests and has been actively involved in a number of standardization projects, including those of the IFCC Working Groups (WG) on hCG and growth hormone. She currently chairs the IFCC WG for PTH.



**Linda M. Thienpont** is Professor Emeritus from the University of Ghent (Belgium). Her main research interests focused on development/implementation of standardization/harmonization concepts, and improvement of clinical laboratory measurements. In this area, she has published over 170 peer reviewed papers. She used to offer reference laboratory services to all major globally operating IVD manufacturers and she is still chairing the IFCC Committee for Standardization of Thyroid Function Tests. She is on the EB of Clinical Chemistry and was honored as "Inspiring Mind" in the October 2015 issue.



## Accreditation and laboratory management why and how to do it



Wim Huisman (NL) Michel Vaubourdolle (FR)  
Hélène Mehay (FR) Elizabeth Frank (IN)

14.30 - 16.45

ROOM: MC 3 HALL

MODERATOR: *Christos Kroupis (GR)* YOUNG SCIENTIST CO-MODERATOR: *Ilenia Infusino (IT)*  
*Myrofora Vikentiou (GR)*

### SUMMARY

Laboratory medicine has moved on from reactive diagnosis to proactive understanding, supporting the doctor to deliver better patient centered care. This approach needs an integration of management skills in addition to technical Knowledge.

In this double session practical issues concerning accreditation & laboratory management will be addressed in two separate one hour parts. The Accreditation part will be presented by Drs. Hélène Mehay, Wim Huisman and Michel Vaubourdolle.

In the second part, Dr. Elizabeth Frank will discuss on why and how to perform Laboratory Management as this is related to the high demand for accuracy in reporting, high expectations on service front and a need for quick turnaround time.

### ABOUT THE EXPERTS

**Elizabeth Frank** is a laboratory professional and has 23 years of experience in managing Large and Midsized laboratories. She is on the executive committee of the EMD of the IFCC. In addition to her professional affiliations and laboratory directorship, she is an excellent motivator and visionary. Her record of conference attendance and speaking engagements distinguishes her as an influential leader, teacher and communicator. Dr Elizabeth Frank is currently a partner at the Learning 2 Lead Consultants providing consulting services to clinical laboratories in India and in the Asia Pacific region. The services provided include technical and non-technical operational assessments, compliance assessment, facility planning, lab design development, onsite management training and staffing and streamlining processes.

**Wim Huisman** was the Head of the Laboratory for Clinical Chemistry and Hematology at the Medical Centre Haaglanden in Leidschendam (now retired). He is active auditor/member in ISO-TC-212, in NEN (National Standard Body) and in RvC (Netherlands Accreditation Council). He is currently the Chair of the Quality and Regulations Committee of the European Federation of Clinical Chemistry and Laboratory Medicine. In the past he had active roles in the Netherlands Society for Clinical Chemistry and Laboratory Medicine (NVKC): Secretary of the Executive Board from 1987 to 1992 and Chair of the Quality Committee from 1990 to 2000. He has pub-

lished many manuscripts and delivered many presentations during international and national congresses focusing on the topic of ISO-15189.

**Hélène Mehay** is a licensed professional engineer from The Ecole Nationale Supérieure de Chimie, Montpellier (FR), she obtained a diploma in Business Management in 2000. After a first experience in research, development and quality management in a laboratory specialized in the fields of animal health, environment and food, she joined in 2001 the Cofrac as accreditation manager in charge of the laboratory accreditation in the field of air quality, within the chemistry-environment cluster of the Laboratories section. Since October 2009, she is Director of the Human Health Care Section-Cofrac in charge of the French Medical Laboratory Accreditation.

**Michel Vaubourdolle** is Head of Department Biology-Pathology University Hospitals East Paris and Head of Service Clinical Biochemistry, Hospital Saint-Antoine, Paris. He is currently the Chair of the EFLM WG "ISO/Accreditation" and he is chairing the SFBC-WG on Accreditation. He is active with the Francophony as an executive board member of the International Francophone Federation of Clinical Biology and Laboratory Medicine. He is also the President of the Triennial International Symposium on «Critical Care testing and blood gases»



## New perspectives in clinical flow cytometry

CHAIR: Katherina Psarra (GR) CO-CHAIR: Ulrich Sack (DE)



14.30 - 16.30

ROOM: CONFERENCE ROOM 1

COOPERATION WITH: *European Society for Clinical Cell Analysis*

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Frank Preijers (NL)**

*Developments in clinical flow cytometry*  
(25 min + 5 min discussion)

**Silvia Della Bella (IT)**

*Flow cytometry in cancer immune monitoring and immunotherapy: An overview*  
(25 min + 5 min discussion)

**Bruno Brando (IT)**

*Global quality and certification in clinical flow cytometry*  
(25 min + 5 min discussion)

### ORAL PRESENTATION

*Aberrant expression of myeloid specific markers in acute lymphoblastic leukemia (all)*

A. Ahmadi, M. Abdi, N. Menbari, S. Advai

*One-tube screening for primary immunodeficiencies*

C. Lambert, M.A. Ibrahim, B. Uring-Lambert, G.Y. Demirel, U. Sack

### SESSION OVERVIEW

Clinical Flow cytometry plays an important role in the diagnosis, prognosis and follow-up of patients with hematological and immunological diseases. Flow cytometry labs constitute an integral part of hematology and immunology departments all over the world. It is therefore of great importance to offer laboratory scientists up to date knowledge by well-known scientists in these two important fields, as well as valuable information regarding the certification of education program for cytometrists by ESCCA.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Discuss new developments in clinical flow cytometry and perhaps apply them in their own labs.
2. Formulate strategies for cancer immune monitoring and

immunotherapy, important and demanding fields in nowadays laboratories

3. Promote and apply ESCCA education program in flow cytometry in order to become certified cytometrists.

### ABOUT THE SPEAKERS



**Bruno Brando** is the director of the Hematology Laboratories and Transfusion Centers of a consortium of four Regional health service hospitals in the northwestern Milan area, Italy. His professional background includes solid organ transplantation, stem cell transplantation, Laboratory Hematology, Leukemia/lymphoma diagnosis and Clinical Cell Analysis by flow cytometry. He regularly teaches Clinical Pathology and Transfusion Medicine as a contract professor at the University of Milan medical school. He is a frequently invited lecturer at meetings, seminars and courses on clinical cell analysis all over the world. Former founding member of the European Working Group on Clinical Cell Analysis (EWGCCA), founder, past president and past secretary of the European Society for Clinical Cell Analysis (ESCCA). He is author of some 100 peer-reviewed papers on clinical cell analysis, flow cytometry and laboratory hematology.



**Silvia Della Bella** is Associate Professor of General Pathology and Immunology at the School of Medicine of the University of Milan. She graduated in Medicine at the University of Milan, where she also obtained her Specialization in Allergology and Clinical Immunology, as well as her PhD and Specialization in Internal Medicine. From 2001 to 2011 she directed the Lab of Flow Cytometry at Department of Biomedical Sciences and Technologies of the University of Milan, devoted to the development of methods for the phenotypic and functional analysis of human immune cells, with a main focus on the immunobiology of

human dendritic cells. In 2011 she moved to the Department of Medical Biotechnologies and Translational Medicine at Humanitas Clinical and Research Center, that is a new institute equipped with state of the art technologies and facilities for cancer and immunological research. As senior Staff scientist, she is working on projects of translational research studying human dendritic cells and endothelial progenitor cells in cancer and other human diseases. Since 2014, she is Secretary of the European Society for Clinical cell Analysis (ESCCA). She is Author of 65 research papers and reviews (h-index: 21) and more than 100 communications in national and international meetings.



**Frank Preijers** is the Stem Cell Laboratory Director and Head of the unit for Flow Cytometric Immunophenotyping at the Radboud University Medical Center in Nijmegen, the Netherlands. He gained his PhD in the field of immunology in 1989, was registered as Immunologist in 1991 and became Assistant Professor of flow cytometry and stem cell transplant processing in 1993. His scientific interests include laboratory haematology and cellular immunotherapy. He is an author on more than 170 peer-reviewed publications in these fields. He is cofounder of the Dutch Society for Cytometry and the Dutch Working Group for Stem Cell Laboratories and is Treasurer of the European Society for Clinical Cell Analysis (ESCCA).



## Success in research - academic career: Lessons and opportunities



Eleftherios Diamandis (CA, GR)

16.45 - 18.00

ROOM: MC 3 HALL

MODERATOR: *Damien Gruson (BE)*

CO-MODERATOR: *Santiago Fares Taie (AR)*

### SUMMARY

In this session Eleftherios Diamandis will provide a talk related to success in research and academic careers.

### ABOUT THE EXPERT AND THE MODERATOR

**Eleftherios Diamandis** is currently Hold'em for Life Chair in Prostate Cancer Biomarkers, Division Head of Clinical Biochemistry, Mount Sinai Hospital and University Health Network, and Professor & Head, Division of Clinical Biochemistry, Department of Laboratory Medicine & Pathobiology University of Toronto. He received his Ph.D & M.D from the University of Athens, Greece and was trained as a Clinical Biochemist in Toronto, Canada. He is a certified clinical biochemist by the Canadian Academy of Clinical Biochemistry and a diplomate of the American Board of Clinical Chemistry. His research focuses on discovery & validation of biomarkers for cancer and other diseases by using proteomics, genomics and system biology approaches. He published over 600 original papers and 100 reviews and has over 45,000 citations and an h-index of 105. He is an elected fellow of the American Association for the Advancement of Science.



**Damien Gruson** is Professor of Biochemistry at the Catholic University of Louvain, Brussels, Belgium. He is head of the Clinical Biochemistry Department of Laboratory Medicine of the St-Luc University Hospital. He is also member of the research unit on Endocrinology Diabetes and Nutrition of the Catholic University of Louvain. Pr. D. Gruson is a member of the IFCC- Committee on Distance learning, Senior liaison with the IFCC-TF for Young Scientists member of the AACC division of Endocrinology and Fellow of the European Society of Cardiology. Pr. D. Gruson has published numerous articles in several international peer-reviewed journals.

## Tips and tricks of getting your paper published in a great journal



CHAIRS: Mario Plebani (IT) & Anthony Newman (NL)

16.30 - 18.30

ROOM: LAMBRAKIS HALL

2 LECTURES

### LECTURES

**Mario Plebani (IT)**

*Dealing with peer review - Editors and reviewers and revision process*  
(60 min including discussion)

**Anthony Newman (NL)**

*How to select the best journal; Publication Ethics*  
(60 min including discussion)

### SESSION OVERVIEW & LEARNING OBJECTIVES

Knowing the best way of structuring your paper when writing it, and the most appropriate journal to submit it to, really helps in getting your paper accepted. Also understanding how editors and publishers think and what they are expecting, plus knowing how the peer review process works, is invaluable insight into the publishing process.

These insights into the publishing process will enable the participants to be more confident as an author in the world of science publishing, and so should help them get their papers published more easily.

After this session, participants will have a clear idea of the steps needed to be taken before starting to write a paper. They will also be able to plan writing manuscripts using the logical step sequence – not the sequence in which the paper will be read. Authors are also made aware of what aspects of their papers Editors, Reviewers, and Publishers look at critically, and to ensure that in taking care of these areas, their papers are much more likely to be accepted. Dealing with referees' comments and the art of polite rebuttal are also described such that these can be used to improve the submitted paper suitably. Sensitive areas such as publishing ethics, plagiarism, duplicate publishing, etc are also clearly explained such that participants have a clear understanding of what their responsibilities are, what is allowed, and what is not permitted.

### ABOUT THE SPEAKERS



**Anthony Newman** is a Senior Publisher with Elsevier, and is based in Amsterdam, The Netherlands. Currently responsible for managing fifteen laboratory medicine and biochemistry journals, including *Clinica Chimica Acta*, *Clinical Biochemistry*, and *Practical Laboratory Medicine*. He joined Elsevier 30 years ago and has been Publisher for the last 17

years. Before then he was the marketing communications manager for the biochemistry journals of Elsevier. By training he is a polymer chemist and was active in industry before leaving London and moving to Amsterdam in 1987 to join Elsevier. In the past he has been an active member of the IFCC Ethics Task Force, where he wrote their Publishing Ethics White Paper. He is also active as publishing consultant for the IFCC CPD.



**Mario Plebani** is a Full Professor of Clinical Biochemistry and Clinical Molecular Biology at the Medical School of the University of Padova and current Dean of this School of Medicine, Chief of the Department of Laboratory Medicine of the University-Hospital of Padova, and Editor in Chief of *Clinical Chemistry and*

*Laboratory Medicine (CCLM) and Diagnosis (Dx)*. Past-President of the Italian Society of Clinical Biochemistry and Laboratory Medicine (SIBIOC), member of the Scientific Executive Committee of the IFCC and Chair of the EFLM Task and Finish Group "Performance specifications for the extra-analytical phases".



## LOOK BEYOND THE OBVIOUS

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## Exclude malignancies and characterise infections with the XN-series

CHAIR: Pieter Steenhuis (NL)

14.30 - 15.30

Jarob Saker (DE), Marion Eveillard (FR)

ROOM: TRIANTI HALL

Introduction

*Detection of cell functionality status to support differentiation between reactive and malignant lymphocytosis*

Jarob Saker (DE)

*The Extended inflammation parameters allow the characterisation of the immune response in children with bacterial and viral infections*

Marion Eveillard (FR)

Closing remarks



## Digital diagnostics - Decision support from laboratory to bedside

CHAIR: Ralph Schimmer (CH)

14.30 - 15.30

Tim Jaeger (CH), P.J. Van Diest (NL)

ROOM: HALL A

Opening

*Digital healthcare innovation, scientific update on clinical decision support*

Tim Jaeger (CH)

*Digitized pathology workflow and tumor board integration. Utilizing algorithms as part of routine diagnostics*

P.J. Van Diest (NL)

Q&As



## Improving healthcare outcomes in the emergency setting

CHAIR: Mario Plebani (IT)

14.30 - 15.30

Agim Beshiri (NZ), Phillip Schuetz (CH)

ROOM: MITROPOULOS HALL

Welcome

*A new approach to the acute coronary syndrome*

Agim Beshiri (NZ)

*Procalcitonin for management of the septic patient*

Phillip Schuetz (CH)

Questions to Panel with discussion and closing remarks



EDUCATIONAL WORKSHOP

## Early diagnosis of acute myocardial infarction

CHAIR: Sherry Jennings (USA)

Christian Mueller (CH), Mario Plebani (IT)

14.30 - 15.30

ROOM: SKALKOTAS HALL

EDUCATIONAL WORKSHOP

## Applications of Droplet Digital (TM) PCR solutions in the clinical lab

CHAIR: V. Patel (USA)

S. Tzonev (USA)

15.45-16.45

ROOM: TRIANTI HALL



EDUCATIONAL WORKSHOP

## Approaches to achieve measurably better healthcare performance

CHAIR: Cas Weykamp (NL)

Dominic Harrington (UK), Erna Lenters-Westra (NL)

15.45-16.45

ROOM: HALL A

Welcome

*The value of active B12*

Dominic Harrington (UK)

*What is the impact of analytical performance of an HbA1c method on clinical practice?*

Erna Lenters-Westra (NL)

Questions to Panel with discussion and closing remarks



## Laboratory's role in enhancing clinical decision making for cardiac and pregnancy care

CHAIR: Gerasimos Filippatos (GR), Damien Gruson (BE)

15.45-16.45

Antoni Bayes-Genis (ES), Ziad Hijazi (SE), Stefan Verlohren (DE)

ROOM: MITROPOULOS HALL

Opening

*Natriuretic peptides in era of ARNi drugs: The laboratory matters*

Antoni Bayes-Genis (ES)

*The novel biomarker-based ABC-bleeding risk score for patients with atrial fibrillation*

Ziad Hijazi (SE)

*Angiogenic markers in preeclampsia: from clinical evidence to implementation in routine*

Stefan Verlohren (DE)

Q&As

## Acute kidney Injury and the role of cell cycle arrest biomarkers in medical management today

CHAIR: F. Chaves (USA)

15.45-16.45

R. Rivero (ES), L. Forni (UK)

ROOM: SKALKOTAS HALL

*Acute Kidney Injury the Silent Killer. Incidence and Prevalence*

R. Rivero (ES)

*Role of Cell Cycle Arrest Biomarkers and integration into clinical practice*

L. Forni (UK)

Panel discussion & participant questions

## Glycated albumin: From laboratory medicine to clinical practice

CHAIR: A. Mosca (IT)

17.00 - 18.00

E. Dozio (IT), E. Kilpatrick (QA)

ROOM: TRIANTI HALL

*Glycated albumin: more than a new biomarker in the management of diabetes mellitus*

E. Dozio (IT)

*The interface of clinical and laboratory medicine in the management of diabetic patients*

E. Kilpatrick (QA)

Discussion



## FLC testing: Fixing the past for a better future

CHAIR: Jill Tate (AU)

17.00 - 18.00

Marc Drayson (UK), Joannes (Hans) F.M. Jacobs (NL)

ROOM: HALL A

*Seralite® FLC lateral flow technology: Rapid, easy-to-operate FLC K/L quantitative measurement*  
Marc Drayson (UK)

*SebiaFLC assay\*\*: A novel ELISA FLC assay, bringing diagnostic coherence*  
Joannes (Hans) F.M. Jacobs (NL)

Discussion



## Combining advantages of hematology and flow cytometry for better patient care

CHAIR: Helen A. Papadaki (GR)

17.00 - 18.00

M. Vasse (FR), M. Roussel (FR)

ROOM: MITROPOULOS HALL

*Interest of the combination of DxH 800 results and CytoDiff analysis for the diagnosis of hyperlymphocytosis*  
M. Vasse (FR)

*Sepsis screening in intensive care unit: What can be achieved with modern technology?*  
M. Roussel (FR)



## Utilization of automation technology to implement process improvement helping to relieve the cost pressure in daily laboratory routine

CHAIR: Carola Schmidt (DE)

17.00 - 18.00

D.R. Kahn (USA), M. Obermeier (DE)

ROOM: SKALKOTAS HALL

*Leverage the use of middleware to successfully implement a multidiscipline laboratory automation*  
D.R. Kahn (USA)

*A laboratory transformation - From stand-alone to automation driving quality in healthcare*  
M. Obermeier (DE)



*Intestinal disorders - Biomarkers and beyond*

Jürgen Stein (DE), Wolfgang Reichert (DE)

17.00-18.00

ROOM: CONFERENCE ROOM 1

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# TUESDAY JUNE 13

09.00 - 10.00

## PLENARY SESSION

*Human gene editing: The dawn, the zenith, and the dusk*  
Françoise Baylis

10.00 - 17.30

## EXHIBITION

10.30 - 12.30



## IFCC SYMPOSIUM

*Increasing clinical effectiveness in laboratory medicine*  
Paul Epner, Lance Sandle, Graham Beasall

10.30 - 12.30

## SYMPOSIUM

*State of the art in cardiac markers*  
Mauro Panteghini, Antoni Bayes-Genis, Edmund J Lamb

*Kidney diseases hot questions on established and novel biomarkers*  
Michael Darmon, Bjørn Odvar Eriksen, Pierre Delanaye, Etienne Cavalier



*Implementing and maintaining standardization in laboratory medicine  
Making the pieces work together to improve patient care and public health*  
Cas W. Weykamp, Vincent Delatour, Hubert W. Vesper, Christa M. Cobbaert

*Advances in neurodegenerative disorders*  
Armand Perret-Liaudet, Kay Blennow, Georgia Mandolesi



*New perspectives on pharmacogenetics and pharmacogenomics*  
Ingolf Cascorbi, Urs A. Meyer, Sophie Visvikis-Siest

*The Microbiome: Present and future challenges in laboratory medicine*  
Richard L. Gallo, Oluf Pedersen, Georgia Gioula

12.30 - 14.30

## DEBATE

*The ethics of gene editing*  
Nicolas Katsanis / Françoise Baylis

12.30 - 14.30

## POSTER SESSION

14.30 - 15.30

## PRESIDENT'S INVITED SPEAKER

*New technologies for interfacing with the brain*  
George Malliaras

16.00 - 18.00



## IFCC SYMPOSIUM

*Role of communication in P4 laboratory medicine*  
Tahir Pillay, Peter Vervaart, Khosrow Adeli

16.00 - 18.00

## SYMPOSIUM

*Big data in the era of personalized medicine*  
Emmanouil Dermitzakis, Giean McVean, Olivier Delaneau

15.30 - 16.45

## MEET THE EXPERTS

*How to succeed in science medicine as a woman*  
Karen Anderson, Ann Gronowski

16.45 - 18.00

*Assessing vitamin D status in the clinical laboratory: Assays and interpretation are the key issues*  
Howard Morris

## EDUCATIONAL WORKSHOPS

14.30 - 15.30

### MENARINI

*Technical and educational advancements coming with an automated urine sediment analyser*

G. Bayer, R. Falbo, G.B. Fogazzi, J. Gras

14.30 - 15.30

### ABBOTT

*Alinity ci-series and the next generation core laboratory:  
The data behind measurably better healthcare performance*

S. Ruetten, P. Yip, K.J. Lackner

14.30 - 15.30

### ROCHE DIAGNOSTICS

*Using cell free DNA as basis for clinical applications*

Francesca Romana Grati, John F. Palma

14.30 - 15.30

### SIEMENS

*Health economic benefits of using the enhanced liver fibrosis test (ELF) test™\*  
in non-alcoholic fatty liver disease (NAFLD) in primary care*

Ankur Srivastava, Elizabeth Powell

15.45 - 16.45

### RANDOX

*Uncertainty of measurement*

Margaret Fick

15.45 - 16.45

### SYSMEX

*Shaping urinalysis again - introducing Sysmex' new UN series*

Frauke Dupont, Joris Delanghe

15.45 - 16.45

### ROCHE DIAGNOSTICS

*New approaches in diagnosis and management of sexually transmitted diseases and emerging infections*

Jens Verheyen, Michel Janier, Eduardo Levi

15.45 - 16.45

### ORTHO CLINICAL DIAGNOSTICS

*Change and change management: Their impact in our laboratories and in our lives*

G. Bradt

17.00 - 18.00

### FUJIREBIO

*Make excellence routine: Reviewing a hs-troponin I assay, wPTH third-generation standardized assay and the first fully automated Alzheimer's laboratory tests*

M. Plebani, E. Cavalier, K. Blennow

17.00 - 18.00

### BINDING SITE

*Innovation in special protein analysis; optimising laboratory workflow with the latest optilite system*

Steve Stone, Stephen Walker

17.00 - 18.00

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## Human gene editing: The dawn, the zenith, and the dusk

Françoise Baylis (CA)

09.00 - 10.00

ROOM: LAMBRAKIS HALL

CHAIR: Christos Tsatsanis (GR)

### SUMMARY

Sienna, a character in Dan Brown's *Inferno* asserts that "Humans have evolved incrementally over millennia, inventing new technologies along the way – rubbing sticks together for warmth, developing agriculture to feed ourselves, inventing vaccines to fight disease, and now, creating genetic tools to help engineer our own bodies so we can survive in a changing world ... genetic engineering is just another step in a long line of human advances... If we don't embrace them, then we are as undeserving of life as the caveman who freezes to death because he is afraid to start a fire." While these are the words of a fictional character, many among us (including worldly scientists) hold this view.

Meanwhile, many others maintain that there is no compelling ethical or scientific justification to begin tinkering with the human genome. While there are some "disease genes" that we might all

agree should be eradicated, we don't know (and can't know) what will improve the human species. The long-term worry here is that one or more scientists will boldly go where none have gone before in selecting modifications for the population at large, with a view to altering the human species. Those who share this concern question the wisdom of embracing volitional evolution.

In this presentation, I will critically examine the ethics of human gene editing with particular attention to the debates on germline modification and human enhancement. I will comment on the roles and responsibilities of the scientific, corporate and political elites who seek to direct the science. In closing, I will invite the audience to reflect with me on how we might go about forging a global consensus on how best to use gene editing technology for the common good.

### ABOUT THE SPEAKER

**Françoise Baylis** is Professor and Canada Research Chair in Bioethics and Philosophy at Dalhousie University, Canada. In 2007, she was elected a Fellow of the Royal Society of Canada, and a Fellow of the Canadian Academy of Health Sciences.

Baylis has particular interest and expertise in the ethics of heritable genetic modification. This interest dovetails with her research on developing new strategies to make just and lasting policy contributions at home and abroad. Current work involves testing the impact of these strategies in relation to real-world public policy challenges

with research involving humans, women's health, genetic and reproductive technologies, public health, and access to health care.

Baylis was a member of the 12-person Organizing Committee for the December 2015 "International Summit on Human Gene Editing" co-hosted by the U.S. National Academies of Science, the U.S. National Academy of Medicine, the Royal Society, and the Chinese Academy of Science. She was also an external reviewer for the U.S. Institute of Medicine report "Mitochondrial Replacement Techniques: Ethical, Social, and Policy Considerations" (2016).

## Increasing clinical effectiveness in laboratory medicine



CHAIR: *Graham Beastall (UK)* CO-CHAIR: *Howard Morris (AU)*

10.30 – 12.30

ROOM: LAMBRAKIS HALL

COOPERATION WITH: *Clinical Laboratory Management Association*

3 LECTURES ( +2 oral presentations from  
Increasing Clinical Effectiveness\* Award Winner\*)

### Paul Epner (USA)

*Defining clinical effectiveness  
in laboratory medicine*

(25 min + 5 min discussion)

### Lance Sandle (UK)

*Demonstrating clinical  
effectiveness in practice*

(25 min + 5 min discussion)

### Graham Beastall (UK)

*A proposed structure for defining,  
undertaking and reporting studies  
to assess the clinical effectiveness of  
laboratory medicine*

(25 min + 5 min discussion)

## ORAL PRESENTATIONS

*High sensitivity cardiac troponin I at presentation enables early safe discharge*

Simon Whitehead (UK)

*The laboratory's role in reducing time to antibiotic in febrile neutropenic patients*

Gabrielle Pearl (USA)

## SESSION OVERVIEW

There is growing international recognition of the importance of linking the rational use of laboratory medicine services with increasing clinical effectiveness. This symposium will address the link by reviewing three international initiatives. Two short presentations at the end of the symposium will be given by the winners of the 2016/17 Increasing Clinical Effectiveness (ICE) Award.

## LEARNING OBJECTIVES

After this session, participants will be able to:

1. Define clinical effectiveness in laboratory medicine.
2. Explain why it is important in optimizing laboratory medicine services.
3. Give examples of how laboratory medicine may increase clinical effectiveness.
4. Explain how to undertake a project on clinical effectiveness in laboratory medicine.

## ABOUT THE SPEAKERS



**Graham Beastall** is Past President of IFCC, having served as President from 2009-2014. Prior to 2009 he was Clinical Lead for a multi-site network Department of Clinical Biochemistry in Glasgow, Scotland. He has published extensively in the areas of biochemical endocrinology. Within IFCC he has led projects to demonstrate the value of laboratory medicine in healthcare and to

promote the need for increasing clinical effectiveness. Graham was formerly President of the Association for Clinical Biochemistry (ACB) and Vice President of the Royal College of Pathologists (RCPATH) in the UK. He worked recently for Health Education England to devise and introduce integrated training programmes at degree, masters and doctoral levels across the spectrum of healthcare science.



**Paul Epner** is the Executive Vice President and co-founder of the Society to Improve Diagnosis in Medicine (SIDM), an organization striving to improve patient safety by ensuring that diagnoses are accurate and timely. He also chairs the Coalition to Improve Diagnosis, a multi-organization collaboration convened by SIDM. Paul is a Past President of the Clinical Laboratory Man-

agement Association (CLMA) where he leads the Increasing Clinical Effectiveness (ICE) initiative. He is a member of the CDC's "Clinical Laboratory Integration into Healthcare Collaborative™" (CLIHCC), and a consultant to their Laboratory Medicine Best Practices program. He also leads the Coordinating Council on the Clinical Laboratory Workforce's (CCCLW) Taskforce on Measuring Testing-Related Value.



**Lance Sandle** was born and educated in Leeds. After pre-registration posts at St James's Hospital he trained in general and chemical pathology in Manchester, UK. He has been Consultant Chemical Pathologist at Trafford General Hospital since 1986. Locally he has served as Clinical Audit Chair, Clinical Director, Deputy Medical Director and Interim Medical Director. He chaired the North West Regional Council of the Royal College of Pathologists (RCPATH) from 2004-7, having served as Speciality and CPD Advisor in the years prior to that. He also served on the National Quality Assurance Advisory Panel for Chemical Pathology for 8 years, and chaired it from 2001 – 2005. Lance was Director of Professional Standards at the RCPATH 2007-2011 and was College lead during the development of Revalidation in the UK. He is currently Vice-President for Professionalism at the RCPATH.

\* IFCC is co-operating with the Clinical Laboratory Management Association (CLMA) to run an international competition on Increasing Clinical Effectiveness (ICE Award). Individuals were invited to submit abstracts of studies which demonstrate how laboratory medicine can increase clinical effectiveness and/or improve patient outcomes. The two Award winners for 2016/17 will present their studies.

## State of the art in cardiac markers

CHAIR: Mauro Panteghini (IT) CO-CHAIR: Henrique Reguengo da Luz (PT)



10.30 – 12.30

ROOM: TRIANTI HALL

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Mauro Panteghini (IT)**

*How can the laboratory help clinicians?  
The "high-sensitivity" troponin paradigm  
(25 min + 5 min discussion)*

**Antoni Bayes-Genis (ES)**

*Newer biomarkers in heart failure  
(25 min + 5 min discussion)*

**Edmund J Lamb (UK)**

*Cardiac and kidney markers for  
cardiovascular prediction in chronic  
kidney disease  
(25 min + 5 min discussion)*

### ORAL PRESENTATION

*Comparison of cardiac biomarkers fluctuation in runners of marathons, semimarathons and untrained runners*

C. Le Goff, L. Vrancken, J. Van Nueten, L. Lieselotte, E. Cavalier

*Survey of current laboratory and clinical practices for cardiac troponin. Testing in australia and New Zealand*

J. Tate, R. Tirimacco, P. Simpson, A. Horvath, L. Cullen, F. San Gil, C. Martin, G. Koerbin, P. Tideman, P. Graham

### SESSION OVERVIEW

The availability of highly sensitive troponin assays (hsTn) allows the safe clinical application of international recommendations and the introduction of fast-track protocols for the definition of AMI. However, hsTn assays have not always been welcomed by clinicians, claiming an increase in false-positive results. To guide interpretation of results, laboratory specialists need to get involved in communicating with clinicians through education, test interpretation and internal audits of test usage and patient outcomes. Since natriuretic peptides were successfully integrated into the clinical practice of heart failure (HF), the possibility of using new biomarkers to advance the management of affected patients has been explored. However, very few have made the difficult translation from initial promise to clinical application. These markers mirror the complex pathophysiology of HF: fibrosis (ST2 and galectin-3), infection (procalcitonin), and renal disease (renal markers). Traditional predictors suboptimally predict cardiovascular disease in individuals with chronic kidney disease (CKD). Recent studies propose new cardiac and kidney markers for the improvement of cardiovascular prediction among those subjects with CKD.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. List analytical considerations that should be used to select a troponin assay.
2. Define the optimal use and the clinical context in which the

request of hsTn in Emergency Department is justified.

3. Describe the new biomarkers in HF, including function and clinical usefulness.
4. Select markers providing a significant improvement in cardiovascular prediction in people with CKD.

### ABOUT THE SPEAKERS



**Antoni Bayes-Genis** is Head of the Heart Institute at Hospital Universitari Germans Trias i Pujol in Badalona (Barcelona, Spain), director of the ICREC (Heart Failure and Cardiac Regeneration) Research Program, and Full Professor at Autonomous University of Barcelona. He is interested in precision medicine using novel biomarkers for diagnosis and prognosis in heart failure and sudden death.



**Edmund Lamb** is Consultant Clinical Scientist and Head of Clinical Biochemistry at East Kent Hospitals University NHS Trust, Canterbury, Kent, UK. He has a special interest in kidney disease and undertook his PhD in the Renal Research Laboratory at St Bartholomew's Hospital, London. He has 33 years of experience as a clinical biochemist and his research interests relate to the use of biochemical markers to diagnose and monitor kidney disease, including the assessment of kidney function using estimated GFR and cystatin C and the evaluation of renal bone disease. He is author of more than 80 peer-reviewed papers and the chief investigator on several National Institute of Health Research RfPB and HTA funded projects.



**Mauro Panteghini** is full Professor of Clinical Biochemistry and Clinical Molecular Biology at University of Milano Medical School. His institutional positions are Director of the Chair of Clinical Biochemistry and Clinical Molecular Biology at the Medical School of the University of Milan, Italy. Director of the Department of Laboratory Medicine and Director of Clinical Pathology Unit of the "Luigi Sacco" University Hospital in Milan, Italy. Director of the Research Centre for Metrological Traceability in Laboratory Medicine (CIRME) of the University of Milan. Prof. Panteghini has served in a number of international and national scientific activities in the field of Laboratory Medicine. He is currently Past-President of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM). He has published more than 480 manuscripts (h-index: 46) and more than 440 abstracts. He presented over 130 invited lectures during international and national congresses.

## Kidney diseases - hot questions on established and novel biomarkers



CHAIR: Etienne Cavalier (BE) CO-CHAIR: Konstantinos Makris (GR)

10.30 - 12.30

ROOM: HALL A

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Etienne Cavalier (BE)**

*Clinical chemistry and nephrology: An essential link*  
(10 min + 5 min discussion)

**Michael Darmon (FR)**

*New and older biomarkers in AKI. Are they fit for purpose?*  
(20 min + 5 min discussion)

**Bjørn Odvar Eriksen (NO)**

*Creatinine and cystatin C: To evaluate GFR and/or to predict the risk?*  
(20 min + 5 min discussion)

**Pierre Delanaye (BE)**

*GFR and drug dosage adaptation: Are we still in the mist?*  
(20 min + 5 min discussion)

### ORAL PRESENTATION

*Estimated glomerular filtration rate (GFR) using a point of care (POC) measure of creatinine in patients with iohexol determinate GFR*  
V. Stojkovic, P. Delanaye, M. Schleck, C. Le Goff, E. Cavalier

*Are laboratory creatinine methods traceable? – Comparison with ID-GCMS reference method*  
D.H. Ducroq, S. Thompson, M.A. Thomas

### SESSION OVERVIEW

In this symposium, we will learn from the intensive care unit if and how new, and already older, markers for acute kidney injury can be used to detect AKI. In the second talk, we will tackle a new paradigm in nephrology: indeed, over GFR estimation, cystatine and creatinine can they be predictors of cardiovascular risk and mortality? Finally, a very important point will be explored: since physiological adaptations have all been set up with creatinine clearance, what is the impact of using eGFR instead? Is the weight more important than renal function for dosage adaptation? Can measurement of GFR – and not its estimation – be of some help?

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Better understand the use and limitations of new and older AKI markers.
2. Understand if, beyond GFR estimation, at which extent creatinine

and cystatine can be risk factors for cardiovascular risk and mortality.

3. Understand the benefits, risks and limitations of eGFR vs. creatinine clearance for physiological adaptation.
4. See the potential of measured GFR in drug adaptation.

### ABOUT THE SPEAKERS



**Etienne Cavalier** is Professor of Clinical Chemistry at the University of Liège and Head of the Department of Clinical chemistry at the CHU de Liège. He graduated in pharmaceutical sciences, in laboratory medicine and received his PhD in 2010. His main current research concerns bones markers, vitamin D, PTH, vascular calcification markers, markers of acute kidney diseases, glomerular filtration rate (estimation, biomarkers), markers of frailty and sarcopenia and LCMS/MS methods for steroids and peptides quantification. He is member of 14 scientific societies and has published 184 papers and 4 chapter books.



**Michael Darmon** is Professor, Saint-Etienne University Hospital, in the Medical-Surgical ICU. He received his M.D. from Paris-7 University and is Ph.D. in Medical Science from Paris 13 University. He is member of the French Society of Intensive Care and of the European Society of Intensive Care. His research focuses primarily on Acute Kidney Injury (diagnostic criteria, biomarkers, renal doppler and prediction of short term renal recovery) and Critically-ill cancer patients. He is member of the Outcomerea study group and of the Groupe de Recherche en Réanimation Respiratoire et Onco-Hématologique (Grrr-OH).



**Pierre Delanaye** is Nephrologist in the University hospital of Liège, Belgium. His daily practice is in the Hemodialysis unit. His clinical interest is the estimation and measurement of glomerular filtration rate, the CKD epidemiology and the calcium phosphate metabolism. He received his PhD on glomerular filtration rate estimation. He is currently editor for Clinical Kidney Journal (CKD and epidemiology). In his research, he underlines the strong and necessary links between Nephrology and Clinical Chemistry. He is author or co-author of 178 scientific papers in medical journals.



**Bjørn Odvar Eriksen** is Professor and head of the Metabolic and Renal Research Group at UiT The Arctic University of Norway. He is also senior consultant in the Section of Nephrology, Clinic of Internal Medicine, University Hospital of North Norway, as well as research advisor in the Dept. of Clinical Research at the same hospital. His research focuses primarily on kidney function in the general population and the determinants of age-related decline in GFR. He initiated and leads the Renal Iohexol Clearance Survey (RENIS).



## Implementing and maintaining standardization in laboratory medicine Making the pieces work together to improve patient care and public health



10.30 – 12.30

CHAIR: *Hubert W. Vesper (USA)* CO-CHAIR: *Christa Cobbaert (NL)*

ROOM: MITROPOULOS HALL

COOPERATION WITH: *Center for Disease Control and Prevention (CDC)*

4 LECTURES

### LECTURES

**Cas W. Weykamp (NL)**  
*Standardization of HbA1c and monitoring its impact by European EQA organizers sharing the same samples (25 min + 5 min discussion)*

**Vincent Delatour (FR)**  
*The importance of reference methods and commutability in accuracy-based proficiency, examples from the French EQA program (25 min + 5 min discussion)*

**Hubert W. Vesper (USA)**  
*Standardization of cholesterol and steroid hormones using accuracy-based quality control samples and EQA programs (25 min + 5 min discussion)*

**Christa M. Cobbaert (NL)**  
*Quantitation of serum apolipoproteins using a bottom-up proteomics approach: Requirements for standardization (25 min + 5 min discussion)*

### SESSION OVERVIEW

Standardization and harmonization in laboratory medicine is a well-structured, continuous process, in which reference systems, assay calibration, and laboratory monitoring programs work together to sustainably improve the accuracy and reliability of testing performed in patient care and public health. This session will provide an overview of successful programs currently in place and in development to improve the reliability of glycated hemoglobin A1c, lipids, apolipoproteins and steroids.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Create and maintaining a reference system – Reference methods, materials and performance specifications as key parts in the traceability chain
2. Improve and verify analytical performance of assays - Apply
3. Assess analytical performance of testing performed in patient care-EQA and other performance monitoring and evaluation tools

### ABOUT THE SPEAKERS



**Christa M. Cobbaert** is Professor of Clinical Chemistry and Laboratory Medicine at the University of Leiden. She is heading the Department of Clinical Chemistry and Laboratory Medicine of the Leiden University Medical Center. Her scientific research focuses on standardization, harmonization and trueness verification of medical test results, for the sake of better of patient care. This work has resulted in >100 original publications and several appointments on (inter)national positions because of her expertise on metrological traceability of test results. She is the current chair of the EFLM WG on Test Evaluation, which develops frameworks and this international course for guiding development of biomarkers to medical tests and member of the IFCC Scientific Division EC, involved with metrology and standardization of medical tests.

**Vincent Delatour** is leading the research group on Biomarkers in LNE, the French National Metrology Institute. Vincent is an expert in bioanalysis and especially absolute quantification of clinically relevant biomarkers by mass spectrometry. He's main interest is related to standardization of medical tests results and organization of accuracy-based EQA Schemes. He coordinates R&D projects in various areas including diabetes, cardiovascular disease, nephrology, neurodegenerative disorders, etc. He takes part in various international working groups: IFCC WG on clinical mass spectrometry proteomics (WG-cMSP), commutability (WG-C), apolipoprotein standardization (WG-Apo), CCQM WG on Protein Analysis (PAWG), JCTLM WG on Education and Promotion of Traceability (WG-TEP). He is an independent expert for the ANSM (French National Agency for Medicines and Health Products) and HAS (French National Authority for Health). He's a member of the editorial board of the journal « Biomolecular detection and quantification ».



**Hubert W. Vesper** is the Director of Clinical Standardization Programs at the Center for Disease Control and Prevention (CDC). In this function, he is developing and implementing reference methods and assists with the development and implementation of reference materials. He oversees the evaluation and certification of clinical assays and performs biomarker studies using the National Health and Nutrition Examination Survey. He is an advisor and consultant to national and international standardization programs conducted by organizations such as the National Glycohemoglobin Standardization Program (NGSP), the American Association of Clinical Chemists (AACC), and the International Federation of Clinical Chemistry and Laboratory Medicine (IFCC). He advises proficiency testing/external quality assurance programs such as the College of American Pathologists (CAP) and the New York State Department of Health proficiency testing program. Dr. Vesper is working with national and international organizations such as the CLSI and the ISO developing and implementing guidelines and standards for clinical laboratories.



**Cas W. Weykamp** is a clinical chemist and director of the MCA laboratory of the Queen Beatrix Hospital, Winterswijk, the Netherlands. He is network coordinator of the worldwide network of 16 reference laboratories operating the IFCC reference measurement procedure for HbA1c. He is also secretary of the IFCC Committee Education in the Use of Biomarkers in Diabetes and advisor of the NGSP. He organises the EQA/PT program for HbA1c in the Netherlands. In general he is active in the field of EQA/PT, Standardization and Harmonization as member of the IFCC Task Force for Proficiency Testing and the IFCC Working Groups on Commutability and CDT. In the AACC he served as chair of the task force to develop tools for the AACC Harmonization Initiative.

## Advances in neurodegenerative disorders

CHAIR: Sergio Bernardini (IT) CO-CHAIR: Alexander Haliassos (GR)



10.30 – 12.30

ROOM: SKALKOTAS HALL

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Armand Perret-Liaudet (FR)**

*Preanalytical and analytical aspects of CSF biomarkers assay*

(25 min + 5 min discussion)

**Kaj Blennow (SE)**

*The role of laboratory biomarkers in the diagnosis of Alzheimer's Disease*

(25 min + 5 min discussion)

**Georgia Mandolesi (IT)**

*Advances in multiple sclerosis*

(25 min + 5 min discussion)

### ORAL PRESENTATION

*The Italian program for standardization of cerebrospinal fluid biomarkers as diagnostic tool in laboratory and clinical settings*

G.M. Sancesario, S. Toniolo, D. Chiasserini, S.G. Di Santo, G. Bernardi, M. Musicco, C. Caltagirone, L. Parnetti, S. Bernardini

*The empir project: innovative measurements for improved diagnosis and management of neurodegenerative diseases (neuromet)*

M. Quaglia, V. Bellotti, S. Cano, K. Deane, C. Divieto, T. Köbe, A. Flöel, S. Lehmann, G. Martos, S. Pang, L. Pendrill, F. Schubert, H. Parkes

### SESSION OVERVIEW

Neurodegenerative disorders are a tremendous challenge for the future. A human and social challenge and a challenge for sustainability on the part of the health system. The aim of this symposium is to bring together Laboratory professionals and Clinicians to debate the possible role of biomarkers in diagnosis, prognosis, and clinical trials as well as the procedures needed to realize the Harmonization and standardization between different methods to improve the diagnostic accuracy, the stratification of patients and the monitoring of disease progression.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. To understand the overall variability of available biomarkers (both diagnostic and progression markers) and the commitment towards standardization and harmonization.
2. To know the new approaches in biomarkers discovery (proteomics, metabolomics).
3. To better classify the patients.
4. To understand the epidemiological relevance of neurodegenerative disorders.

### ABOUT THE SPEAKERS



**Kaj Blennow** took his MD in 1984, and holds a Specialist Competence in both General Psychiatry and in Clinical Chemistry. He is Head of the Clinical Neurochemistry Lab at Sahlgrenska University Hospital, Gothenburg, Sweden, and Professor and Academic Chair in Clinical Neurochemistry at University of Gothenburg, Sweden. He holds the Torsten Söderberg Professorship at the Royal Swedish Academy of Sciences. He has published more

than 800 original research papers and review articles in peer-reviewed journals, and has an H-index of 96. He is President of the Society for CSF analysis and Clinical Neurochemistry, head of the Alzheimer's Association QC program for CSF biomarkers and Chair of the IFCC WG on CSF proteins.



**Armand Perret-Liaudet** is Doctor of Pharmacy, at the University Claude Bernard of Lyon. Postgraduate Specialization in Clinical Biochemistry and in Neurobiology. He is Head of the Clinical Neurochemistry Lab at Lyon University Hospital, was national coordinator of SFBC working group "CSF Biomarkers of AD" and member of the IFCC working group (WG) on Proficiency Testing.

He has published 80 peer-reviewed papers. His major clinical interest involves the preanalytical, analytical and clinical evaluation of biochemical candidates for the diagnosis of Neurodegenerative diseases and for Ischaemic events in Sub Acute Haemorrhage.



**Georgia Mandolesi** is Neurobiologist - Molecular biologist and is working as a Researcher at Fondazione Santa Lucia. Her research interests are related to the role of synaptic transmission and plasticity in the pathophysiology of MS and of its experimental model, and to the mechanisms of the neurodegenerative damage in neurological diseases.



## New perspectives on pharmacogenetics and pharmacogenomics



CHAIR: Nikolaos Drakoulis (GR) CO-CHAIR: Sanja Stankovic (RS)

10.30 – 12.30

ROOM: MC 3 HALL

COOPERATION WITH: ESPT and EEPHARM

3 LECTURES (+ 2 oral presentations of related abstracts 25 min)

### LECTURES

**Ron Van Schaik (NL)**

*ESPT presentation*  
(5 min)

**Ingolf Cascorbi (DE)**

*Regulation of ADME-Genes  
by miRNAs*  
(25 min + 5 min discussion)

**Urs A. Meyer (CH)**

*Pharmacogenomics, a  
paradigm for digital medicine*  
(25 min + 5 min discussion)

**Sophie Visvikis-Siest (FR)**

*VEGF-A, a potential biomarker  
for systems medicine*  
(25 min + 5 min discussion)

### ORAL PRESENTATION

*Clopidogrel-pathway gene polymorphisms and clinical risk-stratification of patients with stemi undergoing primary PCI*  
S. Stankovic, M. Asanin, J. Djurovic, O. Stojkovic

*Pharmacogenetics of statins response: Preliminary results of a multicentric study*

C. Ruiz-Iruela, A. Padró-Miquel, X. Pintó-Sala, M.R. Navarro-Badal, R. Güell-Miró, P. Calmarza Calmarza, J.L. Puzo-Foncillas, N. Baena-Díez, A. Caixás-Pedragòs, P. Alía-Ramo, B. Candás-Estébanez

### SESSION OVERVIEW

Genetics and genomics have the potential to open new horizons in predisposition, diagnosis, prognosis and treatment of patients. In Personalised Medicine, improved strategies are introduced, using familial design and existing bio banks, for developing high heritability level biomarkers. Digital signatures of the drug response profiles provide critical information on how to optimize drug response and epigenetics contributes not only to the better understanding of diseases, but also to elucidate mechanisms of drug resistance.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Realize the present barriers that hinder the clinical implementation of pharmacogenomics.
2. Understand the potential of digital signatures of predicted drug responses in genome sequences.
3. Learn about the protocols of clinical implementation studies in Europe and North America.

4. Learn how to implement strategies to be applied for biomarkers with high heritability levels.
5. Learn about post-transcriptional modifications by non-coding RNAs.
6. How are ADME genes affected by epigenetic processes?
7. How does genetic modification of ADME genes alter the interaction with miRNA?
8. How does epigenetic modification of drug targets and cellular excretion mechanisms contribute to multi drug resistance in cancer?

### ABOUT THE SPEAKERS



**Ingolf Cascorbi** is professor of pharmacology at the University of Kiel, Germany and director of the Institute of Experimental and Clinical Pharmacology, University Hospital Schleswig-Holstein, Campus Kiel. He graduated in biochemistry and in medicine at the Free University of Berlin. He earned a PhD in biochemistry and an MD. After being research associate at the Free University Berlin and later at the Charité Berlin, he received a board certification in clinical pharmacology. In 2000, he was appointed as associate professor of pharmacology and toxicology at University of Greifswald. His research interest are in pharmacogenomics and -epigenomics, of drug efflux transporters and drug metabolism as well as genetic risk factors of complex diseases, neuropathic pain research, and clinical studies. He has published more than 210 scientific papers. He is currently Vice Dean of Education of the Medical Faculty and serves as member of several boards of scientific societies and authorities.

**Urs A. Meyer** is Professor emeritus of Pharmacology at the Biozentrum of the University of Basel. After Medical School in Geneva and Zurich he was trained in Biochemistry, Internal Medicine and Clinical Pharmacology at the University of Zurich, the University of California San Francisco and the University of Texas Southwestern Medical School in Dallas. Since 1983 he is Professor of Pharmacology at the Biozentrum of the University of Basel, where he also was Acting Chairman of the Biozentrum. Urs Meyer's research has focused on genetic and environmental factors which cause interindividual variation of drug response and the application of this knowledge to Personalized Healthcare throughout his career. He has authored over 350 publications and is highly cited for the discoveries of his team in pharmacogenetics, drug metabolism and metabolic diseases.



**Ron Van Schaik** is a European Specialist Laboratory Medicine and Professor Pharmacogenetics at Dept. Clinical Chemistry, Erasmus University Medical Center, Rotterdam, The Netherlands. He is Director of the International (IFCC) Expert-Center Pharmacogenetics. Main responsibility is Pharmacogenetic implementation for diagnostics. Specific areas of interest are Psychiatry, Oncology, Transplantation and Pain. He has published over 200 articles (H-factor 49) and participates in National & International (IFCC, AACC, CPIC, EMA, IUPHAR, ESPT, GMA, IATDMCT) advisory committees on this topic. He is chair of the IFCC Task Force Pharmacogenetics and is chair of the European Pharmacogenetics Implementation Consortium.



**Sophie Visvikis-Siest** Sophie Visvikis-Siest was born in Athens, Greece, where she obtained a diploma of Biology. She received a PhD at the University of Nancy, France. She is Director of INSERM Research Unit in Nancy: "Interactions Gene-Environnement en Physiopathologie Cardio-Vasculaire" at the University of Lorraine. Her main research interests are in the domain of public health, Personalised Medicine, prevention, genetic epidemiology, genomics and pharmacogenomics, cardio-vascular diseases, VEGF and inflammation. She has published more than 345 papers in international scientific journals (index h: 50, citations: 9328), she has 2 patents and gave more than 70 invited presentations at international conferences. She participates in BBMRI (Biobanking and Biomolecular Resources Research Infrastructure) European Biobanking initiative. She is Vice-President of the European Society of Predictive Medicine (EUSPM) and Chair of the meetings division of the European Society of Pharmacogenomics and Theranostics (ESPT).

## The microbiome: Present and future challenges in laboratory medicine



CHAIR: Georgia Sotiropoulou (GR) CO-CHAIR: Eduardo Aranda (CL)

10.30 – 12.30

ROOM: CONFERENCE ROOM 1

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Richard L. Gallo (USA)**

*The microbiome as a diagnostic and therapeutic tool in human disease*

(25 min + 5 min discussion)

**Oluf Pedersen (DK)**

*The human gut microbiota and host health*

(25 min + 5 min discussion)

**Georgia Gioula (GR)**

*The importance of human microbiome in health and disease*

25 min + 5 min discussion)

### ORAL PRESENTATION

*Prevalence of anti-HCV and active HCV infection in an Italian hospital population*

G. Furlini, F. Gelsomino, S. Galli, S. Favero, C. Galli

*Analytical performance and diagnostic accuracy of six different faecal calprotectin assays in inflammatory bowel disease*

M. Oyaert, A. Boel, J. Jacobs, S. Van Den Bremt, M. De Sloovere, H. Vanpoucke, L. Van Hoovels

### SESSION OVERVIEW

The diverse and abundant communities of microbes that colonize various parts of our body, described as “microbiota”, coexist and coevolve with us, eliciting a mutualistic response with our body’s systems. We know the microbiome is important for maintaining human health and disease states are often associated with changes in the composition and behavior of the microbiota. Recent studies show that the microbiome plays important roles in diverse diseases ranging from cancer, heart and inflammatory diseases to diabetes and Parkinson’s disease. This line of investigation is expected to unveil therapeutic potential to treat disease. Rapid advances in sequencing technologies and analytical techniques are enhancing our ability to analyze the human microbiome and its constituents with exciting prospects for exploitation in personalized medicine. Understanding the microbiome is expected to lead to novel strategies to promote human health and to develop more effective ways to treat diseases.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Understand the importance of microbiome diversity in tissue homeostasis and human health.
2. Obtain knowledge on how changes in microbiome composition affect disease development and progression and how different

diseases affect microbiome composition.

3. Understand how analysis of the human microbiome can be used as disease biomarker
4. Be informed on current advances on manipulating microbiome as a therapeutic approach in different diseases.

### ABOUT THE SPEAKERS



**Richard L. Gallo** is a prominent American Physician-Scientist who is a pioneer in studying how antimicrobial peptides and the bacterial microbiome are fundamental to human health. His group first discovered the existence of antimicrobial peptides in mammalian skin and has published several landmark observations of how these molecules are involved in skin disorders such as atopic dermatitis and psoriasis. His work has also advanced understanding of the molecular mechanisms by which the skin microbiome benefits the immune system. He has over 300 publications and has been cited over 20,000 times. His publications include papers featured in *Nature*, *Science*, *Nature Medicine*, *NEJM*, *Journal of Clinical Investigation* and others. He has received numerous honors and awards and has delivered keynote lectureships to a variety of audiences in Immunology, Microbiology, Infectious Disease, Pathology, Wound Healing and Dermatology.



**Georgia Gioula** is Associate Professor of Microbiology at the University of Thessaloniki. She graduated as an MD from the Medical School of the Aristotle University of Thessaloniki, Greece and completed her training in Biopathology-Microbiology at the Microbiology Department of “St. Dimitrios” General Hospital of Thessaloniki. She received his PhD from the University of Thessaloniki. She is currently fully employed as an Associate Professor of

Medical Microbiology and Head of the Laboratory of Hepatology, at Hippokratia Hospital of Thessaloniki, Greece. She has authored 141 publications in peer-reviewed journals.



**Oluf Pedersen** is Professor in the Section of Metabolic Genetics at Novo Nordisk Foundation Center for Basic Metabolic Research (NNF-CBMR), Faculty of Health and Medical Sciences in the University of Copenhagen. His original studies of human adipocytes and the molecular causes of insulin resistance in human adipose cells and skeletal muscle tissue provided the first demonstration that physical contraction stimulates translocation of GLUT4 in skeletal muscle through a mechanism distinct from that of insulin. His pioneering large-scale whole-exome sequencing studies with massive genotyping follow-up led to the discovery of common and low-frequency gene variants associated with common metabolic and cardiovascular traits. As partner in the EU-Metahit initiative he delivered contributions in a series of landmark studies in *Nature*. He is author or co-author of >690 scientific articles with >590 original papers in peer-reviewed journals including the high impact journals: *NEJM*, *Lancet*, *Science*, *Nature*, *Nature Genetics*, *Nature Biotechnology*, *J Clin Invest*, *PNAS*, *Nature Communications*, *Nature Methods* and *PLOS Genetics*. His papers received >32,023 citations, his ISI-h-index is 79 and the Google Scholar citation index is 95. In 2014 he was featured by Thomson Reuters as being among the world’s most influential scientific minds (category: molecular biology & genetics).



## The ethics of gene editing

MODERATOR: Ann Gronowski(USA)

Nicholas Katsanis (USA, GR)



Françoise Baylis (CA)

12.30 - 14.30

ROOM: LAMBRAKIS HALL

### SESSIONS OVERVIEW

Societies are by definition cautious when confronted by disruptive technologies. In the 1970s, the generation of recombinant bacteria led to a self-imposed moratorium to afford the community time to evaluate the possible danger of genetically-engineered *E. coli* to the population. Our newly-found ability to manipulate the human genome is no different. The optimistic view of the benefits of genome editing will be presented with major applications, and their potential benefits and pitfalls: ex-vivo editing of patient cells; in vivo editing of somatic cells; and the more theoretical possibilities of in vivo or ex vivo editing of the germline. I will highlight potential utility, current state-of-the-art and highlight possible workarounds to safeguard the health of the species and maintenance of appropriate regulatory frameworks that continue to protect the population from progress and progress from popular anxiety.

In this presentation, I will critically examine the ethics of human gene editing with particular attention to the debates on germline modification and human enhancement. I will comment on the roles and responsibilities of the scientific, corporate and political elites who seek to direct the science. In closing, I will invite the audience to reflect with me on how we might go about forging a global consensus on how best to use gene editing technology for the common good.

### ABOUT THE MODERATOR & SPEAKERS



**Ann Gronowski** is a professor of pathology and immunology and of obstetrics and gynecology. She is also associate medical director of the clinical chemistry, serology and immunology laboratories at Barnes-Jewish Hospital and co-directs the Women and Infants Specimen Health Consortium (WIHSC). Dr. Gronowski received her bachelor's degree from the University of Illinois and her doctoral degree in endocrinology-reproductive physiology from the University of Wisconsin. After receiving postdoctoral training in laboratory medicine at Washington University, Dr. Gronowski joined the faculty in 1996. Dr. Gronowski has served on the board and is former president of the American Association of Clinical Chemistry (AACC) and the American Board of Clinical Chemistry (ABCC). She currently serves on the board of editors of the journal *Clinical Chemistry* as editor of the clinical case studies feature. Professor Gronowski is active in the field of ethics in laboratory medicine. She has published several papers on ethics and she serves as chair of the IFCC TF-Ethics.

**Nicholas Katsanis** obtained his first degree in Genetics from UCL in London in 1993 and his doctorate from Imperial College, University of London in 1997. He then joined the laboratory of Dr. Lupski at Baylor College of Medicine, where he initiated his studies on Bardet-Biedl syndrome. In 2002, he relocated to the Institute of Genetic Medicine, Johns Hopkins University where he led studies that unified several allied conditions under the ciliopathy umbrella. In 2009, he moved to Duke University to establish the Center for Human Disease Modeling, where he is the Director. As part of that effort, He leads the Taskforce for Neonatal Genomics. In parallel, the Katsanis lab pursues questions centered on the signaling roles of vertebrate cilia, the translation of signaling pathway defects on the causality and possible treatment of ciliary disorders, and the dissection of second-site modification phenomena as a consequence of genetic load in a functional system. In recognition of his work, Dr. Katsanis was awarded the Young Investigator Award from the American Society of Nephrology in 2009, the E. Mead Johnson Award from the Society for Pediatric Research in 2012 and has delivered several Distinguished lectures. Dr Katsanis is a Professor in the Departments of Cell Biology and Pediatrics and holds the Brumley Distinguished Professorship. He has published over 250 research papers, reviews, and book chapters, serves on several advisory, editorial, and organizational boards and has delivered over 150 lectures in 20 countries.

**Françoise Baylis** is Professor and Canada Research Chair in Bioethics and Philosophy at Dalhousie University, Canada. In 2007, she was elected a Fellow of the Royal Society of Canada, and a Fellow of the Canadian Academy of Health Sciences. Baylis has particular interest and expertise in the ethics of heritable genetic modification. This interest dovetails with her research on developing new strategies to make just and lasting policy contributions at home and abroad. Current work involves testing the impact of these strategies in relation to real-world public policy challenges with research involving humans, women's health, genetic and reproductive technologies, public health, and access to health care. Baylis was a member of the 12-person Organizing Committee for the December 2015 "International Summit on Human Gene Editing" co-hosted by the U.S. National Academies of Science, the U.S. National Academy of Medicine, the Royal Society, and the Chinese Academy of Science. She was also an external reviewer for the U.S. Institute of Medicine report "Mitochondrial Replacement Techniques: Ethical, Social, and Policy Considerations" (2016).

Free online registration required



## New technologies for interfacing with the brain



George Malliaras (FR, GR)

14.30 - 15.30

ROOM: LAMBRAKIS HALL

CHAIR: Alexander Haliassos (GR)

### SUMMARY

One of the most important scientific and technological frontiers of our time lies in the interface between electronics and the human brain. Interfacing the most advanced human engineering endeavor with nature's most refined creation promises to help elucidate aspects of the brain's working mechanism and deliver new tools for diagnosis and treatment of a host of pathologies including epilepsy and Parkinson's disease. Current solutions, however, are limited by the materials that are brought in contact with the tissue and transduce signals across the biotic/abiotic interface. Recent advances in electronics have made available materials with a unique combination of attractive properties, including mechanical flexibility, mixed ionic/electronic conduction, enhanced biocompatibility, and capability for drug delivery. I will present examples of novel devices for recording and stimulation of brain activity that go beyond the current state-of-the-art in terms of performance, compatibility with the brain, and form factor. I will show that modern electronic materials offer tremendous opportunities to design devices that improve our understanding of brain physiology and pathology, and can be used to deliver new therapies.

### ABOUT THE CHAIR & THE SPEAKER



**Alexander Haliassos** obtained his MD diploma and his thesis (PhD) at the school of Medicine, National University of Athens, Greece. He pursued his scientific education at the Faculty of Medicine, Claude Bernard University, Lyon I (FR) where he gained a thesis (DEA) on electronics applied in the medical field, and one in human genetics and completed his curriculum in France as post-doctoral fellow (1987-1991) at the "Institute of Molecular Biology" of Paris-Descartes University (FR). He is registered as European Clinical Chemist (EurClinChem, now EurSpLM) since 2003. At the national level, Doctor Haliassos has held a number of professional representative roles in Greece including GSCC-CB Executive Board member and General Secretary from 1996 until today. He represents Greece at EQALM, and he is an elected member of HellasLab Executive Board, the Greek section of EuroLab. At the international level, Doctor Alexander Haliassos is the leading Editor of the website [www.labtestsonline.gr](http://www.labtestsonline.gr). He is the IFCC National Representative of Greece since 2005. In 2014, he was appointed as Chair of the IFCC-Task Force on Proficiency Testing (TF-PT), a multidisciplinary effort of IFCC in the analysis and the exploration of the Proficiency Testing and External Quality Control issues. For several years now, he intensified its engagements with the IFCC conferences and congresses acting as the Greek leader for the organization of the 10th IFCC-General Conference, Corfu in 2010 and as Member of the EuroMedLab Paris 2015 Congress Organizing Committee (COC). Dr Alexander Haliassos published more than 45 papers in peer-reviewed scientific journals cited 947 times, made more than 100 oral presentations in international congresses, participated in 140 posters in international meetings and chaired two national congresses and several seminars on laboratory medicine subjects.

**George Malliaras** received a BS in Physics from the Aristotle University (Greece) in 1991, and a PhD in Mathematics and Physical Sciences, cum laude, from the University of Groningen (the Netherlands) in 1995. After a two year postdoc at the IBM Almaden Research Center (California), he joined the faculty in the Department of Materials Science and Engineering at Cornell University (New York). From 2006 to 2009 he served as the Lester B. Knight Director of the Cornell NanoScale Science & Technology Facility. He joined the Ecole des Mines de St. Etienne in 2009 and started the Department of Bioelectronics. His research on organic electronics and bioelectronics has been recognized with awards from the New York Academy of Sciences, the US National Science Foundation, and DuPont. He is a member of the Hellenic National Council for Research and Technology, a Fellow of the Royal Society of Chemistry, and serves as an Associate Editor of Science Advances. He is a co-author of 200+ publications in peer-reviewed journals that have received over 16,000 citations. His h-index is 71 (google scholar, 11/16).

## Role of communication in P4 laboratory medicine



CHAIR: *Khosrow Adeli (CA)* CO-CHAIR: *Imma Caballe (ES)*

16.00 – 18.00

ROOM: LAMBRAKIS HALL

COOPERATION WITH: *Communications and Publications Division, IFCC*

3 LECTURES (+ 1 oral presentations of related abstracts 15 min)

### LECTURES

**Tahir Pillay (ZA)**

*Online resources for patients and healthcare professionals*

(25 min + 5 min discussion)

**Peter Vervaart (AU)**

*E-learning and online educational tools in laboratory medicine*

(25 min + 5 min discussion)

**Khosrow Adeli (CA)**

*Electronic apps and medical diagnostics data management*

(25 min + 5 min discussion)

### ORAL PRESENTATION

*How effective is electronic gate-keeping in influencing test requesting behaviour and cost saving: A re-evaluation*

A. Pema, O. Kiabilua, T. Pillay

### SESSION OVERVIEW

P4 Medicine describes a healthcare delivery model that is Predictive, Preventive, Personalized and Participatory. This novel concept has attracted much attention in recent years and holds significant promise that is innovative and transformative. P4 Medicine is obviously very reliant on clinical laboratory analysis and could bring about a new era for advanced Lab Medicine. An effective P4 Medicine model also requires 360 degree communication that enables patients, clinicians, laboratories to engage in the process using innovative electronic and online modalities. In the present symposium, the role of innovative communication technologies that enable and support P4 laboratory medicine will be discussed with a focus on: I) Online resources for patients and healthcare professionals, II) e-Learning and online educational tools in laboratory medicine, and III) Electronic apps and medical diagnostics data management. Following these presentations, an interactive panel discussion will be held to facilitate participation by symposium attendees.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Define the concepts behind P4 Medicine and the critical role of clinical laboratories
2. Identify the key online resources available for both patients and

health professionals

3. Appraise the major resources for e-Learning and online educational tools in Lab Medicine
4. Utilize electronic apps and medical diagnostics data management programs

### ABOUT THE SPEAKERS



**Khosrow Adeli** is currently the head and full professor of Clinical Biochemistry at the Hospital for Sick Children and the Departments of Biochemistry, and Laboratory Medicine & Pathobiology at the University of Toronto in Toronto, Canada. He also serves as the Chair of Publications and Communications Division of the IFCC. He is the Director of Point of Care Testing program at the Hospital for Sick Children in Toronto. Dr. Adeli is a fellow of the Canadian Academy of Clinical Biochemistry and a diplomate of the American Board of Clinical Biochemistry. He is currently the Editor-in-Chief of the Critical Reviews in Clinical Laboratory Sciences. Dr. Adeli served as the Editor-in-Chief of the Clinical Biochemistry journal for 7 years (1999-2006). He is an editorial board member of the Clinical Biochemist Reviews. He served (2006-2010) as the President of COMACC, the Commission on Accreditation in Clinical Chemistry, a North American organization responsible for accreditation of clinical chemistry training programs in the USA and Canada.

Imperial College, London and postdoctoral training at the University of California San Diego. He is a Fellow of the Royal College of Pathologists and the College of Pathologists, South Africa. He is currently discipline editor for the London-based Journal of Clinical Pathology and a member of the Corporate Publication Division executive committee of the International Federation of Clinical Chemistry and Laboratory medicine (IFCC) and a member of the International Committee of the Royal College of Pathologists, London as well as being country advisor to the Royal College of Pathologists.



**Peter Vervaart** is Director of LabMed Consulting, a consultancy to the Laboratory Medicine industry, and a locum Clinical Scientist in Chemical Pathology to Territory Pathology in Darwin, NT. He has a PhD from the University of Melbourne and a Diploma in Frontline Management and Graduate Certificate in Public Sector Management from Swinburne and Flinders Universities respectively. He is a Fellow of the Australasian Association of Clinical Biochemists (AACB) of which he is also past President and is a Foundation Fellow of the Faculty of Science of the Royal College of Pathologists of Australasia (RCPA). He is also Secretary of the Communications and Publications Division and Chair of the Internet and e-Learning Committee of the International Federation of Clinical Chemistry (IFCC). His major research interests are in Chemical Pathology/Immunology, in particular the fields of inflammation, sepsis and neonatology (having completed his PhD in this area while at the Division of Laboratory Services, Women's and Children's Health Care Network in Melbourne, Australia).



**Tahir Pillay** is Chief Specialist, Professor and Head of the Department of Chemical Pathology, University of Pretoria and National Health Laboratory service, Steve Biko Academic Hospital and Director of the Division of Clinical Pathology and Clinical Pathology training programme, Pretoria South Africa. He graduated MBChB cum laude from the University of Natal, South Africa in the 1980s. He received a PhD in biochemistry from the University of Cambridge and completed his postgraduate training at Hammersmith Hospital,



## How to succeed in science and laboratory medicine as a woman



Karen Anderson (USA) & Ann Gronowski (USA)

15.30 - 16.45

ROOM: MC 3 HALL

MODERATOR: *Katherina Psarra (GR)* YOUNG SCIENTIST CO-MODERATOR: *Guilaine Boursier (FR)*

### SUMMARY

Professors Karen Anderson and former AACC president Ann Gronowski will address the difficult task of how to combine career and personal/family life and become successful in Science and Medicine.

### ABOUT THE EXPERTS

**Karen Anderson** is an Associate Professor in the Biodesign Institute at Arizona State University and the Mayo Clinic Arizona, where she is a practicing breast cancer medical oncologist and translational researcher.

She has been the Principal Investigator of NCI-led multi-institutional clinical studies of circulating biomarkers for breast cancer, and has been the co-chair of the Breast/Gyn Collaborative Group at the NCI Early Detection Research Network.

Her research has focused on the development of methods for immunoprofiling cancers, and for proteome-wide immune monitoring. These studies have led to immune-based biomarkers for breast, ovarian, and HPV-related cancers.

**Ann Gronowski** is a professor of pathology and immunology and of obstetrics and gynecology. She is also associate medical director of the clinical chemistry, serology and immunology laboratories at Barnes-Jewish Hospital and co-directs the Women and Infants Specimen Health Consortium (WIHSC).

Dr. Gronowski received her bachelor's degree from the University of Illinois and her doctoral degree in endocrinology-reproductive physiology from the University of Wisconsin. After receiving postdoctoral training in laboratory medicine at Washington University, Dr. Gronowski joined the faculty in 1996.

Dr. Gronowski has served on the board and is former president of the American Association of Clinical Chemistry (AACC) and the American Board of Clinical Chemistry (ABCC). In 1996, Dr. Gronowski was granted the AACC Young Investigator Award, and in 2010 she received the AACC award for outstanding contributions through service. In 2011, she received the Washington University Clinical Pathology Teaching Award. She currently serves on the board of editors of the journal *Clinical Chemistry* as editor of the clinical case studies feature.

Dr. Gronowski's research focuses primarily on the laboratory diagnostics of endocrinology and reproductive physiology with a particular emphasis on maternal fetal medicine. In particular, her laboratory has examined markers of pre-term delivery, markers of fetal lung maturity and the analytical and clinical complexities of measuring hCG. Recently, she edited a book entitled "Handbook of Clinical Laboratory Testing During Pregnancy." Professor Gronowski is active in the field of ethics in laboratory medicine. She has published several papers on ethics and she serves as chair of the IFCC TF-Ethics.



## Assessing vitamin D status in the clinical laboratory: Assays and interpretation are the key issues

Howard Morris (AU)



16.45 - 18.00

ROOM: MC 3 HALL

MODERATOR: *Symeon Tournis (GR)*

YOUNG SCIENTIST CO-MODERATOR: *Miljan Savkovic (RS)*

### SUMMARY

Professor Howard Morris, a past IFCC vice-president and Chair of the IFCC/IOF Working group (WG) on Standardization of Bone Markers Assays, will assess vitamin D status in the clinical laboratory and existing problems in the related assays and how to interpret them.

### ABOUT THE EXPERT

**Howard Morris** holds a joint appointment as Professor of Medical Science in the School of Pharmacy and Medical Sciences, University of South Australia and a Chief Medical Scientist in Chemical Pathology at SA Pathology, Adelaide Australia. Between 2003 and 2008 he was the Secretary of the Scientific Division of the IFCC and has served as a member of the IFCC Task Force on the Global Campaign on Diabetes Mellitus (2003-2008), Task Force on International Clinical Liaison (2009-2011) and International Scientific Committee XXIst International Congress of Clinical Chemistry and Laboratory Medicine, Berlin Germany, 2011 (2007-2011). Within the Asia Pacific Federation of Clinical Biochemistry (APFCB) he served as Chair, Scientific Committee (2002-2004) and Chair, Scientific Organising Committee, Member Organising Committee for 10th Asian Pacific Congress of Clinical Biochemistry (2002-2005). He was the Australasian Association of Clinical Biochemists (AACB) representative to the Councils of the IFCC and APFCB (1998-2004), served on AACB Council (1998-2002) and Editor of the Clinical Biochemist Reviews (1994-2002). He was awarded an AACB Outstanding Service Medallion (2003) and the W. Roman Travelling Lectureship (2004).

Dr Morris currently serves as a Clinical Scientist for the Chemical Pathology Directorate, SA Pathology providing advice and comments in the discipline. He had 24 years experience working in diagnostic clinical biochemistry in the field of immunoassay and endocrinology between

1976 and 2000 during which he managed a major clinical endocrinology laboratory for the Institute of Medical and Veterinary Science (IMVS, Adelaide) providing services for the Royal Adelaide Hospital (RAH) and the state of South Australia. In 1997/98, the laboratory reported some 245,000 patient results. Between 2003 and 2009 he was the Director of the Hanson Institute, the research arm of the IMVS and RAH. In 2009 the Hanson Institute administered infrastructure to support the research of some 300 staff and 100 postgraduate students who generated external grants amounting to approximately \$AUD 30 million annually.

Dr Morris leads an active research team publishing 242 refereed publications, reviews and book chapters and being awarded over \$7 million in competitive research grants. His research investigates the pathophysiology of metabolic bone disease and the effects of hormones including vitamin D funded by the National Health and Medical Research Council and Australian Research Council, the major competitive funding bodies in Australia. His latest work has identified the basis for vitamin D requirement to reduce the risk of fractures amongst the elderly. He was invited to present the Louis Avioli Memorial Lecture at the 2009 Annual Scientific Meeting of the American Society for Bone and Mineral Research on this topic. He is also Deputy Chair of a South Australian Department of Health Working Party on Osteoporosis and Fracture Prevention.

## Big data in the era of personalized medicine

CHAIR: Emmanouil Dermitzakis (GR, CH) CO-CHAIR: Marc Delpech (FR)



16.00 - 18.00

ROOM: CONFERENCE ROOM 1

3 LECTURES

### LECTURES

**Emmanouil Dermitzakis (GR, CH)**

*Big genomics data and the elucidation of disease mechanisms*

(25 min + 5 min discussion)

**Giean McVean (UK)**

*New and old challenges and opportunities with big data*

(25 min + 5 min discussion)

**Olivier Delaneau (CH)**

*Using genomic analysis to elucidate basic mechanisms of genome function*

(25 min + 5 min discussion)

### SESSION OVERVIEW

In the recent years science has experienced the generation of large amounts of data for research purposes. This combined with the large amounts of clinical data that remains unexplored as well as data that is collected from wearables and other devices actively or passively creates unique opportunities for understanding key biological processes via large-scale data analysis. This session will discuss these opportunities as well as the challenges in particular with relation to Personalized Medicine.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Understand the challenges of the analysis of large datasets

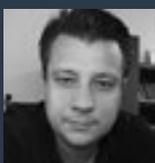
2. Familiarize themselves with some of the current methodologies and research projects

3. Be informed about future developments

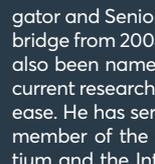
### ABOUT THE SPEAKERS



**Olivier Delaneau** is research scientist in the Department of Genetic Medicine and Development of the University of Geneva. He obtained a PhD in bioinformatics in 2008 from the Conservatoire des Arts et Métiers in Paris working on genome-wide association studies (GWAS) in the context of host HIV progression. He moved in the department of statistics of the University of Oxford to work on method development for GWAS. He notably developed SHAPEIT, a software to infer the haplotypes from genotype data that is now widely used worldwide and that has been used to produce the haplotypes in large scale projects in Human genetics such as the 1000 Genomes project, the haplotype reference consortium or the UK biobank. Afterwards, he moved to the University of Geneva to work on functional genomics in the laboratory of Prof. Dermitzakis. He developed there multiple methods such as FastQTL and QTLtools to discover expression Quantitative Trait Loci (eQTLs) in population scale data sets and got deeply involved in the analysis and the integration of multi-omics data sets. He has published more 35 papers (H-index=21) and released 3 key analysis software in the field of Human genetics.



**Emmanouil Dermitzakis** is professor of Genetics in the Department of Genetic Medicine and Development of the University of Geneva Medical School and Director of The Health2030 Genome Center, a member of the executive board of the Institute of Genetics and Genomics in Geneva (iGE3), a member of the Swiss Institute of Bioinformatics. He is also a member of the Executive Board of the Swiss Personalized Health Network. He obtained his B.Sc. in 1995 and M.Sc. in 1997 in Biology from the University of Crete (Greece) and his PhD in 2001 from the Pennsylvania State University in the USA. He was an Investi-



gator and Senior Investigator at the Wellcome Trust Sanger Institute in Cambridge from 2004 to 2009. He was elected an EMBO member in 2014 and has also been named Highly Cited Researcher by ISI in 2014, 2015 and 2016. His current research focuses on the genetics and molecular causes of human disease. He has served as an analysis co-chair in the ENCODE consortium and member of the analysis group of the Mouse Genome Sequencing Consortium and the International HapMap project and the 1000 genomes project and a co-chair in the GTEx project. He has served in the Board of Reviewing Editors of Science, eLIFE and PLoS Genetics



**Giean McVean** is professor of statistical genetics at the University of Oxford, director of the Big Data Institute, fellow of Linacre College, Oxford and co-founder and director at Genomics plc. He also co-chaired the 1000 Genomes Project analysis group. From 1991 to 1994 McVean completed a Bachelor of Arts degree in Biological Sciences at the University of Oxford. McVean completed his PhD in the Department of Genetics, at the University of Cambridge supervised by Laurence Hurst in 1998. From 2000-2004 he was a Royal Society University Research Fellow, in the Department of Statistics at Oxford, where he has also been a University lecturer in Mathematical Genetics since 2004 (reappointed in 2009 until retirement age). In October 2006 he was appointed professor of statistical genetics at the University of Oxford. His research focuses on population genetics, statistics and evolutionary biology including the International HapMap Project, recombination rates in the human genome and the 1000 Genomes Project. In 2014 with Peter Donnelly he co-founded Genomics plc, a genomics analysis company, as a corporate spin-off of the University of Oxford. He was appointed as acting director of the Big Data Institute at the University of Oxford.



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## Technical and educational advancements coming with an automated urine sediment analyser

CHAIR: Giovanni B. Fogazzi (IT)

14.30 - 15.30

G. Bayer (HU), R. Falbo (IT), G.B. Fogazzi (IT), J. Gras (BE)

ROOM: TRIANTI HALL

*Latest improvements in automated urinary sediment microscopy*  
G. Bayer (HU)

*A gallery of images by phase contrast automated microscopy*  
R. Falbo (IT)

*"sedimage": a new website educational programme for the users of automated urinary sediment analyser*  
G.B. Fogazzi (IT)

*The clinical relevance of some urinary sediment particles shown by sedimage*  
J. Gras (BE)

Discussion



## Alinity ci-series and the next generation core laboratory: The data behind measurably better healthcare performance

CHAIR: Karl J. Lackner (DE)

14.30 - 15.30

S. Ruetten (USA), P. Yip (CA), K.J. Lackner (DE)

ROOM: HALL A

*Evaluation of alinity ci-series Immunoassay and clinical chemistry assays by CLSI protocols and with comparison to ARCHITECT*  
S. Ruetten (USA)

*The first user experience with the Alinity c Clinical Chemistry System*  
P. Yip (CA)

*Alinity ci-series - Study data and experiences in a real-world setting*  
K.J. Lackner (DE)



## Using cell free DNA as basis for clinical applications

CHAIR: Konstantinos Syrigos (GR)

14.30 - 15.30

Francesca Romana Grati (IT), John F. Palma (USA)

ROOM: MITROPOULOS HALL

Opening

*Cell-free DNA testing for fetal aneuploidy: Biology & technology*  
Francesca Romana Grati (IT)

*Clinical research applications using NGS-based testing of liquid biopsy samples in lung cancer*  
John F. Palma (USA)

Q&As



EDUCATIONAL WORKSHOP

## Health economic benefits of using the enhanced liver fibrosis test (ELF) test™\* in non-alcoholic fatty liver disease (NAFLD) in primary care

CHAIR: : Louise Loughran (USA)

14.30 - 15.30

Ankur Srivastava (UK), Elizabeth Powell (AU)

ROOM: SKALKOTAS HALL

\*Not available for sale in the U.S. Product availability may vary from country to country and is subject to varying regulatory requirements

Cost-comparison analyses assessing the impact of the ELF Test in the risk stratification of patients with non-alcoholic fatty liver disease in primary care

Ankur Srivastava (UK)

Serum biomarkers for risk stratification in nonalcoholic fatty liver disease

Elizabeth Powell (AU)

Q&amp;A



EDUCATIONAL WORKSHOP

## Uncertainty of measurement

CHAIR: Massimiliano Marco Corsi Romanelli (IT)

15.45-16.45

Margaret Fick (IE)

ROOM: TRIANTI HALL

Meeting ISO 15189 requirements for uncertainty of measurement

Margaret Fick (IE)



EDUCATIONAL WORKSHOP

## Shaping Urinalysis again - introducing Sysmex's new UN series

CHAIR: Anja Wevelsiep (DE)

15.45-16.45

Frauke Dupont (DE), Joris Delanghe (BE)

ROOM: HALL A

Welcome

The modular way of urinalysis - complete workflow with maximum flexibility

Frauke Dupont (DE)

Integrated urinalysis based on strip analysis and flow cytometry

Joris Delanghe (BE)

Closing words



EDUCATIONAL WORKSHOP

## New approaches in diagnosis and management of sexually transmitted diseases and emerging infections

CHAIR: Marco Cusini (IT)

15.45-16.45

Jens Verheyen (DE), Michel Janier (FR), José Eduardo Levi (BR)

ROOM: MITROPOULOS HALL

Opening

*Advanced HIV 4<sup>th</sup> generation screening tests and new opportunities for HIV diagnostics*

Jens Verheyen (DE)

*Challenges in clinical practice and laboratory diagnosis of syphilis today*

Michel Janier (FR)

*Zika virus: An emerging infectious disease*

José Eduardo Levi (BR)

Q&amp;As

Ortho Clinical Diagnostics

EDUCATIONAL WORKSHOP

## Change and change management: Their impact in our laboratories and in our lives

15.45-16.45

G. Bradt (USA)

ROOM: SKALKOTAS HALL

*Managing change in the laboratory to deliver more value*

G. Bradt (USA)

Q&amp;A



EDUCATIONAL WORKSHOP

## Make excellence routine: Reviewing a hs-troponin I assay, wPTH third-generation standardized assay and the first fully automated Alzheimer's laboratory tests

CHAIR: Mario Plebani (IT)

17.00 - 18.00

M. Plebani (IT), E. Cavalier (BE), K. Blennow (SE)

ROOM: TRIANTI HALL

Introduction

M. Plebani (IT)

*Analytical and clinical validation of a novel hs-Troponin I assay*

M. Plebani (IT)

*Lumipulse wPTH: a new third generation assay in the area of PTH standardization. Why should we use it?*

E. Cavalier (BE)

*The Alzheimer CSF biomarkers  $\beta$ -amyloid and tau: From first-generation ELISAs to fully automated laboratory tests*

K. Blennow (SE)



EDUCATIONAL WORKSHOP

*Innovation in special protein analysis; optimising laboratory workflow with the latest optilite system*

CHAIR: Amandeep Chohan (UK)

17.00 - 18.00

Steve Stone (USA), Stephen Walker (UK)

ROOM: MITROPULOS HALL

*Comparing laboratory workflow on special protein analysers*  
Steve Stone (USA)

*The impact of optilite on the diagnostic pathology service in a university hospital*  
Stephen Walker (UK)



EDUCATIONAL WORKSHOP

*Automated cellular analysis In body fluid*

CHAIR: Brattoli Antonio (IT)

17.00-18.00

Sabrina Buoro (IT)

ROOM: SKALKOTAS HALL

*Evaluation of Mindray BC-6800 body fluid mode for automated cerebrospinal fluid and serous body fluids cell counting*  
Sabrina Buoro (IT)

# WEDNESDAY JUNE 14

09.00 - 10.00

## PLENARY SESSION

*The influence of stress in human disease risk*

George Chrousos

10.00 - 17.30

## EXHIBITION

10.30 - 12.30



## EFLM SYMPOSIUM

*Performance specifications in laboratory medicine - Part 1*

Mauro Panteghini, Sverre Sandberg, Ferruccio Ceriotti

10.30 - 12.30

## SYMPOSIA

*The role of laboratory in the management of ICU / critically ill patients*

Viviane Van Hoof, Vasilios Papaioannou, Scott Budinger

*Future outlook on PoCT and clinical effectiveness*

Rosy Tirimacco, James Nichols, David McClintock, Michel Vaubourdolle

*Personalized medicine*

Maurizio Ferrari, Paola Fortina, Ron Van Schaik

*The interface of laboratory medicine and clinical diagnosis*

Aasne K. Aarsand, Éva Ajzner, Finlay MacKenzie



*Traceability in laboratory medicine: What is it and why is it important?*

Robert Wielgosz, Elvar Theodorsson, Graham Jones, Graham Beasall



*Antibodies and microarrays for the analysis of biomarkers*

Pablo Engel, Fatima Ferreira-Briza, Michael Kirschfink

12.30 - 14.30

## DEBATE

*Direct to consumer testing (DCT)*

Rodger Seccombe (CA) / Dan Holmes (CA)

12.30 - 14.30

## POSTER SESSION

14.30 - 16.30



## EFLM SYMPOSIUM

*Performance specifications in laboratory medicine - Part 2*

Wytze Oosterhuis, Graham Jones, Mario Plebani

14.30 - 16.30

## SYMPOSIA

*Infection, antimicrobial resistance and migration*

Jose Suvada, Alkiviadis Vatopoulos, Mariam Klouche

16.45 - 18.30

*Reference intervals in clinical chemistry*

Jill Tate, Khosrow Adeli

14.30 - 15.45

## MEET THE EXPERTS

*Established and emerging biomarkers in heart failure diagnosis and management*

Gerasimos Filippatos

16.45 - 18.00

*Existing and emerging technologies in PoCT:*

*The laboratory tests from the central laboratory to clinic to family practitioner to patient*

Rosy Tirimacco

17.00 - 18.00



## WORKSHOP

*Laboratory service in a reforming stage*

Michael Godkov, Alexander Tsibin

## EDUCATIONAL WORKSHOPS

14.30 - 15.30

### BIO-RAD

*Analytical performance for precision in medical laboratories: State of the art in 2015*

Anne Vassault, Delphine Collin-Chavagnac, Florian Scherrer

14.30 - 15.30

### RANDOX LABORATORIES

*A rapid, automated multi-analyte biochip array for early stroke diagnosis*

Jim Curry, Konstantinos Makris

14.30 - 15.30

### SIEMENS

*Novel biomarkers in the assessment of glomerular damage*

Mustafa Serteser, Albert Christian C.F

14.30 - 15.30

### MENARINI

*Total automation of indirect immunofluorescence testing (IFA) in autoimmune diseases*

D. Picchioni, M. Berth

15.45 - 16.45

### MINDRAY

*Circulating tumor DNA: A promising biomarker in the liquid biopsy of cancer*

M. Ferrari

15.45 - 16.45

### BECTON DICKINSON

*Implementation of an innovative plasma separation technology enabling improved laboratory efficiency and diagnostics*

Stephen Church, Chris Ramakers

15.45 - 16.45

### SIEMENS

*Clinical usefulness of measuring Active-B12 (Holo-transcobalamin)*

Anne Marie Molloy

15.45 - 16.45

### THERMOFISHER

*Practical perspectives on the future of clinical mass spectrometry*

Michael Vogeser, Christa Cobbaert, Doris-Ann Williams

17.00 - 18.00

### DIASORIN

*The 3 main renal biomarkers (FGF 23, 1,25 vit D, 1-84 PTH) in full automation to support the clinical outcome*

Emilio González Parra, Rodrig Marculescu, Etienne Cavalier

17.00 - 18.00

### THERMOFISHER

*State of the art procalcitonin testing in the laboratory:*

*Matching the needs of the clinical departments by choosing the right assay*

Pierre Hausfater, Ferruccio Ceriotti



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## *The influence of stress in human disease risk*

George P. Chrousos (GR)

09.00 - 10.00

ROOM: LAMBRAKIS HALL

CHAIR: Rosa Sierra-Amor (MX)

### SUMMARY

All organisms must maintain a complex dynamic equilibrium, or homeostasis, which is constantly challenged by internal or external adverse forces termed stressors. Stress occurs when homeostasis is threatened or perceived to be so; homeostasis is re-established by various physiological and behavioral adaptive responses. Neuroendocrine hormones have major roles in the regulation of both basal homeostasis and responses to threats, and are involved in the pathogenesis of diseases characterized by dyshomeostasis or cacostasis. The stress response is mediated by the stress system, partly located in the central nervous system and partly in peripheral organs. The central, greatly interconnected effectors of this system include the hypothalamic hormones arginine vasopressin, corticotropin-releasing hormone and pro-opi-

omelanocortin-derived peptides, and the locus ceruleus and autonomic norepinephrine centers in the brainstem. Targets of these effectors include the executive and/or cognitive, reward and fear systems, the wake-sleep centers of the brain, the growth, reproductive and thyroid hormone axes, and the gastrointestinal, cardiorespiratory, metabolic, and immune systems. Optimal basal activity and responsiveness of the stress system is essential for a sense of well-being, successful performance of tasks, and appropriate social interactions. By contrast, excessive or inadequate basal activity and responsiveness of this system might impair development, growth and body composition, and lead to a host of behavioral and somatic pathological conditions

### ABOUT THE SPEAKER

**George P. Chrousos** is Professor and Chairman of the First Department of Pediatrics at the University of Athens School of Medicine, Athens, Greece, and former Chief of the Pediatric and Reproductive Endocrinology Branch of the National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, Maryland. Dr. Chrousos pioneered studies that elucidated the effects of stress on the organism at the behavioral, neuroendocrine, cellular and molecular levels and made fundamental contributions to the understanding, diagnosis and treatment of pituitary, adrenal and stress-related pathologies, i.e., major depression, obesity/metabolic syndrome, and autoimmune/inflammatory, reproductive

and sleep disorders. He made seminal observations in the glucocorticoid signaling system and deciphered some of its key clinical implications. Dr. Chrousos is universally regarded as one of the most prominent paediatricians and endocrinologists. According to ISI, his work has been cited over 77,000 times (H-index >140), making him one of the most cited physician-scientists in both Clinical Medicine and Biology and Biochemistry and the top cited clinical pediatrician and endocrinologist in the world. He has received numerous major awards, including the Fred Conrad Koch Award, the highest award of the US Endocrine Society. He is a member of the Academia Europaea and the US National Academy of Medicine.

## Performance specifications in laboratory medicine - Part 1



CHAIR: Mauro Panteghini (IT) CO-CHAIR: Dalius Vitkus (LV)

10.30 - 12.30

ROOM: LAMBRAKIS HALL

COOPERATION WITH: EFLM

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Mauro Panteghini (IT)**

*Defining performance specifications in laboratory testing*

(25 min + 5 min discussion)

**Sverre Sandberg (NO)**

*The new EFLM biological variation database based on a critical appraisal check-list*

(25 min + 5 min discussion)

**Ferruccio Ceriotti (IT)**

*Criteria for allocation of laboratory tests to the three Milan models for performance specifications*

(25 min + 5 min discussion)

### ORAL PRESENTATION

*Sample size guidance and justification for studies of biological variation*

A. Sitch, S. Mallett, J. Deeks

*Biological variation estimates obtained from 91 healthy subjects for six electrolytes in serum. Ebiovar study of the EFLM working-group on biological variation*

A. Carobene, I. Marino, E. Guerra, N. Jonker, G. Barla, W.A. Bartlett, S. Sandberg, M. Sverresdotter Sylte, A.K. Aarsand, T. Røraas, U. Ørvim Sølvik, P. Fernandez-Calle, J. Díaz-Garzón, T. Tosato, M. Plebani, A. Coşkun, M. Serteser, I. Unsal, F. Ceriotti

### SESSION OVERVIEW

The session will provide an overview of different models to set performance specifications in laboratory medicine; 1) based on clinical outcome, on 2) biological variation, and 3) state of the art. In addition, it will address the total error concept, and performance specifications in external quality assessment schemes and in the extra-analytical phases.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Understand the different principles for setting performance specifications.
2. Achieve practical skills in selecting performance specifications for different measurands (analytes).

3. Understand the total error and uncertainty concepts and their role in judging analytical performance.
4. Understand how to set performance specifications and quality indicators in the extra-analytical phases.

### ABOUT THE SPEAKERS



**Ferruccio Ceriotti** MD is deputy Director of the Service of Laboratory Medicine of San Raffaele Hospital in Milan. He is Director of the Laboratory for Standardization in Clinical Chemistry of the same Institution and responsible for quality management and quality assurance of the laboratory. He has been chairman of the IFCC Committee on Reference Intervals and Decision Limits (C-RIDL) and of the IFCC Committee on Reference System for Enzymes (C-RSE). He is chair of the EFLM Working Group on Harmonisation of the total testing process and of the EFLM Task and Finish Group on Allocation of laboratory tests to different models for performance specifications. Dr. Ceriotti is the Past President of the Italian Society of Clinical Biochemistry and Clinical Molecular Biology. Dr. Ceriotti has published more than 160 manuscripts and 150 abstracts.



**Mauro Panteghini** is full Professor of Clinical Biochemistry and Clinical Molecular Biology at University of Milano Medical School. His institutional positions are Director of the Chair of Clinical Biochemistry and Clinical Molecular Biology at the Medical School of the University of Milano, Italy. Director of the Department of Laboratory Medicine and Director of Clinical Pathology Unit of

the "Luigi Sacco" University Hospital in Milan, Italy. Director of the Research Centre for Metrological Traceability in Laboratory Medicine (CIRME) of the University of Milano. Prof. Panteghini has served in a number of international and national scientific activities in the field of Laboratory Medicine. He is currently Past-President of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM). He has published more than 480 manuscripts (h-index: 46) and more than 440 abstracts. He presented over 130 invited lectures during international and national congresses.



**Sverre Sandberg** is director of the Norwegian quality improvement of primary care laboratories, NOKLUS ([www.noklus.no](http://www.noklus.no)) and the Scandinavian evaluation of laboratory equipment for primary health care, SKUP ([www.skup.nu](http://www.skup.nu)), director of the Norwegian Porphyria Centre, NAPOS ([www.napos.no](http://www.napos.no)), and is a professor at the University of Bergen. He has served in different positions in international organization as IFCC and EFLM and is currently the president of EFLM. He has published papers and given international lectures in his fields of interest: porphyria, photobiology, evidence based laboratory medicine, point of care instruments, biological variation, quality assurance of the total testing process, diabetes and has also been active in some other non-laboratory areas.

## The role of laboratory in the management of ICU / critically ill patients



CHAIR: George Baltopoulos (GR) CO-CHAIR: João Tiago Guimarães (PT)

10.30 – 12.30

ROOM: TRIANTI HALL

COOPERATION WITH: Critical Illness Study Institute

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Viviane Van Hoof (BE)**

*The case for PoCT testing in critical illness: does it improve workflow efficiency in ED and ICU*  
(25 min + 5 min discussion)

**Vasilios Papaioannou (GR)**

*ABGs (arterial blood gases) in a critical care setting*  
(25 min + 5 min discussion)

**Scott Budinger (USA)**

*Sepsis diagnosis*  
(25 min + 5 min discussion)

### ORAL PRESENTATION

*Contribution of interleukin-6 (IL6) in the diagnosis of sepsis in the emergency department*

I. Cebreiros-Lopez, J. Noguera-Velasco, A. Martinez-Lopez De Castro, V. Castillo-Guardiola

*Comparison of lactate, presepsin and procalcitonin with the new qsofa (quick sofa) score for severity assessment and mortality prediction in patients with initial sepsis*

E. Spanuth, H. Ebelt, B. Ivandic, R. Thomae, K. Werdan

### SESSION OVERVIEW

In Critical illness the rapid changes of hemodynamic status, electrolyte levels, biochemistry, hematology, blood gases, and other laboratory parameters, need also a rapid identification and correction. Blood testing represents an important aspect of patient management and is essential for the timely application of corrective treatment to the ICU critically ill one. The advent of point-of-care testing (PoCT) not only reduces turnaround time and simplifies repeated measurements but may also lead to improved patient outcomes.

### LEARNING OBJECTIVES

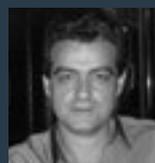
After this session, participants will be able to:

1. Know which laboratory tests to ask for sepsis diagnosis.
2. Understand how to check the response to mechanical ventilation
3. Calculate/Predict the time and money needed for having a bedside PoCT set up.

### ABOUT THE SPEAKERS



**Viviane Van Hoof** is clinical pathologist and adjunct-head of the department of Clinical Biology of the Antwerp University Hospital. She is a Professor of Clinical Biochemistry at the University of Antwerp. Her main interests are cardiac markers, markers of bone metabolism, bilirubin metabolism in neonates, and Point-of Care testing. She performs reviews for several national and international scientific journals, published more than 60 articles in peer-reviewed journals and is chair of the Working Group on Point-of-Care testing of the Belgian National Commission on Clinical biology, as also she is member of several other Committees and Working groups of the Belgian Government of Health and member of several national and international professional organizations.



**Vasilios Papaioannou** is Assistant Professor, Intensive Care Medicine, Democritus University of Thrace, Greece. His scientific interests include analysis of complex biological signals derived from critically ill patients in the Intensive Care Unit. He is an Anesthesiologist and Intensive Care Physician and his postgraduate studies from Aristotle University of Thessaloniki, Greece in biomedical engineering have led him to analyze complexity loss of different

biosignals from patients during severe illness. He has published more than 50 peer review articles about hemodynamics, respiratory failure and neuro-immunological cross-talk alterations during severe sepsis and septic shock and edited the first book in international literature regarding both basic and clinical studies associated with septic cardiomyopathy. His post-doc research in cardiac cellular electrophysiology in Amsterdam and his clinical work in Paris have also allowed him to study the cardiac dysfunction during sepsis in cardiac cells and pain prediction models using heart rate mathematical analysis in burn ICU patients, respectively.



**Scott Budinger** is professor of Airway Diseases and Professor in Medicine-Pulmonary and Cell and Molecular Biology. His research interests include is interested in determining the mechanisms by which environmental stress contributes to the development of acute lung injury and fibrosis. His work is important for our understanding of many diseases important in pulmonary and critical care medicine, including pneumonia, pulmonary fibrosis, and the increased risk of ischemic cardiovascular events in patients with inflammatory lung disorders. He has more than 110 publications in peer reviewed journals.

## Future outlook on PoCT and clinical effectiveness



CHAIR: Bernard Gouget (FR) CO-CHAIR: Stella Raymondo (UY)

10.30 – 12.30

ROOM: HALL A

COOPERATION WITH: IFCC TF on PoCT, AACC, EFLM-WG on accreditation

4 LECTURES

### LECTURES

**Rosy Tirimacco (AU)**  
*PoCT Integrated into clinical care to ensure better outcomes*  
(25 min + 5 min discussion)

**James Nichols (USA)**  
*Emerging technologies and regulatory changes for PoCT*  
(25 min + 5 min discussion)

**David McClintock (USA)**  
*PoCT, connectivity and Informatics*  
(25 min + 5 min discussion)

**Michel Vaubourdolle (FR)**  
*Implementation of PoCT quality standards to optimize the clinical reliability*  
(25 min + 5 min discussion)

### SESSION OVERVIEW

Over the last few decades, the availability of new Point-of-care testing devices and the range of clinical applications of nano-biosensors have steadily increased. PoCT has become a critical component of the diagnostic industry and is revolutionizing the continuum of patient care. It can be applied in many environments; in primary care settings, hospital clinic, hospital ward, emergency room, intensive care unit and even a patient's home. Implementation of PoCT into clinical practice means : assessing analytical reliability, evaluating clinical significance and establishing a comprehensive quality management system. In addition, Introduction of IT connectivity solution would enhance the value, efficiency and functionality of PoCT testing across a trust and deliver real confidence in POC testing results, permitting early clinical decisions to be made to improve patient outcomes.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Discuss challenges associates with rapidly increasing number of PoCT applications.
2. To promote quality in the use, performance, interpretation and reporting of PoCT across the full spectrum of Clinical chemistry and Lab Medicine.
3. Formulate strategies for efficiently managing a growing PoCT quality program.
4. Identify areas where PoCT connectivity will be useful for improving efficiency and patient safety.
5. Evaluate the Clinical outcomes of point-of-care testing.

### ABOUT THE SPEAKERS



**David McClintock** is the Medical Director of Pathology Informatics at The University of Chicago school of Medicine. He also serves clinically as the Medical Director of Point of Care Testing and as the Associate Medical Director of UChicago MedLabs. He is Assistant Professor within the Biological Sciences Division of The University of Chicago and serves as a Faculty Director of the Masters of Science in BioMedical Informatics Program at the University of Chicago Graham School of Continuing Liberal and Professional Studies. He has published multiple papers on educational approaches to formal Informatics curricula and served as a faculty director for informatics-based educational retreats, co-developed an intro course on Clinical and Research Informatics within UChicago Medicine, and serves as the primary mentor for Pathology residents choosing a career in Clinical Informatics.

informatics Program at the University of Chicago Graham School of Continuing Liberal and Professional Studies. He has published multiple papers on educational approaches to formal Informatics curricula and served as a faculty director for informatics-based educational retreats, co-developed an intro course on Clinical and Research Informatics within UChicago Medicine, and serves as the primary mentor for Pathology residents choosing a career in Clinical Informatics.



**James Nichols** is Professor of Pathology, Microbiology & Immunology and Medical Director of Clinical Chemistry and PoCT Testing at Vanderbilt University School of Medicine. He is currently chair of the Policy and External Affairs Core Committee of the AACC, chair of the Evaluations Protocols Expert Panel and member of the Board of Directors for the Clinical and Laboratory Standards Institute, editor of PoCT: The

Journal of Near-Patient Testing and Technology, and associate editor of the Journal of Applied Laboratory Medicine. Jim's research interests span evidence based medicine, informatics, point-of-care testing, TDM and clinical toxicology.



**Rosy Tirimacco** is the Operations and Research Manager of the Integrated Cardiovascular Clinical Network Country Health South Australia. iCCnet CHSA supports rural and remote physicians and nurses to deliver evidenced-based cardiac care to country patients regardless of location or facilities available. Major research interests include integration of PoCT into clinical care pathways, supporting patients with chronic disease outside of hospital and the development of electronic real time clinical databases. She is currently the chair of the IFCC PoCT Task Force, chair of the Australasian Association of Clinical Biochemists PoCT Working Committee and project manager of the Australian PoCT Practitioners Network.



**Michel Vaubourdolle** is Head of Department Biology-Pathology University Hospitals East Paris and Head of Service Clinical Biochemistry, Hospital Saint-Antoine, Paris. He is currently the Chair of the EFLM WG "ISO/Accreditation" and he is chairing the SFBC-WG on Accreditation. He is active with the Francophony as a executive board member of the International Francophone Federation of Clinical Biology and Laboratory Medicine. He is also the President of the Triennial International Symposium on «Critical Care testing and blood gases».

## Personalized medicine

CHAIR: *Maurizio Ferrari (IT)* CO-CHAIR: *Nikolaos Drakoulis (GR)*



10.30 – 12.30

ROOM: MITROPOULOS HALL

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Maurizio Ferrari (IT)**

*P4 medicine: Predictive, Preventive, Personalized and Participatory. A new trend in laboratory medicine*

(25 min + 5 min discussion)

**Paolo Fortina (USA)**

*Personalized genomic medicine approaches in the study of cancer*

(25 min + 5 min discussion)

**Ron Van Schaik (NL)**

*Pharmacogenetics and personalized therapy*

(25 min + 5 min discussion)

### ORAL PRESENTATION

*ESR1 methylation in circulating tumor cells of patients with breast cancer*

S. Mastoraki, A. Strati, M. Chimonidou, N. Malamos, V. Georgoulis, E. Lianidou

*The clinical utility of MIR-125b and MIR-221/222 for bladder cancer prognosis and patients survival outcome following treatment*

F. Tsikrika, M. Avgeris, P. Levis, K. Stravodimos, A. Scorilas

### SESSION OVERVIEW

Molecular biology is not a new field in laboratory medicine, but several new areas of applications will be developed. The future of health care is on P4 medicine (Predictive, Preventive, Personalized and Participatory) and the applications of the different OMICS will enter in Laboratory Medicine area. In this view cancer and pharmacogenetics will play a major role. In particular with the recent introduction of the next generation sequencing technologies the approach to cancer diagnosis is revolutionized and pharmacogenetics is now mandatory for a personalized therapy.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Understand the importance of the central role of laboratory medicine in the development of this particular field.
2. Learn what means P4.
3. Focus on the challenges of molecular cancer diagnostic.

4. Explain how genome sequencing can help for targeted therapy.
5. Learn the current examples of successful implementation of pharmacogenetics, as well as some (surprising) encountered challenges.
6. Explain how sequencing technologies are being used in the fields of cancer genomics, pharmacogenetics and personalized medicine to improve patient care and outcomes.

### ABOUT THE SPEAKERS

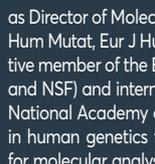


**Maurizio Ferrari** is Professor of Clinical Pathology, Vita-Salute San Raffaele University, Director of Clinical Molecular Biology and Cytogenetics Laboratory, and Head of Genomic Unit for the Diagnosis of Human Pathologies, IRCCS San Raffaele Hospital, Milan, Italy. He received his MD at the Milan University, and he is specialized in Pediatrics, Haematology and Medical Genetics. He was Scientific Coordinator of Clinical Research, IRCCS H San Raffaele, Milan, Chairman of Committee on Clinical Molecular Biology Curriculum of IFCC, member and Chairman of the Education and Management Division of IFCC, member of IFCC Task Force on Pharmacogenetics, advisor of CLSI Committee on Molecular Methods. He is IFCC President from 2015, Dean of Masters Degree in Molecular and Cellular Medical Biotechnology and President of the European Society of Predictive Medicine. His scientific interests are oriented mainly on molecular diagnostic methods, nucleic acid circulating in maternal plasma and on molecular studies of several genetic pathologies. He is author of more than 297 publications in peer reviewed journals, of 1 book and 45 chapters in books.

as Director of Molecular Diagnostics until 2002. He is a board member of the Am J Hematol, Hum Mutat, Eur J Hum Genet, J Cancer Ther Res, Associate Editor for Clin Chem and executive member of the EMD of IFCC. He participates in grant review panels both nationally (NIH and NSF) and internationally in the area of genomics and in 2014 was elected Fellow of the National Academy of Clinical Biochemistry (FACB). Dr. Fortina has conducted basic studies in human genetics for over 30 years on development and validation of new technologies for molecular analyses and has focused on translating basic research findings into medical innovations for improved diagnostics and patient care. Current research interests include development and validation of DNA probe assays, analytical microchips for disease gene pathways discovery, circulating tumor cells, next-generation sequencing for extended exome including non-coding conserved regions, genetic testing and direct to consumer testing.



**Paolo Fortina** is Professor of Cancer Biology and Medical Oncology at the Sidney Kimmel Medical College and Director of the NCI-funded Cancer Genomics and Bioinformatics Laboratory at the Sidney Kimmel Cancer Center, Thomas Jefferson University. Dr. Fortina received his MD and PhD in Pediatrics (Hem/Onc) from the University of Turin, Italy and in 1991 he joined the faculty of the Department of Pediatrics at the University of Pennsylvania where he served



**Ron Van Schaik** is a European Specialist Laboratory Medicine and Professor Pharmacogenetics at Dept. Clinical Chemistry, Erasmus University Medical Center, Rotterdam, The Netherlands. He is Director of the International (IFCC) Expert-Center Pharmacogenetics. Main responsibility is Pharmacogenetic implementation for diagnostics. Specific areas of interests are Psychiatry, Oncology, Transplantation and Pain. He has published over 200 articles (H-factor 49) and participates in National & International (IFCC, AACC, CPIC, EMA, IUPHAR, ESPT, GMA, IATDMCT) advisory committees on this topic. He is chair of the IFCC Task Force Pharmacogenetics and is chair of the European Pharmacogenetics Implementation Consortium.



as Director of Molecular Diagnostics until 2002. He is a board member of the Am J Hematol, Hum Mutat, Eur J Hum Genet, J Cancer Ther Res, Associate Editor for Clin Chem and executive member of the EMD of IFCC. He participates in grant review panels both nationally (NIH and NSF) and internationally in the area of genomics and in 2014 was elected Fellow of the National Academy of Clinical Biochemistry (FACB). Dr. Fortina has conducted basic studies in human genetics for over 30 years on development and validation of new technologies for molecular analyses and has focused on translating basic research findings into medical innovations for improved diagnostics and patient care. Current research interests include development and validation of DNA probe assays, analytical microchips for disease gene pathways discovery, circulating tumor cells, next-generation sequencing for extended exome including non-coding conserved regions, genetic testing and direct to consumer testing.

## The interface of laboratory medicine and clinical diagnosis



CHAIR: Éva Ajzner (HU) CO-CHAIR: Aasne K. Aarsand (NO)

10.30 – 12.30

ROOM: SKALKOTAS HALL

COOPERATION WITH: WG-POST of EFLM and UK NEQAS Interpretative Comments in Clinical Chemistry

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Aasne K. Aarsand (NO)**

*Harmonising steps of the total testing process at the clinical interface where laboratory professionals should take the lead*  
(25 min + 5 min discussion)

**Éva Ajzner (HU)**

*How do laboratories in Europe deal with the postanalytical phase? Are we ready to translate laboratory tests to clinical meaning?*  
(25 min + 5 min discussion)

**Finlay MacKenzie (UK)**

*How good are laboratory specialists to advise clinicians?: Results from NEQAS surveys*  
(25 min + 5 min discussion)

### ORAL PRESENTATION

*Benefits of autoverification implementation at the largest university hospital in Thailand*

S. Nuanin, P. Tientadukul, K. Reesukumal, S. Piyophipong, B. Pratumvinit

*Impact of measurement error of plasma glucose on clinical classification: A simulation analysis*

S. Pasqualetti, F. Braga, M. Panteghini

### SESSION OVERVIEW

Successful implementation of post-analytical (PA) activities that can assist in translating laboratory test results into clinical meaning, improve laboratory test interpretation and thus lead to better clinical utilization of laboratory test results represent a new challenge for laboratory profession. This session will provide a summary of recent efforts for harmonization of all steps of total testing process (TTP), where laboratory professionals should take the lead at the clinical interface (e.g. interpretative commenting) and the levels of achievable harmonization will get special emphasis. Finally, a long-term existing methodological approach in the external quality assurance of interpretative commenting will be presented. Performance of laboratories in the interpretation of non-esoteric laboratory tests in clinical chemistry through examples will also be discussed.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. To understand an approach for harmonization of all steps of total testing process with the achievable levels of harmonization and responsible contributors at various steps of the testing process.
2. To understand common features and limitations of typical post-analytical practices including interpretative commenting of laboratory results in European laboratories.
3. To review and redesign the actual practice of their own laboratories in the post-analytical phase at the interface of laboratory and clinicians and take the lead where it is needed.
4. To recognize the need for training courses and external quality assurance programs where laboratory specialists can improve their methodological and theoretical knowledge in interpretation of non esoteric laboratory tests.
5. To recognize an existing methodological approach of external quality assurance in interpretative commenting.

### ABOUT THE SPEAKERS



**Éva Ajzner** is Private Professor, accredited PhD tutor of the University of Debrecen Medical Health Science Center. She is head of the Department of Laboratory Medicine and Clinical Microbiology, Józsa András University Hospital. She received her PhD in the field of experimental hemostasis from the University of Debrecen and currently serves as president of the Hungarian Society of Laboratory Medicine, member of the Laboratory Medicine Council of the National Advisory board of Healthcare in Hungary. She is chair of the Post-analytical Working Group and chair of the Task and Finish Group on Critical Results Management in the EFLM. Her main scientific interests are functional and molecular investigations of blood coagulation factors, inactivators and thrombophilia in experimental research and post-analytical, interpretative responsibilities of laboratories and near patient testing.



**Aasne K. Aarsand** is consultant in medical biochemistry at the Norwegian Porphyria Centre and the Laboratory of Clinical Biochemistry, Haukeland University Hospital and at the Norwegian Quality Improvement of Primary Care Laboratories, Haralds plass Deaconess Hospital, Bergen, Norway. She received her Ph.D. in porphyria diagnostics from the University of Bergen. Her research interests include the evidence-based use of diagnostic markers, in particular in the porphyrias, bio-

logical variation and harmonisation of the total testing process. She is Chair of the Biological Variation Working Group and a member of the Task and Finish Group for the Biological Variation Database in the EFLM. She is also manager of the European Porphyria Registry, part of the Steering Committee of the European Porphyria Network and member of the Management Committee of COST Action BM 0902 Network of Experts in the Diagnosis of Myeloproliferative Disorders.



**Finlay MacKenzie** is the Director and Lead Scientist of Birmingham Quality (previously the Wolfson EQA Laboratory), which is the largest UK NEQAS Centre for Clinical Chemistry. He is an NHS Consultant Clinical Scientist and is Organiser of many EQA Schemes in Clinical Chemistry, but is perhaps most well-known for the UK NEQAS for Thyroid Hormones. He sits on the UK NEQAS Executive Board, is the Secretary of EQALM (the European EQA providers association) and has contributed to several EFLM TFGs on Performance Specifications in Laboratory Medicine (TF-PS). He is a member of the IFCC Committee on Standardisation of Thyroid Function Tests and the IFCC Working Group on Commutability. With thirty years' experience in EQA provision he is well placed to give a Birmingham Quality perspective on approaches to scheme design and data presentation using examples from UK NEQAS Schemes. It is unlikely that he will not mention 'The ABC of EQA', eGFR SAUSAGES and the Rainbow Trout Plot.



## Traceability in laboratory medicine: What is it and why is it important?



CHAIR: Gary Myers (USA) CO-CHAIR: Ghassan Shannan (SY)

10.30 – 12.30

ROOM: MC 3 HALL

COOPERATION WITH: IFCC, BIPM and ILAC

4 LECTURES

### LECTURES

#### Gary Myers (USA)

*Traceability in laboratory medicine: What every laboratory specialist should know*

(25 min + 5 min discussion)

#### Elvar Theodorsson (SE)

*Traceability and harmonisation - powerful tools for trueness of laboratory results*

(25 min + 5 min discussion)

#### Graham Jones (AU)

*Why traceability in laboratory medicine is important for patients*

(25 min + 5 min discussion)

#### Graham Beastall (UK)

*Traceability, education and promotion: Getting the message out*

(25 min + 5 min discussion)

### SESSION OVERVIEW

Harmonisation in laboratory medicine involves the reduction in variability of laboratory practices and methods as contributors to improved patient safety. Method standardisation can be achieved by application of the metrological principles of traceability to the field of laboratory medicine. The Joint Committee for Traceability in Laboratory Medicine (JCTLM) was formed to support achievement of these goals at a global level, joining the traditions and activities of the fields of metrology, laboratory medicine and accreditation. This session will provide an understanding of traceability in laboratory medicine and explain why it is important to laboratory specialists and other key stakeholders, with specific reference to patient safety, the use of evidence-based medicine and optimal patient care.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Describe traceability in laboratory medicine.
2. Explain the scientific principles that underpin traceability.
3. Appreciate why traceability is important to laboratory specialists, and users of the service, including patients.
4. Know where to find educational support material to promote the importance of traceability in laboratory medicine.

### ABOUT THE SPEAKERS



**Graham Beastall** is Past President of IFCC, having served as President from 2009-2014. Prior to 2009 he was Clinical Lead for a multi-site network Department of Clinical Biochemistry in Glasgow, Scotland. He has published extensively in the areas of biochemical endocrinology. Within IFCC he has led projects to demonstrate the value of laboratory

medicine in healthcare and to promote the need for increasing clinical effectiveness. Graham was formerly President of the Association for Clinical Biochemistry (ACB) and Vice President of the Royal College of Pathologists (RCPATH) in the UK. He represents IFCC on the JCTLM Executive Committee and is chair of the Working Group on Traceability, Education and Promotion (WG-TEP).



**Graham Jones** has been the chemical pathologist at St Vincent's Hospital Sydney since 1997. He has wide interests beyond the routine laboratory, representing pathology on national position statements on chronic kidney disease, HbA1c and drug units. He has been a member of the JCTLM executive for 9 years, chair of the RCPAQAP chemical pathology

program for 12 years and chair of the IFCC task force on Chronic Kidney Disease from 2007 to 2015.



**Gary Myers** is Chair of the Joint Committee for Traceability in Laboratory Medicine. He also currently serves as Chair of the Council for the International Consortium for Harmonization of Clinical Laboratory Results (ICHCLR). Dr. Myers previously served as Secretary for the Scientific Division of the

International Federation of Clinical Chemistry and Laboratory Medicine. He is retired from the United States Centers for Disease Control and Prevention (CDC) where he served as Chief of the Clinical Chemistry Branch. During his 33+ year career at CDC he directed programs to improve and standardize the laboratory measurement of biomarkers used to assess chronic disease status, particularly for cardiovascular disease and diabetes. He served as President of the American Association for Clinical Chemistry (AACC) in 2007. In 2015 Dr. Myers was the recipient of AACC's Outstanding Lifetime Achievement Award in Clinical Chemistry and Laboratory Medicine.



**Elvar Theodorsson** did his medical training in Iceland and Norway, graduate education at the Karolinska Institute and specialist training in Clinical Chemistry at Karolinska Hospital in Stockholm, Sweden. Appointed professor of Neurochemistry at Linköping University in 1995, he currently has a h-index of 63 (ISI). Consultant work in general clinical

chemistry, endocrinology, haematology and quality management and head of Laboratory medicine at Region Östergötland 1996-2001. He has served as president of the section and of the board of U.E.M.S. Medical Biopathology and as chair of the Scientific committee of the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM). He is a member of the JCTLM Working Group on Traceability, Education and Promotion (WG-TEP).



## Antibodies and microarrays for the analysis of biomarkers



CHAIR: Michael Kirschfink (DE) CO-CHAIR: Fatima Ferreira-Briza (AT)

10.30 – 12.30

ROOM: CONFERENCE ROOM 1

COOPERATION WITH: IUIS International Union of Immunological Societies

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Pablo Engel (ES)**

*Monoclonal antibodies for studying leukocyte cell-surface molecules*  
(25 min + 5 min discussion)

**Fatima Ferreira-Briza (AT)**

*Allergy diagnosis by microarray chip*  
(25 min + 5 min discussion)

**Michael Kirschfink (DE)**

*Complement analysis: Clinical relevance, standardization and quality control*  
(25 min + 5 min discussion)

### ORAL PRESENTATION

*The importance of detecting anti-DFS70 in routine clinical practice*

C. Bonroy, M. Berth, S. Schouwers, L. Van Hoovels

*Comparison of two different methods (chemiluminescence and fluorescence enzyme immunoassay) for determination of faecal calprotectin in the assessment of inflammatory bowel disease*

T. Barreiro-Martínez, R. España-Barrada, A. Benítez-Estévez

### SESSION OVERVIEW

This symposium aims to review cutting edge progress in the use of antibodies and the microarray technology for the laboratory monitoring/diagnosis of biomarkers. World experts will share their knowledge and experiences on biomarker monitoring, including practical aspects (pitfalls, quality control, method and reagents validation, standardization), multiplex analyses, and biomarker databases.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Acknowledge how CD molecules are routinely used as cell markers for the identification and isolation of leukocyte populations and subsets.
2. Understand how the microarray technology can be used for clinical diagnosis of allergies.
3. Be aware of clinical indications and the importance of quality control in complement analysis.

### ABOUT THE SPEAKERS



**Pablo Engel** obtained his M.D. and Ph.D. from the University of Barcelona and trained as a postdoctoral fellow at the Dana Farber Cancer Institute at Harvard Medical School. He was an assistant professor at the Department of Immunology at Duke University Medical School. He is a Professor of immunology and Head of the Immunology Unit at the Department of Biomedical Sciences at the University of Barcelona. His major research focus has been the study of lymphocyte surface molecules. He is President of the International Council of Human Cell Differentiation Molecules (HCDM), and Chair of CD Nomenclature and Standardization on Leukocytes subcommittees of the International Union of Immunological Societies (IUIS), and Secretary General of the European Federation of Immunological Societies (EFIS).



**Fatima Ferreira** obtained her PhD in Biochemistry at the University of São Paulo, Brazil. After post-doc training at the University of Toronto, Canada, she was research assistant at the University of Vienna, Austria. Presently, she is Professor of Molecular Allergology at the Department of Molecular Biology

and Vice-Rector for Research of the University of Salzburg, Austria. Her group investigates structural and immunological properties of allergenic proteins and how these properties impact their immunogenicity and allergenicity. These basic aspects provide the foundations for research focusing on the development of molecule-based allergy diagnosis and therapy. She chairs the Quality Assessment and Standardization Committee of the IUIS.



**Michael Kirschfink** is Professor and Head of Laboratory of Immunochemistry at the Medical Faculty of the University of Heidelberg. He is honorary Professor at the Huazhong University of Science and Technology in Wuhan, China. He serves as chairman of the IUIS subcommittee of standardization of complement analysis. His research focuses on the analysis of molecular mechanisms of immune evasion and on the role of complement in inflammation. He has published more than 220 papers in the field of cancer immunotherapy, complement analysis, and complement-mediated tissue destruction.




**Direct to consumer testing (DCT)**  
 MODERATOR: Bernard Gouget (FR)

**Rodger Seccombe (CA)**      **Dan Holmes (CA)**

12.30 - 14.30

ROOM: LAMBRAKIS HALL

## SESSIONS OVERVIEW

Direct to consumer testing is becoming more popular and it will likely be more disseminated as new technological advancements are realized. In this debate, I will argue that the future of direct-to-consumer testing can contribute to overall better health of individuals. It seems that the new technological discoveries and wireless applications, with smart phones being in the center, will likely catalyze the further dissemination testing, thus migrating a large proportion of laboratory testing from their traditional places to pharmacies and other easily accessible outlets.

Direct to patient medical services are available in many countries. However, in North America, the menu of services that could be purchased without strict medical indication has been traditionally a short one. When it comes to laboratory testing this menu had, until recently, been very short: glucose monitoring, urinary test strips and pregnancy tests. However, a number of pressures have spawned a market for direct-to-patient laboratory testing - these have included a proliferation of "wellness" or "anti-aging" clinics, naturopathic medicine clinics, digital trends in self-measurement and self-monitoring, and the availability of the relatively inexpensive next generation sequencing platforms. Lab medicine is seen by some consumers as just another commodity to be purchased. My talk will focus on the gradually-appearing unanticipated, expensive and sometimes harmful consequences of this industry for consumers, regulators, physicians and insurers.

## ABOUT THE SPEAKERS & THE MODERATOR



**Bernard Gouget** is assistant Professor in Paris-Descartes V University and Counselor for Public Health at the Fédération Hospitalière-de France where he is responsible for monitoring national programs involving the growing challenges facing public hospitals and the health and safety of the patient. He is the Vice-President of the Committee of Human Health Section of COFRAC, in charge of the accreditation for medical laboratories. His professional and research interests include organ physiology in intensive care, the adaptation of healthcare services to required standards of patient care, nosocomial infections, chronic diseases, biomedicine and ethics, patient safety, pandemics, bioterrorism and illnesses related to unhealthy lifestyles. He has been SFBC representative at EFLM, member and chair of the IFCC Communications and Publications Division and IFCC EB member and Treasurer. Currently, he serves as the acting Deputy General Secretary at the International Francophone Federation of Clinical Biology and Laboratory Medicine.

**Rodger Seccombe** is the co-founder and CEO of HealthTab Inc, a Vancouver-based company with a mission to help people take charge of their health by making routine lab tests more accessible. The HealthTab system combines lab-accurate point-of-care testing with a patient-focused web application to view and track results. Rodger has a BCom from UBC's Sauder School of Business, earned his Chartered Professional Accountant designation in 2011, and has launched and developed companies in software, healthcare technology and clean energy. Prior to co-founding HealthTab, he joined the start-up team at Canadian Bio-energy Corporation and helped pioneer the development of the renewable fuel industry in Canada. A "hacker" at heart, Rodger created his first piece of software at the age of 13 and started a web development company right out of high school. At HealthTab, he now combines his business background with IT know-how to help shape the future of community-based testing.

**Daniel Holmes** did his undergraduate degree in Chemical Physics from the University of Toronto with a focus on Quantum Mechanics. He went to medical school at the University of British Columbia (UBC) where he also did his residency in Medical Biochemistry. He is a Clinical Associate Professor of Pathology and Laboratory Medicine at UBC and Division Head of Clinical Chemistry at St. Paul's Hospital in Vancouver. Interests include laboratory medicine statistics, clinical endocrinology with a focus on secondary hypertension, clinical lipidology and clinical mass spectrometry. He is a proponent of appropriate test utilization and actively contributes to guidance documents directed at appropriate physician ordering practices for the Province of British Columbia in Canada. He is also an enthusiastic promoter of the R statistical programming language in application to lab medicine quality and utilization by means of a blog co-authored with Stephen Master of Weill Cornell Medical School: [www.labrtorian.com](http://www.labrtorian.com).

## Performance specifications in laboratory medicine - Part 2



CHAIR: *Suerre Sandberg (NO)* CO-CHAIR: *Charis Charilaou (CY)*

14.30 - 16.30

ROOM: LAMBRAKIS HALL

COOPERATION WITH: *European Federation of Clinical Chemistry & Laboratory Medicine (EFLM)*

3 LECTURES

### LECTURES

**Wytze Oosterhuis (NL)**

*Are total error and uncertainty of measurement two sides of the same coin?*

(35 min + 5 min discussion)

**Graham Jones (AU)**

*Performance specifications in EQAS*

(35 min + 5 min discussion)

**Mario Plebani (IT)**

*Performance specifications in extra-analytical phases*

(35 min + 5 min discussion)

### ORAL PRESENTATION

*A proposal for estimating measurement uncertainty using quality control data and external quality assessment schemes*

A. Padoan, G. Antonelli, A. Aita, L. Sciacovelli, M. Plebani

*Models 1b and 2 according to EFLM consensus conference give the same specification for allowable total error (tea) of plasma glucose measurement*

S. Pasqualetti, F. Braga, M. Panteghini

### SESSION OVERVIEW

The session will provide an overview of different models to set performance specifications in laboratory medicine; 1) based on clinical outcome, on 2) biological variation, and 3) state of the art. In addition, it will address the total error concept, and performance specifications in external quality assessment schemes and in the extra-analytical phases.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Understand the different principles for setting performance specifications.
2. Achieve practical skills in selecting performance specifications for different measurands (analytes).
3. Understand the total error and uncertainty concepts and their role in judging analytical performance.
4. Understand how to set performance specifications and quality indicators in the extra-analytical phases.

### ABOUT THE SPEAKERS



**Graham Jones** has been senior staff specialist in Chemical Pathology at St Vincent's Hospital in Sydney since 1997 and also conjoint associate professor and the University of New South Wales. He holds fellowships from the Royal College of Pathologists of Australasia and the Australasian Association of Clinical Biochemists. He is active professionally both

nationally and internationally with special interests in kidney disease, diabetes, quality control, external quality assurance traceability of results and uniform reporting of pathology results.



**Wytze Oosterhuis** works as a laboratory physician in Zuyderland Medical Center in Heerlen, The Netherlands. He is member of the EFLM Working Group on Guidelines, a joint activity of EFLM and European Union of Medical Specialists (UEMS). He is member of the EFLM Working Group on Patient Focused Laboratory Medicine, and the chair of the Task and Finish Group on Total Error. Since 1997 he collaborates for the IFCC Committee on Evidence Based Laboratory Medicine (EBLM). He is lecturer in the IFCC-Abbott visiting lecturer program. He is the delegate for the Dutch laboratory physicians in the UEMS Section of Laboratory Medicine – Medical Bio-pathology and chair of the Clinical Chemistry division. At national level – within the Netherlands Society of Clinical Chemistry and Laboratory Medicine – he is an active member of several working groups (e.g. Clinical Decision Making), and committees (Quality, Guidelines).



**Mario Plebani** is Professor of Clinical Biochemistry and Clinical Molecular Biology at the School of Medicine, University of Padova. He is Chief of the Dpt. of Laboratory Medicine at the University-Hospital of Padova, Chief of the Center of Biomedical Research (a specialized Center for quality in laboratory medicine for the Veneto Region). He is member

of the Board of Management of the University of Padova as Director of the Post-graduate School in Clinical Biochemistry at the Medical School from 2006 to 2012, and President of the Course for Medical Technologists from 2008 to 2012. He served as President of the International Society of Enzymology for four years, as President of the Italian Society of Clinical Biochemistry and Molecular Clinical Biology for five years and President of the federation of Italian Societies of Laboratory Medicine (FISMeLAB) from 2009 to 2012. He is a member of the Study Group on Biomarkers in Cardiology of the European Society of Cardiology (ESC) Working Group on Acute Cardiac Care and, more recently of the TC - Study group on Biomarkers of the Acute Cardiovascular Care Association (ACCA). Prof. Plebani is Editor-in-Chief of Clinical Chemistry and Laboratory Medicine, and co-Editor in Chief of Diagnosis and Associate editor of the International Journal of Biological Markers. He has published 880 full papers, more than 900 abstracts and several books and book chapters, H1 64 and an Impact Factor of 877.495 in the last three year. His main areas of research are quality in laboratory medicine, diagnostic and laboratory errors, biomarkers in cancer and cardiovascular diseases, and in vitro allergy diagnostics.

## Infection, antimicrobial resistance and migration

CHAIR: *Mariam Klouche (DE)* CO-CHAIR: *Camelia Grigore (RO)*



14.30 - 16.30

ROOM: CONFERENCE ROOM 1

3 LECTURES (+ 1 oral presentations of related abstracts 30 min)

### LECTURES

**Jose Suvada (UG)**

*Trends in infections and antimicrobial resistance - Implications for screening in migrants?*

(25 min + 5 min discussion)

**Alkiviadis Vatopoulos (GR)**

*Antimicrobial resistance exchange between hospitals and the community - role of the diagnostic laboratory*

(25 min + 5 min discussion)

**Mariam Klouche (DE)**

*Challenges in the management of antimicrobial resistance in hospitals*

(25 min + 5 min discussion)

### ORAL PRESENTATION

*Application of smartphone photomicrography and modern information technologies in learning and practice of pathology using cost-free do-it yourself-device*

S. Patwardhan

### SESSION OVERVIEW

Antimicrobial resistance is increasing worldwide in diverse bacterial species resulting in augmented diagnostic and treatment efforts, costs and the occurrence of untreatable infections. Dissemination of infections as well as of bacteria with complex resistance patterns and multiresistance occurs with international travel, medical tourism, comestible goods and migrating populations. In this symposium the implications of infections and measures such as multiresistance screening in populations, hospitals, humans at risk is presented and discussed. Optimal management of infection control from diagnostic measures, to isolation procedures and antimicrobial testing and treatment is outlined. The three experienced experts in the field will give a rational overview of the relevance of the different measures in outpatient and hospital settings.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Be aware of the current most important antimicrobial resistances
2. Answer adequately to different challenges in resident and migration medicine
3. Translate antimicrobial resistance in wise, rational and useful clinical management

### ABOUT THE SPEAKERS



**Mariam Klouche** is professor of Laboratory Medicine and Medical Microbiology and Infectious Diseases Consultant in the LADR Laborzentrum Bremen, the University of Regensburg and the University of Bremen. Since 2004 she is director and CEO of the Laborzentrum Bremen which offers 24 hours/ 7 days transsectoral services for several hospitals including

teaching hospitals with maximal care, as well as for ambulatory medicine, quality control, environmental and food quality analysis. She was member of an education and management committee on distance learning in IFCC and she is chair of the working group on multimedial learning in the DGKL. She is member of the commission of genetic diagnosis an expert advisory board of the German Ministry of Health.



**Jozef Suvada** during the last 10 years his effort has been focused on clinical work, teaching and research in following fields: Medical field: paediatrics, tropical medicine, public health. He was involved mainly into: Infectious diseases, oncology and in Social Science as also in developing (studies, projects) and Humanitarian Aid. He was leading for 9 years international research

department of Developing studies and projects in low-income countries with 132 researchers from 21 countries. His additional field of interest and effort is in improvement of health care, prevention and education among vulnerable population in the central region of Africa, Asia, Middle East and Europe with implementation of the newest preventive, diagnostic and therapeutic procedures for care in the light of evidence-based medicine.



**Alkiviadis Vatopoulos** received his MD as well as his Doctoral Degree from the University of Athens, Medical School. He pursued postgraduate training at the London School of Hygiene & Tropical Medicine. He is currently Professor in Microbiology at the National School of Public Health, Athens Greece, as well as Scientific Director of the Greek Central Public Health Laboratory. His main scientific interests includes public health microbiology, bacteria typing, hospital acquired Infections, and Bacterial antibiotic resistance. He has established and coordinates the Hellenic System for the Surveillance of Antibiotic Resistance ([www.mednet.gr/whonet](http://www.mednet.gr/whonet)). He has published more than 100 papers in international peer reviewed journals on antibiotic resistance, molecular mechanisms, and epidemiology.

## Reference intervals in clinical chemistry

CHAIR: Helen Martin (AU) CO-CHAIR: Eleftherios Diamandis (CA, GR)



16.45 - 18.30

ROOM: LAMBRAKIS HALL

2 LECTURES (+ 2 oral presentations of related abstracts 35 min)

### LECTURES

**Jill Tate (AU)**

*Harmonisation of adult reference intervals in Australasia: An evidence-based approach*  
(30 min + 5 min discussion)

**Khosrow Adeli (CA)**

*Global initiatives in pediatric reference intervals: The CALIPER and CHMS initiatives*  
(30 min + 5 min discussion)

### ORAL PRESENTATION

*Number: National reference intervals and decision limits in the Netherlands using a 'big data' approach*

N. Brouwer, W. Den Elzen, M. Thelen, I. Haagen, C. Cobbaert

*Derivation of Russian reference intervals for immunochemistry analytes measured by Beckman Coulter analyzer: A study conducted as a part of IFCC global multicenter study on reference values*

A. Ruzhanskaya, K. Ichihara, S. Evgina, I. Skibo, S. Kimura, A. Vasilev, D. Butlitski, G. Agarkova, V. Emanuel

### SESSION OVERVIEW

Provision of quality laboratory service is critically dependent on availability of accurate reference values that are appropriately stratified by key covariates such as age and sex. Major gaps currently exist in laboratory reference intervals particularly for pediatric and geriatric populations. Several global initiatives have attempted to address this major evidence gap and develop a database of appropriately partitioned reference intervals for more accurate test interpretation. This workshop will discuss the major global initiatives to establish adult and pediatric reference intervals as well as recent efforts to harmonize reference intervals across different laboratories and testing methodologies.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. The necessity for the provision of clinically accurate reference intervals for the interpretation of clinical laboratory results for individual patients.
2. The current status of principles by which reference intervals can be derived.
3. The advantages of harmonizing reference intervals across geographical regions or particular patient groups.
4. The challenges for developing harmonized reference intervals for laboratory medicine.

### ABOUT THE SPEAKERS



**Khosrow Adeli** is the head and full professor of Clinical Biochemistry at the Hospital for Sick Children and the Departments of Biochemistry, and Laboratory Medicine & Pathobiology at the University of Toronto in Toronto. He is the Director of Point of Care Testing program at the Hospital for Sick Children in Toronto. He is a fellow of the Canadian Academy of

Clinical Biochemistry and a diplomate of the American Board of Clinical Biochemistry. He is currently the Editor-in-Chief of the Critical Reviews in Clinical Laboratory Sciences and served as the Editor-in-Chief of the Clinical Biochemistry journal for 7 years. He is an editorial board member of the Clinical Biochemist Reviews and currently serves as the Chair of Publications and Communications Division of the International Federation of Clinical Chemistry (IFCC), as well as the Public Relations Coordinator for the IFCC organization. He has also been actively involved in both molecular and clinical laboratory research since 1988 and has published over 250 peer-reviewed articles to date. His main area of research is focused on understanding the pathophysiology of obesity, metabolic syndrome and type 2 diabetes. He is the principal investigator of the CA-

LIPER (Canadian Laboratory Initiative on Pediatric Reference Interval Database) project aimed at the establishment of a laboratory reference interval database for biomarkers of pediatric disease.



**Jill Tate** is a Senior Scientist working in the Department of Chemical Pathology at the Pathology Queensland Central Laboratory in Brisbane, Australia and currently co-ordinates the laboratory's Research and Development Unit. Following the inaugural harmonisation meeting held by the AACC in October 2010 in Gaithersburg, US, which was attended by Ms.

Tate on behalf of the Australasian Association of Clinical Biochemists (AACB), the AACB Harmonisation Committee was formed in 2011. As chair of the committee since its inception, she coordinates many of the AACB's harmonisation activities including annual workshops that focus on various aspects of harmonization. In particular the AACB Common Reference Intervals committee has for over the past 5 years addressed the harmonisation of adult and paediatric chemistry reference intervals in Australia and New Zealand.



## Established and emerging biomarkers in heart failure diagnosis and management



**Gerasimos Filippatos (GR)**

14.30-15.45

ROOM: MC 3 HALL

MODERATOR: *Ioannis Parissis (GR)*

YOUNG SCIENTIST CO-MODERATOR: *Eugenia Konsta (GR)*

### SUMMARY

Prof. Filippatos, co-author in the 2012 seminal article on the 3<sup>rd</sup> universal definition of myocardial infarction and in the recent 2016 European Society of Cardiology Guidelines for the diagnosis and treatment of acute and chronic heart failure, will be the expert to discuss about established (e.g. BNP/NT-proBNP) and emerging biomarkers in heart failure.

### ABOUT THE EXPERT

**Gerasimos Filippatos** heads the Heart Failure Unit at Attikon University General Hospital, Greece. He studied at the University of Patras, Greece, and earned his doctorate in physiology and critical care from the University of Athens. He subsequently completed his clinical training in internal medicine, cardiology, critical care, heart failure, and transplantation in Athens, GR; Chicago, USA; and Cambridge, UK.

Dr Filippatos is President (2014-2016) of the Heart Failure Association of the European Society of Cardiology (ESC). He has served as Chair of both the Clinical Section and the Committee on Acute Heart Failure of the Heart Failure Association of the ESC. He has also served as Chair of the ESC's Working Group on Acute Cardiac Care, and in the Practice Guidelines Committee. He is Coordinator in the ESC Congress Programme Committee. He has been also International Governor of the American College of Chest Physicians.

Dr Filippatos is Associate Editor of the European Heart Journal, the International Journal of Cardiology and of the Archives of Medical Science. He is a reviewer, guest editor, and member of the editorial board for major cardiology and critical care journals. He has published over 300 articles in peer-reviewed journals and authored more than 30 book chapters including the «Acute Heart Failure» chapter in Braunwald's 9th edition and Oxford Desc Reference: Cardiology. Moreover, he has (co) edited 5 books including the European Society of Cardiology Textbook of Acute and Intensive Cardiac Care, Highly Commended in the 2011 British Medical Association Medical Book Awards and in 2014 the book Heart Failure: The Expert's Approach.

Prof. Filippatos is in the Thomson Reuters list of Highly Cited Researchers 2015.



*Existing and emerging technologies in PoCT:  
The laboratory tests from the central laboratory  
to clinic to family practitioner to patient*

**Rosy Tirimacco (AU)**



16.45 - 18.00

ROOM: MC 3 HALL

MODERATOR: *Pradeep Kumar Dabla (IN)*

YOUNG SCIENTIST CO-MODERATOR: *Hugo Roux (FR)*

## SUMMARY

In this session Rosy Trimacco, IFCC chair on PoCT-TF will present existing and emerging technologies in Point Of Care Testing and the movement of the laboratory tests from the central laboratory to the clinic, to family practitioner and finally to patient home.

## ABOUT THE EXPERT

**Rosy Tirimacco** is the Operations and Research Manager of the Integrated Cardiovascular Clinical Network Country Health South Australia. iCCnet CHSA supports rural and remote physicians and nurses to deliver evidenced-based cardiac care to country patients regardless of location or facilities available. Major research interests include integration of PoCT into clinical care pathways, supporting patients with chronic disease out-

side of hospital and the development of electronic real time clinical databases. She is currently the chair of the International Federation of Clinical Chemistry and Laboratory Medicine PoCT Task Force, chair of the Australasian Association of Clinical Biochemists Point of Care Testing Working Committee and project manager of the Australian Point of Care Practitioners Network.



## Laboratory service in a reforming stage

CHAIR: *Andrey Iuanou (RU)*



17.00 - 18.00

ROOM: TRIANTI HALL

COOPERATION WITH: *Association of laboratory specialists and organizations "Federation of laboratory medicine"*

2 LECTURES

### LECTURES

**Michael Godkov (RU)**

*The principles of reforming and centralization of laboratory diagnostics in the transition to a mixed economy*

(40 min + 5 min discussion)

**Alexander Tsibin (RU)**

*Experience of organizing the centralized laboratory service in Metropolis - The city of Moscow*

(40 min + 5 min discussion)

### SESSION OVERVIEW

One of the development trends of modern Russian healthcare system is to ensure the availability of quality medical care services for the whole population of the Russian Federation. The most effective and comprehensive tool for solve of this task in the field of laboratory medicine is centralized laboratory testing, which is concentration of laboratory assays in major laboratory and diagnostic centers. Such forms of laboratory services should take into account three major aspects: medical advisability, territorial characteristics and organizational capability, economic efficiency. Given the geographical and social distinctiveness, financial and material features of different administrative-territorial formations of Russia it is impossible to develop one universal model of quality laboratory diagnostics healthcare. The basis for centralized laboratory testing in each region should be a unique regional concept of laboratory services and should be developed based on all the features of medical care in an area.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Assess the need to reform laboratory medicine in today's economic situation.
2. Study the principles of laboratory research centralization using Russian experience as an example.
3. Determine the main stages of laboratory services reformation in order to centralize it.
4. Learn the advantages and disadvantages of a laboratory research centralized system.

### ABOUT THE SPEAKERS



**Michael Godkov's** professional career began at the Moscow Research Institute of Tuberculosis of the RSFSR Ministry of Health (1981-1984), and then worked at the Institute of Immunology of the USSR Ministry of Health (1984-1989). In 1989 M.A. Godkov starts working at the N.V. Sklifosovsky Research Institute of Emergency Medicine, where has been

the head of the department of laboratory diagnostics since 2007. In 2011 he defended his doctoral thesis on "Blood-borne viral infections (HIV, hepatitis B and C) in a hospital ambulance". Research interests: assessment of homeostasis in case of severe injuries, early diagnosis and monitoring of post-operative and post-traumatic septic complications in patients with urgent pathology, epidemiology and prevention of nosocomial spread of viral infections, organizational and financial principles of optimization of laboratory services. During his scientific activity M.A. Godkov published more than 320 manuscripts. 3 candidate dissertations were prepared under his supervision. Mikhail Andreevich conducts major pedagogical activities: he is the professor of the Department of Clinical Laboratory Diagnostics of the Russian Medical Academy of Continuing Professional Education of the Ministry of Health of Russia. M.A. Godkov is the chairman of the Scientific Committee of the Congress of the Federation of Laboratory Medicine, which is Russia's largest forum on laboratory diagnostics; he is also the Chief Scientific Secretary of the Federation of Laboratory Medicine.



**Alexander Tsibin** graduated from Tomsk state medical university in 1986, faculty of biology and medicine, specialty in biochemistry. Worked as a medical laboratory assistant, then as a head of clinical diagnostic laboratory and a head of laboratory and pathological and morphological research services. Was the head of the laboratory and diagnostic

services of the Novosibirsk regional STI clinic. Currently is the head of the department of organization and control of laboratory services activities of Research Institute of Public Health and Health Management Organization in Moscow. Since 2014 is the chief freelance specialist in clinical laboratory diagnostics of Moscow Health Department. Research interests: management and organization of the centralized and specialized laboratories (design, construction, licensing, equipment, management); performance of laboratory research - biochemistry, hemostasis, immunochemistry, rapid diagnosis; all-round automation of laboratory tests; informatization of laboratory processes.



EDUCATIONAL WORKSHOP

## Analytical performance for precision in medical laboratories: State of the art

CHAIR: *Jeremie Gras (BE)*

Anne Vassault (FR), Delphine Collin-Chavagnac (FR), Florian Scherrer (FR)

14.30 - 15.30

ROOM: TRIANTI HALL

*Database provided by Bio-Rad, based on unity inter-laboratory program*  
Anne Vassault (FR)

*Methodology used*  
Delphine Collin-Chavagnac (FR)

*Analytical Goals based on outcome of the study*  
Florian Scherrer (FR)



EDUCATIONAL WORKSHOP

## A rapid, automated multi-analyte biochip array for early stroke diagnosis

CHAIR: *Massimiliano Marco Corsi Romanelli (IT)*

Jim Curry (UK), Konstantinos Makris (GR)

14.30 - 15.30

ROOM: HALL A

*A rapid, automated multi-analyte biochip array for early stroke diagnosis*  
Jim Curry (UK)

*Clinical evaluation of an automated multi-analyte biochip array for early stroke diagnosis*  
Konstantinos Makris (GR)



EDUCATIONAL WORKSHOP

## Novel biomarkers in the assessment of glomerular damage

CHAIR: *Carole Dauscher (USA)*

Mustafa Serteser (TR), Albert Christian C.F (DE)

14.30 - 15.30

ROOM: MITROPOULOS HALL



EDUCATIONAL WORKSHOP

## Total automation of indirect immunofluorescence testing (IFA) in autoimmune diseases

CHAIR: Mario Berth (BE)

14.30 - 15.30

D. Picchioni (IT), M. Berth (BE)

ROOM: SKALKOTAS HALL

Brief introduction from the Scientific Coordinator

*An all-in-one workstation for IIF automated procedure*

D. Picchioni (IT)

*A new fully automated analyser for the determination of antinuclear antibodies on HEp-2 cells*

M. Berth (BE)

Discussion



EDUCATIONAL WORKSHOP

## Circulating tumor DNA: A promising biomarker in the liquid biopsy of cancer

15.45-16.45

M. Ferrari (IT)

ROOM: TRIANTI HALL



EDUCATIONAL WORKSHOP

## Implementation of an innovative plasma separation technology enabling improved laboratory efficiency and diagnostics

15.45-16.45

Stephen Church (UK), Chris Ramakers (NL), TBA

ROOM: HALL A

*BD Barricor an innovative plasma separation technology*

Stephen Church (UK)

*Switching from serum to plasma without tears!*

Chris Ramakers (NL)

*Experiences in the implementation of BD Barricor*

TBA

## Clinical usefulness of measuring active-B12 (Holotranscobalamin)

CHAIR: Edith Rojas-Kenney (USA)

Anne Marie Molloy (IE)

15.45-16.45

ROOM: MITROPOULOS HALL

## Practical perspectives on the future of clinical mass spectrometry

CHAIR: Pete Van Overwalle (NL)

Michael Vogeser (DE), Christa Cobbaert (NL), Doris-Ann Williams, Michael Vogeser (DE)

15.45-16.45

ROOM: SKALKOTAS HALL

Introduction

*Workflows and applications*

Michael Vogeser (DE)

*Standardization and harmonization*

Christa Cobbaert (NL)

*Future of Laboratory Developed Tests*

Doris-Ann Williams (??)

*Implementation from Decision to Go Live*

Michael Vogeser (DE)

Closing



## *The 3 main renal biomarkers (FGF 23, 1,25 vit D, 1-84 PTH) in full automation to support the clinical outcome*

CHAIR: *Mario Plebani (IT)*

17.00 - 18.00

**Emilio González Parra (ES), Rodrig Marculescu (AT), Etienne Cavalier (BE)**

ROOM: MITROPOULOS HALL

Welcome and Introduction

*Markers of bone mineral metabolism in chronic kidney disease: Clinical influence*  
Emilio González Parra (ES)

*1-84 PTH and 1,25-dihydroxy-vitamin D in chronic kidney disease: Current topics*  
Rodrig Marculescu (AT)

*State of the art of the new automated determination of FGF23 on the DiaSorin Liaison XL*  
Etienne Cavalier (BE)

Discussion



## *State of the art procalcitonin testing in the laboratory: Matching the needs of the clinical departments by choosing the right assay*

CHAIR: *D. Gruson (BE)*

17.00 - 18.00

**Pierre Hausfater (FR), Ferruccio Ceriotti (IT)**

ROOM: SKALKOTAS HALL

*The clinical perspective: Procalcitonin testing for rapid detection of bacterial infection and antibiotic stewardship clinical cut-offs and algorithms*  
Pierre Hausfater (FR)

*PCT assays - Can they all use the same clinical cut-offs? A critical appraisal*  
Ferruccio Ceriotti (IT)

# THURSDAY JUNE 15

09.00 - 10.00

## PLENARY SESSION

*Whole genome sequencing in health and disease*

Nicholas Katsanis

10.30 - 12.30

## DEBATE

*Antidoping testing*

David Epstein / Geoffrey S. Baird

10.30 - 12.30



## BCLF SYMPOSIUM

*Topics of laboratory medicine in balkan region*

Tomris Ozben, Marija Hiljadnikova Bajro, Zorica Sumarac, Najdana Gligorovic Barhanovic, George Sourvinos

10.30 - 12.30



## IFCC SYMPOSIUM

*The liquid biopsy approach: Following the tumor in peripheral blood*

Klaus Pantel, Evi Lianidou, Dave Hoon, Massimo Cristofanilli

10.30 - 12.30

## SYMPOSIA

*Advances in mass spectrometric applications*

Michael Vogeser, Brian Keevil, Olof Beck

*Ethical issues in laboratory medicine*

Ann M. Gronowski, Nader Rifai, Trefor Higgins



*External quality assurance - Just a necessary evil or a valuable tool in laboratory management?*

Greg Miller, Sverre Sandberg, Piet Meijer



*The FIFBCML: A Mediterranean leading platform for collaboration and innovation in laboratory medicine*

Smail Belazzoug, Abdelhalim Chachou, Marc Antoine Zablith, Ahamad Sabbah, Christian Haddad, Layachi Chabraoui, Abdelrhafour Guedira, Mohammed Touimi Benjelloun, Adderazak Hedhili, Fethy Ben Hassine, Taieb Messaoudi

12.30 - 13.30

## CLOSING CEREMONY

### CLOSING REMARKS

*President of EuroMedLab Athens 2017* Alexander Haliassos

*President of IFCC* Maurizio Ferrari

*President of EFLM* Sverre Sandberg

*President of BCLF* Najdana Gligorović-Barganović

### WELCOME TO BARCELONA

*EuroMedLab Barcelona 2019* Imma Caballe

### FAREWELL SPANISH COCKTAIL



## Whole genome sequencing in health and disease

Nicholas Katsanis (USA, GR)

09.00 - 10.00

ROOM: LAMBRAKIS HALL

CHAIR: Christos Kroupis (GR)

### SUMMARY

Through a combination of in vitro and in vivo studies, we are moving towards generating physiologically-relevant assays for the majority of the known human pediatric morbid genome, namely the complement of ~1000 human genes causally

associated with pediatric genetic disorders. Coupled to that effort is the generation and characterization of large allelic series of variants found in these genes both in pediatric patients as well as the general population.

### ABOUT THE SPEAKER

**Nicholas Katsanis** obtained his first degree in Genetics from UCL in London in 1993 and his doctorate from Imperial College, University of London in 1997. He then joined the laboratory of Dr. Lupski at Baylor College of Medicine, where he initiated his studies on Bardet-Biedl syndrome. In 2002, he relocated to the Institute of Genetic Medicine, Johns Hopkins University where he led studies that unified several allied conditions under the ciliopathy umbrella. In 2009, he moved to Duke University to establish the Center for Human Disease Modeling, where he is the Director; this new structure aims to facilitate collaboration across disciplines and to develop physiologically relevant tools to study variation found in human patient genomes. As part of that effort, Dr. Katsanis leads the Taskforce for Neonatal Genomics. This multidisciplinary group of physicians and basic scientists strives to synthesize genomic and biological data for the faster diagnosis, improved/focused clinical care, and potential therapeutic

paradigms, for infants and neonates with genetic conditions. In parallel, the Katsanis lab pursues questions centered on the signaling roles of vertebrate cilia, the translation of signaling pathway defects on the causality and possible treatment of ciliary disorders, and the dissection of second-site modification phenomena as a consequence of genetic load in a functional system. In recognition of his work, Dr. Katsanis was awarded the Young Investigator Award from the American Society of Nephrology in 2009, the E. Mead Johnson Award from the Society for Pediatric Research in 2012 and has delivered several Distinguished lectures. Dr Katsanis is a Professor in the Departments of Cell Biology and Pediatrics and holds the Brumley Distinguished Professorship. He has published over 250 research papers, reviews, and book chapters, serves on several advisory, editorial, and organizational boards and has delivered over 150 lectures in 20 countries.




**Antidoping testing**  
MODERATOR: *George Mavrotas (GR)*

**David Epstein (USA)** **Geoffrey S. Baird (USA)**

10.30 - 12.30

ROOM: LAMBRAKIS HALL

## SESSIONS OVERVIEW

Despite intense testing, and very serious consequences of using performance/enhancing substances, a sizeable proportion of elite athletes still do dope. In my lecture, I will reiterate as to why antidoping testing is a vital tool in catching cheaters and punishing them. This ensures that the level of competition is equal, and those who deserve to win, do so without performance enhancement. Having said this, in this discussion I will also bring-up related matters such as genetic composition and the presence of diseases that are associated with athlete performance enhancement.

This point/counterpoint session will cover the advantages and disadvantages of current anti-doping strategies in sports, focusing on those issues relevant to the practice of laboratory medicine and clinical chemistry.

## ABOUT THE SPEAKERS & THE MODERATOR



**George Mavrotas** is associate professor in the School of Chemical Engineering at the National Technical University of Athens with expertise in Operational Research. As of 2003 to 2010, he is member of the Greek Anti-Doping Organization. He is also currently a member of the Greek Parliament, with the pro-European, reforming party "To Potami" (The River), while also being a retired Greek water polo player. George Mavrotas played in five consecutive Summer Olympics for Greece from 1984 to 2000. He is, jointly with Spaniard Chiqui Sans, the sixth water polo player to compete at five Olympics. He played 511 times for the Greek National Team (a national record for team sports) and is among a few water polo players worldwide that has participated in five Olympic Games, just one behind the sport legend Manuel Estiarte. His major career achievements is the second place in the World Cup of 1997 as captain of the Greek national team, and the first place in the European Cup of Cup Winners also in 1997, with his club Nautical Club of Vouliagmeni. In 1999, he participated in the world selection team.

**David Epstein** is an investigative science reporter at ProPublica, and author of the New York Times bestseller *The Sports Gene*, an exploration of the nature of athleticism that has been translated into 16 languages. Previously, he was a senior writer at *Sports Illustrated*, where he authored or co-authored many of the magazine's most high profile stories, like the 2009 revelation that Yankees' third baseman Alex Rodriguez, the highest-paid player in history, had used steroids. He has lived on a ship in the Pacific Ocean, in a tent in the Arctic (prior to becoming a writer, he was training to be a geologist) and now lives in Brooklyn, New York. His 2014 TED Talk was one of the most viewed of the year.

**Geoffrey Baird** is an associate professor of laboratory medicine at the University of Washington in Seattle, Washington, USA. He is also an adjunct associate professor of pathology, the laboratory director of Northwest Hospital Clinical Laboratories and the director of clinical chemistry at Harborview Medical Center, in addition to being the associate program director for the UW Clinical Pathology Residency Program. Dr. Baird received his MD and PhD from the University of California, San Diego, where he studied in the laboratory of 2008 Chemistry Nobel Laureate Dr. Roger Tsien. Dr. Baird is a diplomate of the American Board of Clinical Chemistry and he is board certified in Anatomic and Clinical Pathology by the American Board of Pathology. He has been recognized with an IFCC Young Investigator Award and the AACC's Grannis Award, and his biomedical interests include clinical chemistry and toxicology, rational laboratory test utilization, proteomics and oligonucleotide aptamer technology.



## Topics of laboratory medicine in Balkan region

CHAIR: Demetrios Rizos (GR) CO-CHAIR: Nada Majkić-Singh (RS)



10.30 – 12.30

ROOM: HALL A

COOPERATION WITH: *Balkan Clinical Laboratory Federation (BCLF)*

5 LECTURES

### LECTURES

**Tomris Ozben (TR)**

*In vitro diagnostics and evolving regulatory challenges in laboratory medicine*

(20 min + 4 min discussion)

**Marija Hiljadnikova**

**Bajro (MK)**  
*Biomolecular laboratory markers in cancer management*

(20 min + 4 min discussion)

**Zorica Sumarac (RS)**

*How to achieve harmonization of preanalytical phase*

(20 min + 4 min discussion)

**Najdana Gligorovic**

**Barhanovic (ME)**  
*Prognostic value of laboratory markers in hemodialysed patients*

(20 min + 4 min discussion)

**George Sourvinos (GR)**

*miRNAs expressed during viral infection: biomarker potential and therapeutic considerations*

(20 min + 4 min discussion)

### SESSION OVERVIEW

Selected topics from the research activity and laboratory practice of Balkan countries.

### LEARNING OBJECTIVES

General knowledge on Laboratory Medicine.

### ABOUT THE SPEAKERS



**Najdana Gligorovic Barhanovic** has specialized in medical biochemistry in 2000, and subspecialised in laboratory endocrinology in 2012. She is Director of Center for Clinical Laboratory diagnostic in Clinical Center of Montenegro, and scientific associate of Medical Biochemistry at the University of Montenegro. Najdana is president of Montenegrin Association of Clinical Chemistry and Laboratory Medicine, national representative of Montenegro in EFLM and IFCC and president of BCLF. She is a member of EFLM WG Harmonization of total testing process.

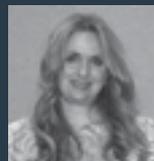


**Marija Hiljadnikova Bajro** is an Ass. Professor in the Faculty of Pharmacy in Ss. Cyril and Methodius University, Skopje. She received her master in pharmacy and completed her postgraduate studies in molecular biology and genetic engineering and received her MSc in 2003. In 2012 she received her PhD in human genetics.

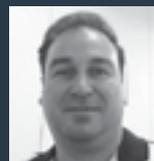


**Tomris Ozben Tomasi** is professor at the Dept. of Clinical Biochemistry, Faculty of Medicine, Akdeniz University, Antalya Turkey. She obtained her BSc from American University "Robert College" in Istanbul, her Ph.D. in Biochemistry from Ege University, Izmir, Turkey; and Specialty in Clinical Biochemistry from Marmara University, Istanbul. She has been Vice Rector, Director of Research Funds, Chairman of the Dept. of Clinical Biochemistry and Founding Director of Central Laboratory at Akdeniz University Hospital. She has been the President (2000-3), Past-President (2003-6) and EB member from 2006 of BCLF. Advisory Board member of Forum of European Societies of Clinical Chemistry and Laboratory Medicine (FESCC; 2001-8); Advanced Courses Committee member of Federation of European Biochem-

ical Societies (FEBS; 1997-01). She has been serving IFCC since 2001, as full member and chair of IFCC Committee on Congresses & Conferences. In 2014, she was elected as the IFCC Treasurer by the IFCC Council.



**Zorica Sumarac** is President of the Society of Medical Biochemists of Serbia (SMBS), President of the Assembly of Serbian Chamber of Biochemists, Chair of the Committee for Standardization & Chair of working group (WG) Preanalytical phase in SMBS, Member of EFLM WG: Preanalytical Phase, Member of IFCC WG: Laboratory Errors and Patient Safety, Member of Regional Gaucher Advisory Board for SE Europe. She received her PhD in the Medical School, University of Belgrade. She is Deputy Director in Center for Medical Biochemistry and Chief of dpt. in Polyclinic laboratory at Clinical Center of Serbia. She is Lecturer in the Faculty of Pharmacy, Novi Sad, Serbia and research Fellow at the Medical School, University of Belgrade.



**George Sourvinos** is Professor of Clinical Virology at the Medical School, University of Crete. He received his BSc in Biology from Athens University and his PhD from the University of Crete. He is the Director of the Clinical Virology Laboratory of the University Hospital, Heraklion, Crete. He has been serving as Director of the Dpt. of Laboratory Medicine at the Medical School of Crete since 2010. His research is focusing the virus-host interactions in the context of viral lytic and latent infections studying in vivo models and human tissue specimens and their potential as molecular biomarkers. He has published 100 peer reviewed articles (h-index 27). He is a Council Member of the European Society for Clinical Virology since 2006 and member of the Editorial Board of Journal of Clinical Virology.

## The liquid biopsy approach: Following the tumor in peripheral blood



CHAIR: *Evi Lianidou (GR)* CO-CHAIR: *Michael Neumaier (DE)*

10.30 – 12.30

ROOM: MC 3 HALL

4 LECTURES

### LECTURES

**Klaus Pantel (DE)**

*Biology and clinical implications of circulating tumor cells (CTCs)*  
(25 min + 5 min discussion)

**Evi Lianidou (GR)**

*CTC analysis: An overview of CTC isolation, detection and molecular characterization technologies*  
(25 min + 5 min discussion)

**Dave Hoon (USA)**

*Circulating tumor DNA (ctDNA): Detection systems and clinical significance in cancer*  
(25 min + 5 min discussion)

**Massimo Cristofanilli (USA)**

*Clinical significance of CTC detection and molecular characterization in breast cancer*  
(25 min + 5 min discussion)

### SESSION OVERVIEW

Liquid biopsy has the potential to characterize the evolution of a solid tumor in real time based on blood-based tests. In the liquid biopsy approach molecular information is extracted from circulating tumor cells (CTCs), circulating tumor DNA (ctDNA), circulating miRNAs or exosomes. Analysis of CTCs and ctDNA holds considerable promise for the identification of therapeutic targets and resistance mechanisms and for real-time monitoring of the efficacy of systemic therapies. The major potential advantage of liquid biopsy analysis is that it is minimally invasive and can be serially repeated.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Understand the basic principles of Liquid Biopsy.

2. Have an overview of CTCs and ctDNA analysis.

3. Learn on the potential of liquid biopsy in the clinical lab setting.

### ABOUT THE SPEAKERS



**Massimo Cristofanilli** received his MD from the University "La Sapienza" Medical School in Rome, Italy. He held a faculty position in the Department of Breast Medical Oncology at the University of Texas M. D. Anderson Cancer Center where he served as an Associate Professor of Medicine and Executive Director of the Morgan Welch IBC clinic and research program that he founded.

He is currently the Associate Director of Translational Research and Precision Medicine at the Robert Lurie Comprehensive Cancer Center and Director of the oncoSET Program. His major research interest consists in the detection, characterization and possible therapeutic targeting of occult (microscopic) disease in breast cancer. He is a strong proponent of multidisciplinary team collaborations and perhaps the most successful of such example is the development of the Inflammatory Breast Cancer (IBC) Research Program and Clinic at the MDACC and most recently the SKCC.



**Dave Hoon** is Professor and Chief of Scientific Intelligence at the John Wayne Cancer Institute and interacts with external academic, industry, government agencies, and international cancer centers to develop innovative translational research opportunities. He has coauthored more than 300 peer-reviewed articles and reviews, primarily related to translational molecular oncology of human solid tumors and has over 25 patents on his studies. As founding Director of the Department of Molecular Oncology, Dr. Hoon continues to pioneer investigations of RNA/genomic/epigenomic biomarkers for diagnostic, prognostic and predictive assessment of residual tumor cells. He also works on immunotherapeutics such as human monoclonal antibodies and immunogenetic responses to cancer immunotherapy.



**Evi Lianidou** is Professor of Analytical Chemistry and Clinical Chemistry at the Department of Chemistry, University of Athens, (UoA) Greece. She has established a Molecular Diagnostics Laboratory focused on Liquid Biopsy at the Department of Chemistry. Her lab is specializing in the Analysis of Circulating Tumor Cells and has access to many patient samples through extensive clinical collaborations. She has 99 publications. She is PI in the European TRANSCAN group "CTC-SCAN", in the EU IMI Network Project "CANCER-ID" and serves on the Editorial Boards of many international journals. She is member and chair of the Committee for Clinical Molecular Biology Curriculum of the IFCC and is coordinating the M.Sc. program of Clinical Chemistry, at the Department of Chemistry, UoA.



**Klaus Pantel** graduated from Cologne University in Germany and completed his thesis on mathematical modelling of hematopoiesis. He is the Founder and Chairman of the Institute of Tumor Biology at the University Medical Center Hamburg-Eppendorf and member of the Executive Board of the University Cancer Center Hamburg (UCCH). His work in the field of cancer micrometastasis, circulating tumor cells and circulating nucleic acids is reflected by more than 400 publications in scientific journals (H-Index: 69). He was co-ordinator of the FP6 EU STREP "DISMAL" (Disseminated Malignancies), coordinates the European TRANSCAN group "CTC-SCAN", the EU IMI Network Project "CANCER-ID" and serves on the Editorial Boards of international cancer journals.

## Advances in mass spectrometric applications

CHAIR: Pierre Wallemacq (BE) CO-CHAIR: Eleni Bairaktari (GR)



10.30 – 12.30

ROOM: TRIANTI HALL

COOPERATION WITH: IATDMCT

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Pierre Wallemacq (BE)**

*When high-tech meets the needs of routine laboratory testing*

(10 min + 5 min discussion)

**Michael Vogeser (DE)**

*Quality assurance and standardization in clinical application of mass spectrometry*

(20 min + 5 min discussion)

**Brian Keevil (UK)**

*LC-MSMS analysis of steroids in the clinical laboratory*

(20 min + 5 min discussion)

**Olof Beck (SE)**

*High resolution mass spectrometric analysis for new psychoactive substances*

(20 min + 5 min discussion)

### ORAL PRESENTATION

*Simultaneous measurement of whole blood vitamin B1 & vitamin B6 using LC-ESI-MS/MS*

R.J. Roelofsen-De Beer, B.D. Van Zelst, P.G. Kooij, Y.B. De Rijke

*Validation of serum androstenediol glucuronide by LC-MS/MS*

C. Le Goff, N. Fabregat-Cabello, T. Yilmaz, L. Vroonen, E. Cavalier

### SESSION OVERVIEW

Mass spectrometry is expected to appear more and more in routine laboratory medicine. This symposium aims to review cutting edge progress in clinical applications of mass spectrometry. World opinion leaders will share their experiences covering fields including practical aspects (quality assurance, pitfalls and validation of methods), emerging applications in endocrinology, therapeutic drug monitoring or toxicology and progress of high-resolution mass spectrometry.

### LEARNING OBJECTIVES

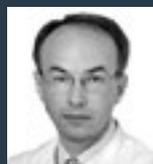
After this session, participants will be able to:

1. Identify what is needed to successfully implement mass spectrometry in laboratory medicine.
2. Be aware of the multiple applications in routine laboratory.
3. Be aware of the performances and limitations of mass spectrometry.

### ABOUT THE SPEAKERS



**Olof Beck** studied chemistry at the Royal Institute of Technology in Stockholm and received his Ph.D. degree in 1982 after working at the Karolinska Institute with studies on biogenic amines using gas chromatography-mass spectrometry methods. After a post-doctoral period at Stanford University and two years in pharmaceutical industry he returned to Karolinska Institute and department of Clinical Pharmacology in 1988. Dr Beck is at present adjunct professor and laboratory director of the Pharmacology Laboratory comprising TDM, genotyping, clinical and workplace drugs-of-abuse testing, sports doping control and contract analyses in clinical trials. He has been active assessor in laboratory accreditation in the Nordic countries. Research activities have resulted in over 200 publications. Areas of interest are method developments in pharmacology and toxicology with special focus on mass spectrometry.



**Michael Vogeser** is senior physician at the Institute of Laboratory Medicine, Hospital of the University of Munich, Germany, and professor of laboratory medicine. He is heading the working group on clinical mass spectrometry of the German Association of Clinical Chemistry and Laboratory Medicine. Automation and quality assurance of mass spectrometric methods in laboratory medicine are main areas his scientific work. He published more than 160 papers in the fields of clinical chemistry and analytical methods.



**Pierre Wallemacq** is Professor, Université catholique de Louvain, School of Medicine, in the Louvain center of Toxicology and Applied Pharmacology (LTAP). He is Medical Director of the department of laboratory medicine of the Cliniques universitaires St Luc, Brussels. He is the past president of the International Association of Therapeutic Drug Monitoring (IATDMCT), and of the Royal Belgian Society of Laboratory Medicine (RBSLB). He serves as associate editor of the journal Clinical Biochemistry and is member of the Royal Belgian Academy of Medicine. His research focuses primarily on therapeutic drug monitoring of immunosuppressive and anti-infective drugs with a particular emphasis on pharmacokinetics and analytical methods. He has published more than 200 papers in the field of clinical chemistry, therapeutic drug monitoring and toxicology.



**Brian Keevil** is a Consultant Clinical Scientist and Head of the Clinical Biochemistry Department at the University Hospital of South Manchester. He is an Honorary Professor in Clinical Biochemistry at the University of Manchester and a member of the editorial board of the Annals of Clinical Biochemistry. He has developed an interest in steroid analysis using liquid chromatography mass spectrometry (LC-MS/MS) over the past 15 years with a particular emphasis on developing an LC-MS/MS service in a routine clinical laboratory. He has developed over 30 routine analytical methods and has published over 130 papers mainly on the clinical applications of LC-MS/MS.

## Ethical issues in laboratory medicine

CHAIR: Ann M. Gronowski (USA) CO-CHAIR: Nilda Fink (AR)



10.30 - 12.30

ROOM: MITROPOULOS HALL

COOPERATION WITH: IFCC Task Force-Ethics

3 LECTURES

### LECTURES

**Ann M. Gronowski (USA)**

*A primer in biomedical ethics*  
(30 min + 5 min discussion)

**Nader Rifai (USA)**

*Ethics in publishing*  
(30 min + 5 min discussion)

**Trefor Higgins (CA)**

*Ethics in laboratory medicine: Clinical case studies*  
(30 min + 5 min discussion)

### SESSION OVERVIEW

Ethical issues have been given limited attention by professionals in laboratory medicine. Specific issues that challenge laboratory professionals include: allocation of health-care resources, testing conducted nearer the patient, confidentiality, screening tests, direct to consumer testing, residual specimen use, add on testing, whole genome sequencing, pre-implantation genetics, and research/publication ethics. This symposium will describe the basics of biomedical ethics and discuss a variety of issues that face modern laboratory medicine.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. Describe the five guiding principles of bioethics.
2. Explain some of the ethical issues facing laboratory medicine today.
3. List examples of unethical behavior in publishing.
4. Discuss laboratory medicine cases in which ethical decisions were necessary.

### ABOUT THE SPEAKERS



**Ann M. Gronowski** is Professor, Washington University School of Medicine, in the Departments of Pathology & Immunology and Obstetrics & Gynecology. She is Associate Medical Director of the Clinical Chemistry, Serology and Immunology laboratories at Barnes-Jewish Hospital. Dr. Gronowski received her Ph.D. in Endocrinology- Reproductive Physiology from University of Wisconsin, and

is a diplomate of the American Board of Clinical Chemistry. Dr. Gronowski is a Past-President of the AACC and currently serves as editor for the clinical case studies feature in the journal *Clinical Chemistry*. Her research focuses primarily on the laboratory diagnostics of endocrinology and reproductive physiology with a particular emphasis on maternal fetal medicine. Professor Gronowski is active in the field of ethics in laboratory medicine. She has published several papers on ethics and she serves as chair of the IFCC TF-Ethics.



**Nader Rifai** is Professor of Pathology at Harvard Medical School, the Louis Joseph Gay-Lussac Chair in Laboratory Medicine and the Director of Clinical Chemistry at Boston Children's Hospital. He is also the Editor-in-Chief of *Clinical Chemistry*, founder and co-chair of the Clinical Chemistry Trainee Council, a multilingual e-learning program for laboratory medicine trainees, the Senior Editor of the *Tietz Textbook of Clinical Chemistry and Molecular Diagnostics*, and co-chair of the Area9/AACC Adaptive Learning Initiative. His research focuses on the biochemical risk markers of coronary heart disease.



**Trefor Higgins** was born in the United Kingdom studied at universities in Canada and the United Kingdom. He is currently Director of Clinical Chemistry at DynaLIFEDx in Edmonton, Alberta, Canada. He has published over 200 papers and has written several book chapters mainly on HbA1c and hemoglobinopathy investigation. He has spoken on every continent.

He is a Clinical Professor in the Department of Laboratory Medicine and Pathology at the University of Alberta and is involved in teaching residents, fellows and undergraduates. In 2005 he was elected a Fellow by Special Distinction of the Canadian Academy of Clinical Biochemistry and was awarded the Canadian Society of Clinical Chemistry International Visitor Award in 2005 to lecture in Argentina and in 2009 to lecture in Uruguay. In 2005 and 2012 he was awarded the Teacher of the Year award in the General Pathology residents training program of the Department of Laboratory Medicine and Pathology of the University of Alberta. In 2008 he was awarded the Canadian Society of Clinical Chemists Excellence in Education Award. And in 2015 he was awarded the CSCC award for outstanding contribution to clinical chemistry which is highest honour of the Canadian Society of Clinical Chemists.



## External quality assurance Just a necessary evil or a valuable tool in laboratory management?



10.30 – 12.30

CHAIR: Anne Vegard Stavelin (NO) CO-CHAIR: Evangelos Ntrivalas (GR, USA)

ROOM: SKALKOTAS HALL

COOPERATION WITH: EQALM (European Organization for External Quality Assurance Providers in Laboratory Medicine)

3 LECTURES (+ 2 oral presentations of related abstracts 30 min)

### LECTURES

**Greg Miller (USA)**

*How to assess my EQA sample, possibilities and limitations*  
(25 min + 5 min discussion)

**Sverre Sandberg (NO)**

*EQA of PoCT testing, is it necessary?*  
(25 min + 5 min discussion)

**Piet Meijer (NL)**

*EQA in Europe, the benefits for laboratories*  
(25 min + 5 min discussion)

### ORAL PRESENTATION

*European HPV DNA test external quality assurance scheme (EHEQAS)*

P. Neophytou, J. Konya, R. Tachezy, C. Kroupis

*Development of an external quality assessment scheme for urine drugs of abuse*

G. Davies, S. Jones, M.A. Thomas

### SESSION OVERVIEW

The symposium will deal with issues regarding external quality assurance (EQA) in laboratory medicine. It will cover the latest knowledges in the field, both for EQA in central laboratories and for point-of-care testing. Some believe that participation in EQA is necessary only to satisfy the accreditation bodies, but this symposium will highlight important issues that are valuable in the laboratory management process.

### LEARNING OBJECTIVES

After this session, participants will be able to:

1. How to assess the EQA results correctly.
2. How to perform commutability testing of control materials.
3. How to perform EQA for point-of-care testing.
4. Which performance specifications there should be for point-of-care testing.
5. The benefits and limitations of participating in EQA.

### ABOUT THE CHAIR & SPEAKERS



**Piet Meijer** is director of the ECAT Foundation. He is trained as biochemist and has worked for more than 25 year for the Dutch research organisation TNO in the field of cardiovascular research. He has been the head of the coagulation laboratory and developed a special interest in method standardisation and quality issues. In 1995 he became part-time involved in the EQA programme of the ECAT Foundation, a non-profit organisation and one of the leading EQA organisations in specialised coagulation testing worldwide. Since 2007 he is fulltime director of this organisation. He is currently a board member of the European Organization for External Quality Assurance Providers in Laboratory Medicine (EQALM) and was Chairman from 2010 to 2011.



**Greg Miller** is a Professor in the Pathology Department at Virginia Commonwealth University where he serves as Director of Clinical Chemistry and Director of Pathology Information Systems. His professional interests and research has focused on standardization and harmonization of laboratory results, quality control and external quality assessment-proficiency testing.

His current professional activities include: Associate Editor of the journal Clinical Chemistry, Chair of the Laboratory WG of the National Kidney

Disease Education Program, Chair of the WG for Commutability of the IFCC, Chair of the Harmonization Oversight Group of the International Consortium for Harmonization of Clinical Laboratory Tests, a member of the US delegation to ISO TC 212 for Clinical Laboratory Testing and In Vitro Diagnostic Test Systems, a member of the Accuracy Based Testing Committee of the CAP and several other work groups for clinical laboratory standards. He is a past-president of the AACC and of the CLSI.



**Sverre Sandberg** is director of the Norwegian quality improvement of primary care laboratories (Noklus), director of the Norwegian Porphyria Centre (NAPOS) and is a professor at the University of Bergen. He has been chair of the Committee on Evidence-Based Laboratory Medicine in IFCC and chair of The Global Campaign of Diabetes Mellitus in IFCC. From 2009 to 2013 he was chair of the Scientific Committee in EFLM. He was vice president in EFLM from 2014 and president from 2016. From 2012 to 2014 he was Chairman of the European Organization for External Quality Assurance Providers in Laboratory Medicine (EQALM). He is chairing the TFG (task and finish group) for the biological variation database of EFLM. He has published more than 240 peer reviewed papers.



## The FIFBCML: A Mediterranean leading platform for collaboration and innovation in laboratory medicine



CHAIR: Marc Antoine Zablith (LB) & Bernard Gouget (FR)  
CO-CHAIR: Fethy Ben Hassine (TN) & Bobo Amarín (JO)

10.30 – 12.30

ROOM: CONFERENCE ROOM 1

COOPERATION WITH: FIFBCML

4 LECTURES

### INTRODUCTION Smail Belazzoug (DZ)

### LECTURES

#### Christian Haddad (LB)

*The SDBL: A key player in the surrounding region to strengthen clinical labs infrastructures and expertise*

#### Layachi Chabraoui (MA)

*The role of the SMCC for sharing and transferring laboratory medicine knowledge in Morocco*

#### Adderazak Hedhili (TN)

*STBC: Trends in medical biology in Tunisia*

#### Abdelhalim Chachou (DZ)

*ALAM: The added-value of the clinical laboratory in the Algerian health care system*

### ROUND TABLE

*Challenges in the management of laboratory medicine in the Mediterranean and Middle East*

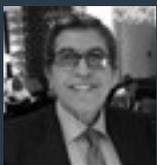
Chair : Mohammed Touimi Benjelloun (MA)

Speakers : Taieb Messaoud (TN), Abdelrhafour Guedira (MA), Ahmad Sabbah (LB)

### SESSION OVERVIEW

The session will provide a substantive overview of keys areas in the scientific and managerial aspects of laboratory medicine in the French speaking countries and will offer opinions on the impact of new technologies, economic factors and social development that may play a role in shaping the future of laboratory medicine. The topics covered by the FIFBCML representatives (Algeria, France, Lebanon Morocco, Tunisia) will range from comparative typologies of medical biology systems to the future of lab medicine and its sub specialities, from the changing role of the specialist in laboratory medicine to the impact of genomic, precision medicine and information technologies, from consolidation in private labs and/or in hospital and University practices to the shift of PoCT, from quality management reforms with the implementation of the accreditation to the harmonization of the training in Euro-Mediterranean countries.

### ABOUT THE SPEAKERS



**Smail Belazzoug** is a Professor in the Pathology Department at Virginia Commonwealth University where he serves as Director of Clinical Chemistry and Director of Pathology Information Systems. His professional interests and research has focused on standardization and harmonization of laboratory results, QC and EQA-PT. His current professional activities include: Associate Editor of the journal Clinical Chemistry,

Chair of the Laboratory WG of the National Kidney Disease Education Program, Chair of the WG for Commutability of the IFCC, Chair of the Harmonization Oversight Group of the International Consortium for Harmonization of Clinical Laboratory Tests, a member of the US delegation to ISO TC 212, member of the Accuracy Based Testing Committee of the CAP and several other WG for clinical laboratory standards.



**Layachi Chabraoui** is Professor of Biochemistry and Molecular Biology in the Faculty of Medicine and Pharmacy University Mohammed V of Rabat, Past Vice-Dean of the Faculty, Head of the central laboratory of biochemistry and of the Centre of the hereditary metabolic diseases at the University Hospital Ibn Sina, Rabat Morocco. He is currently the President of the Société Marocaine de Chimie Clinique (SMCC)

and President of the Moroccan Society for Study of Inborn Errors of Metabolism (MSSIEM). At the international level he is Past President of the AFCB, Vice-President of the FIFBCML, National Representative of the National Society member (SMCC) and Corresponding member of the International Society for Study of Inborn Errors of Metabolism (SSIEM).



**Abdelhalim Chachou** is medical doctor, medical biology specialist and medical microbiology specialist. He is director of medical biology laboratory and President of medical biology laboratories association in Algeria. Board member of FIFBCML.



**Christian Haddad** is President of the Union of Biologists of Lebanon, Member of the EB and Treasurer of the FIFBCML, Chairman of the Scientific Committee of the AFCC, Chairman of the Commission for Continuing Education from the Ministry of Health in Lebanon, Chairperson of the Accreditation Commission of the Laboratories of Medical Analysis and President of the Association of Former Students of the Free University of Brussels in Lebanon. He was appointed as Director of Laboratories and the Blood Transfusion Center, Notre Dame de Secours de Jbeil University Hospital Center, Assistant Professor at the Faculty of Medicine and the School of Nursing at the University of the Holy Spirit in Kaslik and Head of the Quality Assurance University Diploma of the University of the Holy Spirit of Kaslik and Paris VI.



**Adderazak Hedhili** is Professor of Toxicology, Faculty of Pharmacy, Monastir Tunisia. He is head of the Toxicology and medical biology Department at the Emergency Center « Mahmoud Yacoub d'Assistance Médicale Urgente ». He is currently Director of the Research Department on Toxicology and environmental biology. He is serving as AFCB Vice-Président AFCB and as Vice president of the National order of Pharmacists in Tunisia. He published more than 80 referenced publications

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# Scientific Societies Profiles



## AACC

Dedicated to achieving better health through laboratory medicine, AACC brings together more than 50,000 clinical laboratory professionals, physicians, research scientists, and business leaders from around the world focused on clinical chemistry, molecular diagnostics, mass spectrometry, translational medicine, lab management, and other areas of progressing laboratory science. Since 1948, AACC has worked to advance the common interests of the field, providing programs that advance scientific collaboration, knowledge, expertise, and innovation. For more information, visit [www.aacc.org](http://www.aacc.org).

American Association for Clinical Chemistry (AACC)

Contact Person: Melanie Gibson, Director, Membership Development

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Website: [www.aacc.org](http://www.aacc.org)



## BALKAN CLINICAL LABORATORY FEDERATION (BCLF)

The Balkan Clinical Laboratory Federation (BCLF) as a regional organization includes all Balkan countries, i.e. Albania, Bosnia and Herzegovina, Bulgaria, Greece, Macedonia, Montenegro, Romania, Serbia, Turkey, that are also EFCC and IFCC members. As a regional organization BCLF gathers all clinical chemists from the Balkan region with the aim of improving clinical laboratory practice in each of the Balkan countries, as a result of new medical discoveries, new technologies, and changes in the organization and in the process of laboratory support of clinical activities. To achieve this aim BCLF will work on the basis of a strategic plan.



## CDC

The CDC is one of the major operating components of the USA Department of Health and Human Services. CDC laboratories routinely work with some of the most deadly germs in the world – identifying health threats and conducting vital public health research. CDC constantly develops and reviews extensive laboratory guidelines and procedures to protect both the public and laboratory workers

[www.CDC.gov](http://www.CDC.gov)

The logo for CIRME, featuring the acronym in a bold, sans-serif font.

UNIVERSITÀ DEGLI STUDI  
DI MILANO

## CIRME

The Research Centre for Metrological Traceability in Laboratory Medicine (CIRME) was created in 2006 with the scope to join in a unique entity teachers and investigators of various Departments of University of Milan interested in the development of higher order metrological calibration materials and reference methods in the field of the Laboratory Medicine. The CIRME reference laboratories are accredited by the Accredia (Ente Italiano di Accreditamento) according to ISO 17025 and ISO 15195 standards for performing ALT, ALP, AST, CK, LDH,  $\gamma$ GT, plasma glucose and HbA1c reference procedures. CIRME is a member of the Joint Committee for Traceability in Laboratory Medicine (JCTLM), a global cooperation to promote international comparability, reliability and equivalence of measurement results in clinical laboratories.

The main activities of CIRME are:

- Characterization and certification of reference materials
- Evaluation of commutability of reference and calibration materials
- Value targeting of EQAS materials
- Validation of traceability of commercial diagnostic systems

CIRME- University of Milan

Via GB Grassi 74, 20157 Milano - Italy

Tel. 02/50319836 and 02/39042806

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E-mail: [cirme@unimi.it](mailto:cirme@unimi.it)

Web site: <http://users.unimi.it/cirme/home/index.php>

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## EEPHARM

Despite continuous breakthroughs and advances in molecular technologies, clinical genomic and pharmacogenomic applications still remain challenging, mostly due to insufficient information and education of health professionals and the lack of implementation of pharmacogenomic and genomic analyses in medical prescription reimbursement. Personalized medicine, although still in its infancy, is an emerging scientific field that promises to deliver radical changes to healthcare. It aims to better elucidate prediction, susceptibility, prevention, diagnosis and prognosis of disease and ultimately, it aims to more effective therapeutic approach, through understanding the individual characteristics of each patient.

New technologies in genomics offer a wealth of possibilities, both to identification of new pharmacological targets and the development of new drugs. Moreover, genomic research has succeeded great improvements in understanding the mechanisms of gene-gene and gene-disease interactions, evolving genomic research to a tool that can reduce both the cost of drug development and production and the cost of treatment of a disease.

The Hellenic Society of Pharmacogenomics and Personalized Diagnosis and Therapy (EEPHARM) was founded in 2015 aiming to cover an existing gap and is the national representative of Greece at the European Society of Pharmacogenomics and Personalized Therapy (ESPT).

Aim of the Society is to promote knowledge and research in the field of Pharmacogenomics and Personalized Diagnosis and Therapy, to contribute to the improvement of Public Health through implementation of state of the art developments within the science Pharmacogenomics and Individualized Diagnosis and Therapy. Furthermore, aim of the Society is to promote scientific and professional improvement of its members, the cooperation with the Ministries of Health and Education and other governmental and non-governmental bodies and to promote issues related to the science of Pharmacogenomics and Personalized Diagnosis and Therapy. The society represents its members in European and International organizations that deal with education, specialization and research within the science of Pharmacogenomics and Personalized Diagnosis and Therapy. Moreover, EEPHARM looks forward to actively support research, to contribute to the advancement of science in the field of personalized therapy.

Hellenic Society of Pharmacogenomics and Personalized Diagnosis and Therapy is located in Athens, Sinopsis 36, 11527 Goudi, Greece,  
T: +302107274149,  
F: +302107274512,  
E: [info@esptnet-eu.gr](mailto:info@esptnet-eu.gr)  
W: [esptnet-eu.gr](http://esptnet-eu.gr)



## EUROPEAN FEDERATION OF CLINICAL CHEMISTRY AND LABORATORY MEDICINE (EFLM)

The European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) was formed in 2007 by the merger of the Forum of European Societies of Clinical Chemistry and Laboratory Medicine (FESCC) and the European Communities Confederation of Clinical Chemistry and Laboratory Medicine (EC4).

EFLM connects National Societies of Clinical Chemistry and Laboratory Medicine and creates a platform for all specialists working in the field in Europe. EFLM acts as a single strong European organization and provides leadership in clinical chemistry and laboratory medicine to national professional societies, to the diagnostic industry and to governmental and nongovernmental organisations in order to serve the public interest in health care.

Current membership of EFLM comprises National Societies from 40 European Countries representing in total around 20.000 Specialists in Laboratory Medicine.

The operational structure of EFLM consists of an Executive Board and five Committees which carry out their tasks via Working Groups and Task Groups. EFLM functional units involve around 180 officers from 30 different European Countries.

The mission of EFLM is to enhance patient care and improve outcomes by promoting and improving the scientific, professional and clinical aspects of clinical chemistry and laboratory medicine and to ensure effective representation of laboratory medicine both at European Union level and to other pan-European and subregional bodies.

EFLM Office  
Via C. Farini 81 - 20159 Milan, Italy  
[www.eflm.eu](http://www.eflm.eu)



## EUROPEAN ORGANISATION FOR EXTERNAL QUALITY ASSURANCE PROVIDERS IN LABORATORY MEDICINE (EQALM)

The European Organisation for External Quality Assurance Providers in Laboratory Medicine (EQALM) is a non-profit organisation and currently has members from 29 European countries and 6 countries from outside Europe. EQALM provides a forum for co-operation and exchange of knowledge on quality-related matters in laboratory medicine, especially with regard to external quality assessment (EQA) programs in Europe. EQALM promotes activities such as organizing meetings with scientific and practical themes for members and other interested parties, issuing scientific publications, developing EQA projects and representing laboratory medicine EQA activities within other organisations and networks. EQALM is active in scientific and educational activity in different fields such as for example survey frequency, haematology, haemostasis, microbiology, nomenclature, virtual microscopy, traceability, accreditation, and quality assurance of the total testing process.



## ESCCA

ESCCA was founded with the aim to ensure continuation of activities of EWGCCA, to affiliate European local Societies in order to exchange tools for education and accreditation in flow cytometry and to establish collaboration between European centres that use and develop flow cytometric applications

ESCCA current mission is:

- To promote the use of (Flow) Cytometry in clinics
- To provide education and tools in clinical cytometry
- To give guidelines for the everyday practice
- To bridge between fundamental research and clinical flow



## ESPT

ESPT is a society that brings together people interested in all aspects of pharmacogenetics, pharmacogenomics and all approaches focused on improving the delivery of medicines to the right patient at the right dose and at the right time. ESPT sets out to provide its members with valuable services to facilitate networking and to encourage teamwork that will advance this field, focusing in particular on strategies to translate basic academic research into tangible clinical benefit.

Our key aims are:

- To facilitate the introduction and clinical use of pharmacogenomics data in the clinic.
- To increase multidisciplinary collaborations between participating disciplines including, but not limited to, pharmacologists, clinical chemists, laboratory medicine specialists, geneticists and clinicians.
- To encourage and participate in independent clinical trials and in collaboration with the pharmaceutical industry.
- To develop and propose guidelines and recommendations working together with the appropriate agencies.
- To propose teaching programs and courses.
- To lobby for European grants and support mechanism.
- To establish an Outreach Program for teaching and clinical trials to territories beyond the EU, building on established networks in Latin America, Africa and Asia.

Meeting Name: Eu-PIC / ESPT / TF-PG open meeting  
Date: Wednesday 14 June 2017  
Time: 14:00-15:30  
Venue: Room Erato C - Hilton Hotel Athensg



## FÉDÉRATION INTERNATIONALE FRANCOPHONE DE BIOLOGIE CLINIQUE ET DE MÉDECINE DE LABORATOIRE (FIFBCML)

The Fédération Internationale Francophone de Biologie Clinique et de Médecine de Laboratoire (French International Federation for Clinical Biology and Laboratory Medicine, FIFBCML) was created on the initiative of 5 founding members are Algeria, France, Lebanon, Morocco, Tunisia. The main objective of the Francophone Federation is to work for the promotion of the Francophony and the use of the French language by those working in the medical laboratory and in the in vitro diagnostic industry, notably during national and international congresses through the organization of sessions in French. In the last 10 years, each of the founding members has organized "Francophone" meetings or sessions during which the various partners met. Through all of these events and actions, collaboration networks among scientific teams were formed, consolidated and/or gave rise to new networks. In this way, several opportunities for exchange among specialists in lab medicine working on the same topics, in terms of both training and research, were created. All of this has contributed to the FIFBCML now being recognized as a driving force for other international learned societies, namely IFCC and its 6 regions with which partnerships were formed during recent Congresses.

Contacts:  
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Pr Smaïl BELAZZOUG, FIFBCML President, [s\\_belazzoug@hotmail.com](mailto:s_belazzoug@hotmail.com)



## FEDERATION OF LABORATORY MEDICINE (FLM)

The constituent Assembly of Association of laboratory specialists and organizations "Federation of laboratory medicine" (FLM) was held at 30 June 2014 in Irkutsk at Irkutsk Diagnostic Center. The co-founders were the Russian public, scientific-practical, medical non-profit organizations in the field of laboratory diagnostics. At 7 October 2014 the Federation of laboratory medicine has been registered in the Ministry of Justice of the Russian Federation as a legal entity. Today (March 2017), the Federation of laboratory medicine, whose President is Anatoly G. Kochetov is a professional laboratory community, including 57 legal entities and 5057 individual persons. Federation of laboratory medicine continues to expand, and by integrating all lab specialists, including specialists with higher and secondary education, working in medical laboratories, but also scientists, educators, producers, managers, community is a laboratory of a new type and gives the possibility of solving the accumulated problems of laboratory service through genuine community participation in the work of the national health system. Dynamic and constantly updated website of the Association FLM contains latest news of laboratory medicine, normative documents, information on the activities of the Association FLM and also the opportunity to obtain legal support for professionals in the field of laboratory diagnostics. The Association has own printed edition – scientific-practical journal "Laboratory services" included in the list of scientific editions in which should be published basic scientific results of theses on competition of a scientific degree of candidate of Sciences, on competition of a scientific degree of the doctor of Sciences. The journal is intended for heads of medical institutions, lab specialists, representatives of related professions, manufacturers and suppliers of medical products.

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Moscow  
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Website: <http://www.fedlab.ru>

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## GREEK SOCIETY OF CLINICAL CHEMISTRY CLINICAL BIOCHEMISTRY

The Greek Society of Clinical Chemistry - Clinical Biochemistry (GSCC-CB) represents the scientific community (clinical chemists, chemists, biochemists, biologists, medical doctors, etc) who are involved in the sector of Laboratory Medicine.

These scientists work in the following institutions:

- Laboratories of Hospital and Clinics of Public and Private sector, mainly Biochemistry, but also Blood Banks, Hematology and Coagulation, Immunology, Bacteriology and Virology, Molecular Biology and Genetics, Hormonology and Diabetes care departments, Cytology, Nuclear Medicine, etc.
- Private Clinical Laboratories
- Research Centers and Universities
- IVD Companies

The Greek Society of Clinical Chemistry - Clinical Biochemistry was founded in 1989 and has more than 500 full and honorary members and benefactors. It is the Greek member of the IFCC (International Federation of Clinical Chemistry and Laboratory Medicine), of the EFLM (European Federation of Clinical Chemistry and Laboratory Medicine) and of the EC4 (European Communities Confederation of Clinical Chemistry) now part of the EFLM.

According to their university education the members of the Greek Society of Clinical Chemistry- Clinical Biochemistry are:

- Chemists: 52,8%
  - Biologists: 23,8%
  - Biochemists: 12,1%
  - Medical Doctors: 6,8%
  - Pharmacists: 1,9%
  - Others: 2,6%
- 43% of them followed postgraduate studies.

The Greek Society of Clinical Chemistry - Clinical Biochemistry has as mission to enhance patient care and to improve outcomes by promoting and improving the scientific, professional and clinical aspects of clinical chemistry and laboratory medicine and to ensure effective representation of laboratory medicine professionals. The operational structure of Greek Society of Clinical Chemistry and Clinical Biochemistry consists of an Executive Board and various Committees. Officers of the Executive Board (president, vice president, general secretary, scientific secretary, treasurer and two members-at-large) are elected by the General Assembly for 3-year terms. The main activities of Greek Society of Clinical Chemistry and Clinical Biochemistry relate to education, research, development of the profession, requirements for competence, quality and accreditation of laboratories and organization of congresses.

### GREEK SOCIETY OF CLINICAL CHEMISTRY -CLINICAL BIOCHEMISTRY

47, Alopekis street, GR-106 76 Athens Greece  
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<http://www.eekx-kb.gr>, [info@eekx-kb.gr](mailto:info@eekx-kb.gr)



## HELLENIC SOCIETY OF CEREBROVASCULAR DISEASES

The Hellenic Society of Cerebrovascular Diseases / Hellenic Stroke Society (HSS) is a scientific organization that its members are medical doctors involved with diagnosis and medical care of stroke patients. HSS is a full member of World Stroke Organization (WSO) and European Stroke Organization (ESO) and it participates in the Hellenic Alliance/Action for Stroke. Among its activities are the promotion of research collaboration with other scientific organizations and societies and educational activities for health care providers and the public with its participation in the world-stroke campaign.



## INTERNATIONAL FEDERATION OF CLINICAL CHEMISTRY AND LABORATORY MEDICINE (IFCC)

The International Federation of Clinical Chemistry and Laboratory Medicine (IFCC) is an organization of 90 Full Members National Societies, 12 Affiliate Members National Societies and 48 Corporate Members serving laboratory professionals worldwide. Through leadership, collaboration and innovation in science and education IFCC enhances the scientific and clinical quality and understanding of laboratory medicine so improving clinical outcomes for patients. This is achieved by providing a forum for standardization of laboratory methods and by expanding scientific, educational and managerial services within laboratory medicine through publications, scientific meetings, and specialized conferences.

### IFCC OFFICE

Via Carlo Farini 81  
20159 Milano, Italy  
Email: [ifcc@ifcc.org](mailto:ifcc@ifcc.org)  
[www.ifcc.org](http://www.ifcc.org)



## INTERNATIONAL UNION OF IMMUNOLOGICAL SOCIETIES (IUIS)

The International Union of Immunological Societies (IUIS) is an umbrella organization for many of the regional and national societies of immunology throughout the world. The IUIS declared objectives are (i) to organize international co-operation in immunology and to promote communication between the various branches of immunology and allied subjects, (ii) to encourage within each scientifically independent territory co-operation between the Societies that represent the interests of immunology, and (iii) to contribute to the advancement of immunology in all its aspects.



## JOINT COMMITTEE FOR TRACEABILITY IN LABORATORY MEDICINE (JCTLM)

Harmonisation in laboratory medicine involves the reduction in variability of laboratory practices and methods as contributors to improved patient safety. Method standardisation can be achieved by application of the metrological principles of traceability to the field of laboratory medicine. The Joint Committee for Traceability in Laboratory Medicine (JCTLM) was formed to support achievement of these goals at a global level, joining the traditions and activities of the fields of metrology, laboratory medicine and accreditation.

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# Forthcoming Congresses

## IFCC WORLTLAB DURBAN 2017

On behalf of the Congress Organizing Committee you are invited to WorldLab Durban 2017. The meeting will take place in Durban, South Africa, a vibrant subtropical city paradise known for its pristine beaches and diverse cultural heritage. Apart from its golden beaches, the Drakensburg Mountains are only an hour away and a favourite spot for hiking and climbing. Game parks and famous battlefields of historical wars between the British and Zulus are a common attraction. Table Mountain, Cape Town and the Kruger National Park are only 2 hours away. The DURBAN INTERNATIONAL CONVENTION CENTRE is one of the premier convention centres in Africa and has been voted Africa's leading Meeting and Conference Centre for the 10<sup>th</sup> time. Durban has also been voted the city with the best quality of life in South Africa in 2015 and is the only city bidding for the 2022 Commonwealth games.

We extend a warm welcome to you and look forward to meeting you in Durban, Africa's heritage city and South Africa's best kept secret.

Congress Presidents

Rajiv Erasmus and Tahir Pillay

Durban International Convention Centre  
Albert Luthuli ICC, Durban, South Africa  
22-25 October, 2017



## IFCC - EFLM EUROMEDLAB BARCELONA 2019

On behalf of the Spanish Society of Laboratory Medicine (SEQC ML) it is a great pleasure to invite you to the 23<sup>rd</sup> IFCC-EFLM European Congress of Laboratory Medicine, from May 19<sup>th</sup> to May 23<sup>rd</sup> 2019 in Barcelona.

This meeting in the Mediterranean and well-connected city of Barcelona will offer you a stimulating scientific programme covering the most recent scientific and technological advances in clinical chemistry and laboratory medicine combined with Europe's largest Commercial Exhibition of invitro diagnostic products. SEQC ML has always taken great pride in organising its congresses with an active participation of around 1000 delegates and the pleasing feature of a high number of young attendees. At present time, our Society, founded 40 years ago, has a total of 2565 members of which 335 are trainees in Laboratory Medicine. SEQC ML organises five Annual Educational Programmes with more than 2000 participants and an extensive EQAS programme distributed among 700 participating centres with a total of 5000 registrations. One of the main goals of our Society's Strategic Plan is to increase the presence of SEQC ML members in EFLM and IFCC groups and to establish strong relationships with the Latin-American Scientific Societies.

EuroMedLab Barcelona 2019 will offer a few days of intense activity and will provide participants with a wonderful opportunity to learn and hear from experts, to develop and strengthen relationships with peers, and to take home enjoyable and valuable memories.

We sincerely hope to see you in  
Barcelona in May 2019

Congress President

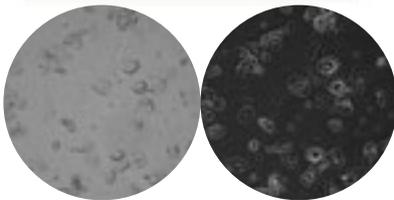
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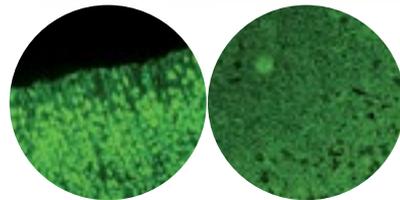
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WORKSHOP**

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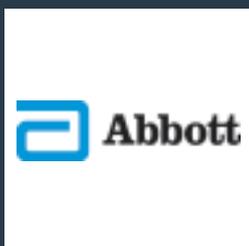
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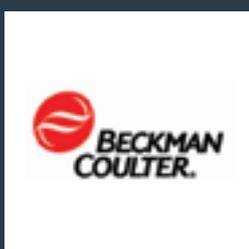
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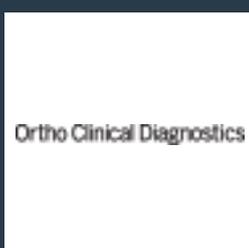
At Beckman Coulter, we are dedicated to advancing and optimizing the laboratory. For more than 80 years, Beckman Coulter has been the partner of choice for clinical laboratories and helped healthcare professionals advance patient care through laboratory excellence. Beckman Coulter's instruments, systems and tests help streamline processes to enhance efficiency, reduce costs and speed the delivery of results. As a global leader, we are devoted to providing comprehensive solutions that target a number of diagnostic disciplines for laboratories of all sizes, including laboratory automation, chemistry, immunoassay, hematology, flow cytometry, urinalysis, molecular diagnostics, microbiology and information systems.

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### WORLD HEADQUARTERS

Brea, California, US



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Sandra Ferreira  
Ortho Clinical Diagnostics  
[sandra.ferreira@orthoclinicaldiagnostics.com](mailto:sandra.ferreira@orthoclinicaldiagnostics.com)



Roche is a global pioneer in pharmaceuticals and diagnostics focused on advancing science to improve people's lives.

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The Roche Group, headquartered in Basel, Switzerland, is active in over 100 countries and in 2015 employed more than 91,700 people worldwide. In 2015, Roche invested CHF 9.3 billion in R&D and posted sales of CHF 48.1 billion. Genentech, in the United States, is a wholly owned member of the Roche Group. Roche is the majority shareholder in Chugai Pharmaceutical, Japan. For more information, please visit [www.roche.com](http://www.roche.com).

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- Molecular Diagnostics
- Plasma Proteins
- Urinalysis
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Founded in 1991, Mindray is one of the leading global providers of medical devices and solutions, committed to provide better healthcare for all. We offer a broad range of products across three primary business segments: Patient Monitoring & Life Support, In-Vitro Diagnostics, and Medical Imaging System, which have been sold to 190+ countries and regions. Mindray possesses a sound global R&D, marketing and service network with 42 international branches in 32 countries, as well as 31 branches in China. To date, we have approximately 7,300 employees from 40+ countries.

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Sysmex Corporation is a world leader in clinical laboratory systemisation and solutions, including laboratory diagnostics, laboratory automation and clinical information systems. Serving customers for over 40 years, Sysmex delivers technological leadership in diagnostic science and information tools that make a difference in the health of people worldwide.

The company is also exploring emerging opportunities in the life science field and others. Headquartered in Kobe, Japan, Sysmex has subsidiaries in North America, Latin America, Europe, China and Asia Pacific and employs over 6,000 employees worldwide. Sysmex Europe GmbH, a subsidiary of Sysmex Corporation, is located in Norderstedt, Germany.

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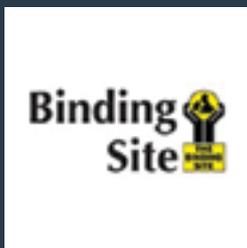


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contact person: Rikkert Maertens

e-mail: [rikkert.maertens@fujirebio.com](mailto:rikkert.maertens@fujirebio.com)



Stago, created in 1945, is an IVD Company which develops and markets reagents and automated systems for the investigation of blood coagulation disorders. Stago is a leading player in Haemostasis. Headquarters, as well as R&D, manufacturing and logistics activities are located mainly in the Paris area (France). Its products are also available in more than 110 countries throughout the world through a network of 15 affiliates and 95 distributors. In 2016, Stago has more than 2,200 employees worldwide.

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### ADALTIS

Adaltis and I.S.E. are sister companies operating in the IVD medical device field. Adaltis develops, manufactures and markets in-vitro diagnostic systems and reagents to detect viral infections, diagnose immune system diseases and measure human hormone responses. Adaltis provides as well dedicated customized services and antibody production. Adaltis has a strong record in OEM / ODM development and production of systems and kits.

I.S.E.'s range of chemical analyzers is designed for hospital laboratories, healthcare professionals, independent labs, and other organizations requiring high quality clinical laboratory analysis. Established in 1992 and based in Rome, Italy, ISE has installed thousands of analyzers worldwide. The Company is strongly committed to supplying innovative analyzers that meet international standards to its customers.

### ADVANCED INSTRUMENTS

Advanced Instruments, a leading supplier of instrumentation for clinical laboratories around the world, exhibits its line of freezing point osmometers: Models 3320, 3250, and A2O®, and introduces two exciting, new products for hospital laboratories: OsmoPRO® Multi-Sample Micro-Osmometer

Designed specifically to meet the workflow demands of today's busy laboratory, OsmoPRO provides rapid, accurate osmolality results with ease and efficiency. GloCyte® Automated Cell Counter for CSF The new FDA cleared analyzer delivers highly accurate and precise TNC and RBC counts, with just 30 µL of sample per test, using a novel combination of fluorescence and imaging technology with linearity down to 0 cells/µL.

### ALEXION

Alexion is a global biopharmaceutical company focused on developing and delivering life-transforming therapies for patients with devastating and rare disorders. Patients with these life-threatening diseases often have no effective treatment options; they and their families suffer with little hope. Our goal is to deliver medical breakthroughs where none exist. We are driven by the knowledge of this significant unmet medical need, and that people's lives depend on our work. Alexion's premier global metabolic franchise includes two highly innovative enzyme replacement therapies – Strensiq® (asfotase alfa) for patients with hypophosphatasia (HPP) and Kanuma™ (sebelipase alfa) for patients with lysosomal acid lipase deficiency (LAL-D). Alexion also developed and commercializes Soliris® (eculizumab), the first and only approved complement inhibitor to treat paroxysmal nocturnal hemoglobinuria (PNH) and atypical hemolytic uremic syndrome (aHUS). We are committed to investing in ongoing research and development focused on innovative therapies with life-transforming potential.

www.alexionpharma.eu

### ANACHEM

AnaChem was founded in Athens in 1999 and is one of the leading suppliers of HPLC, LC-MS/MS kit diagnostics, as well as, Elisa assays and Rapid tests. Our success as a reliable partner in laboratory diagnostics and research institutions, has mainly been defined by the consistent implementation of a customer-oriented, stringent quality policy, premium quality innovative products and our competent and fast service. All diagnostic and research products we supply, are developed and produced in the state-of-the-art plants of our partners: Immundiagnostik AG, Recipe GmbH, Hyphen Biomed, Alpco, Operon, Bioron, Ansh Labs, MIC, Preventis, LTA, Biosynex, Diazyme, controlled by certified quality management system (ISO 13485 and ISO 9001), delivering confidence to our customers.

9 Adrianiou str., 11525 N.Psihiko, Athens GREECE, tel.:+30 210 6741 765 fax: +30 210 6741 278, Website: www.anachem.gr

## ARK DIAGNOSTICS INC.

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ARK Diagnostics Inc. develops, manufactures, and distributes in vitro diagnostic immunoassays for Therapeutic Drug Monitoring (TDM) and Urine Drug Testing (UDT). For TDM, clinicians use these measurements to guide dosing decisions for safe, effective, and personalized drug therapy. By optimizing drug levels, clinicians improve outcomes, reduce toxicity, and lower healthcare costs. For UDT, ARK has several unique assays for Fentanyl, Pregabalin, Gabapentin, and Methylphenidate Metabolite. Additionally, ARK has many other unique TDM and UDT Assays in development. ARK's quality management system is certified to ISO 13485:2003. The company is committed to quality compliance and carefully follows Good Manufacturing Practices. ARK uses its unique blend of scientific expertise and deep industry knowledge to deliver high-quality assays for new generations of drugs. Its highly regarded homogeneous enzyme immunoassay technology is adaptable to a variety of clinical chemistry analyzers.

Founded in 2003, ARK Diagnostics, Inc. is a privately held company in Fremont, California.

## ASP LAB AUTOMATION

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ASP Lab Automation - your professional partner for efficient Pre- and Post- specimen handling. Who we are: ASP Lab Automation is your professional partner for efficient specimen handling in the Pre- and Post-Analytical stages in clinical labs. We deliver the automation and expertise to improve your processes and throughput in the most cost efficient way. From consultation to the installation and ongoing maintenance of state of the art specimen handling instruments we consistently support our clients in optimizing their Pre- and Post-Analytical operations. Products: The SortPro processes the tubes as bulk. By scanning the barcodes and reading the cap color of the incoming specimens, identifies each specimen, registers them with the LIS, sorts them into easy to handle sample bins. The sorting targets are configured specific to each lab's needs.

ASP Lab Automation AG, Rugenranzel 4, 25373 Ellerhoop, Germany, info@asplabauto.com, www.asplabauto.com, Phone +49 4120 7067927

## AWARENESS TECHNOLOGY, INC.

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Awareness Technology, Inc. headquartered in Palm City, FL, USA is known worldwide as a leader in clinical laboratory instrumentation, reagents and assays for small-to-medium-volume laboratories. Our strengths in design and manufacturing, sales and support of high-quality diagnostic analyzers, are what drive demand and brand loyalty for our products among many of today's modern laboratories and research facilities across the globe.

USA, 1935 S.W. Martin Hwy. Palm City, FL 34990 USA, Phone: 772-283-6540, Fax: 772-283-8020 www.awaretech.com

Europe, Franz-Siegel-Gasse 1, 2380 Perchtoldsdorf, Austria, tel.: +43 (1) 804 81 84, fax: +43 (1) 804 81 85 info@awaretech.eu www.awaretech.eu

## BECTON DICKINSON

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BD is a global medical technology company that is advancing the world of health by improving medical discovery, diagnostics and the delivery of care. The company provides innovative solutions that help advance medical research and genomics, enhance the diagnosis of infectious disease and cancer, improve medication management, promote infection prevention, equip surgical and interventional procedures, and support the management of diabetes. BD's 40,000 associates in 50 countries work with customers and partners to help enhance outcomes, lower health care delivery costs, increase efficiencies, improve health care safety and expand access to health. For more information, please visit [bd.com](http://bd.com)

## BIOLYPH

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BIOLYPH converts manufacturers' unstable reagents into room temperature stable, instantly rehydrating LyoSpheres™ packaged inside any consumable device. BIOLYPH's technology provides years of shelf life, allows incompatible reagents to coexist, eliminates cold-chain dependency, revolutionizes ease of use, and simplifies workflow. Reagents produced as LyoSpheres™ include proteins, enzymes, antibodies, PCR Master Mixes, LAMP reagents, immunoconjugates, enzyme conjugates, calibrators, controls, cytokines, cell culture reagents, latex particle reagents, and more. BIOLYPH uses its expertise in Lyophilization, Packaging, and Manufacturing to understand, analyze, optimize and stabilize our Clients' reagents. This maximizes the Quality, Performance and Value of your Diagnostic and Research reagents.

Please visit our booth #89 to discuss your needs and learn how BIOLYPH can serve you.

BIOLYPH's booth is located on the ENTRANCE LEVEL in the KOKALI ROOM behind SIEMENS.

## BIOSYSTEMS S.A.

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BioSystems S.A. develops, manufactures and commercializes Reagents and Instruments for clinical analysis since 1981. Both quality of products and quality of service have always been two main targets, as well as the fulfillment of current regulations ISO13485:2012, ISO 9001:2008 and CE mark for IVD products. A long experience and a deep know-how are the basis of a long catalogue of products with their own development, where we can emphasize reagents of Clinical Chemistry, Coagulation, Hematology, Autoimmunity and Serology. As far as the instrumentation division, BioSystems S.A. has a complete line of Random Access Automatic Analyzers with a dedicated reagent product line for Clinical Chemistry and Hematology testing. It is interesting to emphasize the incorporation of instruments dedicated to the diagnosis of autoimmune diseases such as the Immunofluorescence Processor, the Immunofluorescence LED microscope and the software for the immunofluorescence results management in the autoimmunity laboratory.

## BIT GROUP

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BIT Group is a global resource for development, manufacture and service of IVD, medical and life science instrumentation. As part of the financially strong Messer World since 1976, we offer services in major markets with our main locations in USA, China, Japan, Germany and France. Our clients range from fast-growing start-ups to Fortune 500 companies. The kaizen philosophy guides our manufacturing, while our product development is driven by compressing timelines through our platform technology, rapid innovation and iterative prototyping. BIT offers a variety of platform technologies, which are based on the BITSMArtsolutions™ modules. We also provide a broad white-label product line for core IVD markets including hematology, clinical chemistry and immunoassay analyzers, enabling our clients to offer automation solutions in these markets in a timely and cost-effective fashion. Utilization of the BITSMArtsolutions™ platform technologies enhances product quality, time-to-market, reliability and product pricing. BIT Group is FDA registered and ISO-13485 certified.

## BÜHLMANN

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BÜHLMANN offers the new BÜHLMANN fCAL® turbo turbidimetric fecal calprotectin assay applicable on clinical chemistry platforms with a measuring range of 20 – 8'000 µg/g. The unique CALEX® stool extraction device provides a new dimension in extraction precision, stability and ease of use, eliminating direct contact with stool. The new CALEX® will also be directly adaptable on laboratory tracking systems for random access and full automation for high throughput. The Quantum Blue® fecal calprotectin rapid ranges from 30 – 1'000 µg/g, and with the Quantum Blue® Infiximab and Adalimumab trough level rapid tests we launch our therapeutic drug monitoring testline. Other key areas are the BÜHLMANN GanglioCombi™ MAG ELISA, Flow CAST® Basophil Activation Test and clinical routine diagnostics tests like ACE (+High Sensitive ACE), CYC and GHB. BÜHLMANN is a fully independent, globally active Swiss based company. The Exhibiting COMPANY's main areas of activity are: • Development and manufacturing of unique immunoassays, • Distribution of in vitro diagnostic products

BÜHLMANN Laboratories AG, Baselstrasse 55, CH-4124 Schönenbuch/Basel, Phone: +41 61 487 12 12, Fax: +41 61 487 12 34  
Email: [info@buhlmannlabs.ch](mailto:info@buhlmannlabs.ch) Web: [www.buhlmannlabs.ch](http://www.buhlmannlabs.ch)

## CHROMSYSTEMS

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Chromsystems is a leading global company providing ready-to-use reagent kits, multilevel calibrators and quality controls for routine clinical diagnostics by LC-MS/MS and HPLC. Our parameter menu covers a range of areas such as newborn screening, therapeutic drug monitoring, steroid analysis, vitamin profiling and more. We continuously expand our portfolio with additional tests all ensuring a highly accurate as well as cost-effective analysis. We enable laboratories to add new parameters into their diagnostic routine and expand their testing menu without prior technical expertise. They can immediately start the analysis with a minimum of time for the sample preparation. The products are comprehensively validated, and in particular LC-MS/MS methods with all widely used tandem mass spectrometers. They are CE-IVD compliant, satisfying regulatory requirements in the laboratory. We combine these high quality products with an excellent support programme and service for our customers. For more information please visit [www.chromsystems.com](http://www.chromsystems.com).

Stand no. 9

Chromsystems' main areas of activity are: LC-MS/MS, HPLC/UHPLC, Reagent kits, calibrators and controls for clinical diagnostics

Am Haag 12, 82166 Gräfelfing/Germany, Phone: +49 89 18930-0, Fax +49 89 18930-299, E-mail: [mailto:mailbox@chromsystems.com](mailto:mailto:mailbox@chromsystems.com)  
Web site: [www.chromsystems.com](http://www.chromsystems.com)

## DIAGAM

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DiAgam is a European company, with more than 20 years of experience, which manufactures Specific Protein reagents: Label CE, ISO 9001:2008 and ISO 13485. Liquid reagents, controls and calibrators Calibrators and controls are traceable to International Standards (WHO, IFCC, NIBSC, etc...). Nanotechnologies with colloidal particles for CRP, Cystatin C, Ferritin & RF. Thanks to our manufacturing flexibility, all our parameters in different packaging: Kits dedicated to analysers (Modular®, Cobas®, AU®, Ortho VITROS®, Abbott Architect®- Siemens ADVIA®)\* Vials and Bulk, available with our label or in OEM.

[www.diagam.com](http://www.diagam.com)

## DIAGNOSTICS BIOCHEM CANADA INC

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At Diagnostics Biochem Canada Inc (DBC) it has been our mission for over 44 years to develop and market unique immunoassay kits that make a difference in the field of diagnostics and public health. As a manufacturer of high quality ELISA and LIA Test Kits, we are constantly looking for new technologies and applications that can lead to an improvement in the diagnosis of disease and ultimately impact the quality of life of people around the world. ISO 9001 & 13485. CE, FDA & Health Canada.

## DIASORIN

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DiaSorin is an Italian multinational Group and a global leader in the market for in vitro diagnostics. DiaSorin is listed on the MTA (automated stock market) in the FTSE Italia Mid Cap Index, organized and managed by Borsa Italiana S.p.A. For over 40 years the Group has been developing, producing and commercializing diagnostic tests for a wide range of clinical areas. DiaSorin tests are designed for hospital and private testing laboratories, in the markets of immunodiagnosics and molecular diagnostics.

DiaSorin S.p.A.

Via Crescentino snc, 13040 Saluggia (VC), Italy, [www.diasorin.com](http://www.diasorin.com)

## DIASOURCE IMMUNOASSAYS

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30 years of experience in IVD (kits and instrumentation) DIAsource ImmunoAssays (formerly BioSource), an international diagnostic company based in Belgium, develops, manufactures and markets clinical diagnostic products in the field of endocrinology and infectious diseases. We are committed to Vitamin D, including IVD and RUO Products. Our panel of assays allows the performant detection and measurement of various forms of Vitamin D metabolites : 25OH Vitamin D, 1,25(OH)<sub>2</sub> Vitamin D. Constantly looking for new technologies and applications, we put our expertise in the development of new antibodies and assays to measure relevant biomarkers. We are strengthening our position in the diagnostic market by validating our ELISA assays on our open automate. These innovation mark a turning point for our company, and makes of DIAsource, already renowned in the RIA market, a complete diagnostic provider.

We also provide selected instrumentation : we offer Elisa reader, washer and shaker, along with open and closed fully automated Elisa platforms helping our customers to automate their tests. Present in more than 75 countries through his professional network of 80 distributors, DIAsource also sells directly his own products and products from other selected manufacturers to IVD laboratories in some European countries. In January of 2016 DIAsource has been acquired by Anteo ([www.anteodx.com](http://www.anteodx.com)).

## DIASYS DIAGNOSTIC SYSTEMS

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DiaSys Diagnostic Systems is leading specialist in development and manufacturing of diagnostic system solutions of high quality combined with ease of use and reduced environmental burden.

Focusing on clinical chemistry and immunoturbidimetry, DiaSys has introduced more than 90 optimized tests for routine and special diagnostics. The products offer reliable results in routine and special diagnostics (e.g. in diabetes, metabolic syndrome, lipid disorders, iron metabolism, pancreatic, kidney or liver diseases).

The analytical systems portfolio comprises automated clinical chemistry analyzers, e.g. respons®910 or BioMajesty®JCA-BM 6010/C. DiaSys provides products for point of care (QDx®) as well as InnovaStar® and SensoStar® analyzers. Additionally, DiaSys offers a broad range of quality controls (TruLab®). DiaSys is certified since 1996 (ISO 13485). To date, customers and partners in more than 100 countries around the world rely on DiaSys quality. Choosing quality: [www.diasys-diagnostics.com](http://www.diasys-diagnostics.com)

DiaSys Diagnostic Systems GmbH

Alte Strasse 9, 65558 Holzheim, Germany, Tel. +49 6432 9146.0, Fax +49 6432 9146.32, E-mail: [mail@diasys.de](mailto:mail@diasys.de) Website: [www.diasys.com](http://www.diasys.com)

## DIATRON

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Diatron develops, manufactures and markets hematology analyzers, clinical chemistry analyzers and associated reagents, controls and calibrators for human medical and veterinary use. The company was founded in Budapest, Hungary 28 years ago and is one of the top 5 global hematology analyzer manufacturers. Since its inception, Diatron has been at the forefront of laboratory diagnostics. The Diatron products are being sold and marketed in more than 100 countries and today, there are more than 40,000 Diatron clinical chemistry and hematology analyzers in laboratory use. Diatron recently became a Stratec AG company, a market leader in automation solutions in the diagnostic industry, who develop high quality systems for the IVD and Life Science markets.

At Euromedlab 2017, Diatron is exhibiting together with its valued clinical chemistry partner, Medicon. Diatron is showcasing its new 3-part diff hematology analyzer, the Diatron Aquila and the flagship analyzer of its Pictus clinical chemistry portfolio.

Sales Team – [sales@diatron.com](mailto:sales@diatron.com) – Tel: +36 1 436 9800

Brian Conibere – Marketing Director - [marketing@diatron.com](mailto:marketing@diatron.com)

Andrea Kocsis - Marketing Manager - [marketing@diatron.com](mailto:marketing@diatron.com)

Website: [www.diatron.com](http://www.diatron.com)

## DIRUI INDUSTRIAL CO

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Since its establishment in 1992, Dirui has been dedicated to the research & development, manufacturing and sales of high quality medical testing products (medical devices, diagnostic reagents, and immune reagents). Dirui has obtained a multitude of national invention patents as well as the CE mark for all products manufactured. Nowadays, Dirui can supply biochemistry, urine, and hematology products. Pioneering the technologies of anti-VC urinalysis reagent strips and quality controls, Dirui is also the first Chinese domestic manufacturer of automatic bio-chemical analyzers. Dirui's FUS series urine sediment analyzer feature world class advanced technology to ensure the highest quality results on a stable, easy to use system.

Changchun Dirui Industrial Co., Ltd, 95 Yunhe Street, High & Development Zone, Changchun, China.

## DISERA

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Disera was established in 1996, Izmir/ TURKEY. We are active in diagnostic field by producing of VACUSERA Branded Evacuated Blood Collection Tubes, Accessories and Hospital Products. Our production activities are managed according to the ISO 13485: 2003 quality standards. Vacusera Blood Collection Tubes are CE marked according to 98/79/EC In Vitro Diagnostic devices and are produced to the related standards of ISO 6710 and EN 14820. Vacusera Blood Collection Needles are also CE certified and manufactured according to 93/42/EEC directives. All components of Vacusera Blood Collection Systems improve patient's comfort, help safe and quality blood collection and also reliable test results.

## DRG INSTRUMENTS

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DRG established in 1970, develops, manufactures and distributes. ELISA and CLIA test kits for clinical and research applications worldwide. NEW ELISAs: AMH, Amyloid Beta 1-40 Oligomer, DHT, Hecpudin 25 (bioactive), CYR-61, CTGF, Estrone (Saliva). DRG:HYBRiD XL Combi Analyzer:

This innovative and unique technology allows the simultaneous measurement of immunoassays and clinical chemistry parameters including turbidimetric tests in one sample. The comprehensive assay menu will include routine and niche parameters. Up to 40 different tests of up to 40 patient samples can be run. Ready-to-use reagents are provided in special reagent cartridges. NEW Assays available: AFP, Androstenedione, Calprotectin, DHEA, Hecpudin 25 (bioactive), PSA, TM CA 72-4 and many others. The Exhibiting COMPANY's main areas of activity are: Production of enzyme-linked immunoassays (ELISA's) for fertility, diabetes, tumor diagnosis, infectious diseases and many other diagnostic fields.

Division of DRG International Inc., NJ, USA, Frauenbergstr. 18, 35039 Marburg - GERMANY, Tel. +49-6421-17000, Fax +49-6421-1700-50  
E-mail: drg@drg-diagnostics.de Web site: www.drg-diagnostics.de

## EUROFINS BIOMNIS

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Eurofins Biomnis is European leader in specialised medical and clinical pathology. Our expertise covers all disciplines of in-vitro diagnostic assays, where we have an established reputation for the development of novel, highly specialised assays and hold all of the necessary accreditations and certifications for the performance of these esoteric tests. We serve hospitals, medical centres, and laboratories on a global scale and perform over 40,000 analyses per day using the latest technology in the fields of prenatal diagnostics, NIPT, oncology, human genetics, molecular virology, infectiology, allergology, biochemistry. Eurofins Biomnis prides itself on delivering a professional, high-end customer service to all of our international clients, assuring the finest quality of support, logistics, analysis and expertise in pathology. Numerous innovative tests in the fields of prenatal diagnostics, cancer prognosis and personalised medicine will be presented at our booth during Euromedlab.

## EUROIMMUN

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EUROIMMUN is an international provider of medical laboratory products for autoimmune diagnostics, infection diagnostics, allergology and molecular diagnostics. The company's portfolio encompasses indirect immunofluorescence, ELISA, immunoblot, radioimmunoassay and microarray test systems and spans over a thousand diagnostic parameters. State-of-the-art instruments and software provide efficient automation of analyses, increasing productivity and reliability in routine diagnostics. EUROIMMUN scientists participate in many international research projects, contributing to cutting-edge advances in laboratory diagnostics. Pioneering developments include BIOCHIP technology, designer antigens, recombinant-cell IFT and multiplex molecular allergology systems. A renowned reference laboratory and a quality assurance programme are part of EUROIMMUN's expert technical service.

EUROIMMUN AG Dept.: Events Seekamp 31 23560 Luebeck Germany VAT: DE135116900

## FUJIFILM

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Fujifilm is a pioneer in a point-of-care Clinical Chemistry system for healthcare facilities with more than 20,000 placement worldwide. Since 1984, our clinically proven products and technologies are constantly evolving to help medical professionals perform more effectively and efficiently. Please find Fujifilm's point-of-care product line up at our booth. - Dri-Chem NX500, a clinical chemistry system for multiple tests. - Dri-Chem NX10, a Clinical Chemistry for Ammonia concentration - Immuno AG1, an innovation rapid test system for Respiratory disease.

## GENTIAN

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Gentian is an international team working on global solutions for improving clinical accuracy to change health care. Our headquarters is in Moss, Norway with representative offices in Sweden, China and USA. We currently manufacture cystatin C, NGAL, Canine CRP and Fecal Calprotectin turbidimetric assays for use on a wide range of clinical chemistry analyzers as well as our new Calprotectin assay for use with serum and plasma samples (Launching second half of 2017) . We have an active pipeline with more products under development. Our subsidiary PreTect develop and manufacture real-time, nucleic acid amplification-based qualitative assays for detecting oncogenic activity in cervical samples. Gentian's goal is to offer more efficient and accurate test solutions in the areas of kidney disease, cardiovascular diseases, inflammation and oncology.

## GREINER BIO-ONE

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Greiner Bio-One GmbH is among the world market leaders in the areas of Preanalytics, BioScience and Sterilization. The company is divided into three business units: The Preanalytics business unit develops and produces sampling systems for human specimens such as blood, urine, and saliva. They are used in hospitals, medical laboratories and medical practices. The BioScience business unit develops and produces special products for the cultivation and analysis of cell cultures such as micro-plates for high-throughput screening. Fields of application can be found in universities, research institutes, and the diagnostic pharmaceutical and biotechnological industry. Mediscan is a specialist for the sterilization of medical products and food packaging.

## HITACHI

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Hitachi's message to healthcare can be seen in our automation/transportation systems for pre/post-analytical sample processing, as well as our X-ray blood irradiator. Maximizing workflow and safety in laboratories and hospitals. That is our mission in developing our laboratory/blood safety products.

Hitachi has been a leading company in the field of sample automation since the 1970's. To simplify pre-processing, to give patients reassurance, and to relieve operators from time-consuming work, our clinical laboratory systems are active in hospitals and laboratories throughout the world. The systems automatically prepare and transfer large quantities of specimens at outstanding speed and precision. We are the pioneer of X-ray blood irradiator in Japan, started as early as the 1990's. Equipped with embedded X-ray dosimeter, our system gives maximum precision and safety both to the operator and the transfusion blood product.

## IMMUNODIAGNOSTIC SYSTEMS PLC (IDS)

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Immunodiagnostic Systems PLC (IDS) is a leading in-vitro diagnostic solution provider to the clinical laboratory market. We develop, manufacture and market innovative immunoassays and automated immunoanalyser technologies to provide improved diagnostic outcomes for patients. Our immunoassay portfolio is a combination of an endocrinology specialty testing menu and assay panels in complementary fields. Our immunoassay portfolio is available as a combination of tests for use on our fully-automated IDS-iSYS Multi-Discipline Automated System, or as stand-alone manual test kits. This complete offering meets the needs of both clinical and research laboratories of all types and sizes with their diagnostic testing requirements. Our IDS heritage within certain endocrinology fields offers a solid platform to develop a market-leading endocrinology menu: Bone Metabolism, Calcium, Metabolism, CKD-MBD, Fertility, Growth, Hypertension.

For more information, please come and visit us on stand 62 or go to [www.idsplc.com](http://www.idsplc.com)

10 Didcot Way, Boldon Business Park, Boldon, Tyne & Wear, NE35 9PD, United Kingdom, Tel: +44 (0) 191 519 0660, Fax: +44 (0) 191 519 0760  
Email: [info@idsplc.com](mailto:info@idsplc.com) - [www.idsplc.com](http://www.idsplc.com)

## IMMUNDIAGNOSTIK AG

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Immundiagnostik AG is a globally operating diagnostics company represented in over 60 countries. We focus on the development and production of innovative immunoassays (ELISA, EIA) and other analytical detection methods (e.g. HPLC, LC-MS/MS and PCR) for medical routine and research. Our mission is to provide effective tools for prevention, differential diagnosis and therapy monitoring in the areas of gastroenterology, cardiovascular diseases, disorders of the skeletal system and oxidative stress. The product portfolio is completed by a broad range of antibodies and antigens. Our business relations include contract analyses for diagnostic laboratories and academic research institutions, especially in context with clinical trials. Cooperation with pharmaceutical industry and a tight network with scientific organisations are the basis for a successful sustainable product development. Our comprehensive range of products is continuously refuelled by a rich pipeline of proprietary developments. With a headcount of more than 80 employees, Immundiagnostik's headquarter is located in Bensheim/Germany.

## IMPROVE MEDICAL

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IMPROVE MEDICAL is a high-tech enterprise established in 1996, providing technologies, products, services and solution for clinical diagnosis laboratories and clinical nursing. Main products are in the field of clinical diagnosis and clinical nursing, including Immu-sign™ Immunofluorescence Assay System, IMPROVACUTER® venous blood collection system, IMPROMINI® capillary blood collection system, IMPROSWAB® microbiological collection and transport system, LONGX® urine analysis system, IMPRONURSE® infusion pump and syringe pump, automatic decapper, Auto-ESR Analyser, Lancet and Safety Syringe etc.

IMPROVE MEDICAL is an ISO9001 and ISO13485 certificated company. Our products are CE certificated, meanwhile, we finished FDA 510(K) for Gel & Clot Activator tube in July 2010. Our blood collection set with safety shield got FDA approval in 2014.

## INFOMED CS

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Infomed CS is a pioneering and innovative software company that develops and supports state-of-the-art Laboratory Information and Management Systems (LIS / LIMS), as well as Radiology Information Systems (RIS). With almost 25 years of experience, our company develops, implements and maintains solutions that adapt to the workflow of any health unit, following their constantly growing demands in volumes and complexity and aligns with the demands and expectations of the market. sLis Enterprise is a Laboratory Information System that is advanced, fully integrated, fast, powerful, user-friendly. It provides a unique working environment to all diagnostic departments, from Clinical Chemistry to Hematology, Coagulation, Immunology, Serology, Microbiology, Pathology, Cytology or Molecular Biology, Blood Bank & Radiology using just one database and ensuring the information is shared & synchronized among all laboratory users. At the same time, it is a sophisticated tool for Quality Control Management across all laboratory sections.

## INPECO SA

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Inpeco group is the leading company for managing workflows of Clinical labs, from the tracking lines of Total Lab Automation inside the lab, to the positive patient identification in remote or bedside collection points. Inpeco devices offer a comprehensive process management solution that ensures full traceability of medical tests and the widest analyzers connections range, thus realizing a truly-open lab integration.

Inpeco has an unparalleled expertise built in 20 years, with more than 1300 tracks installed in clinical labs, in all continents; our FlexLab™ system can automate almost all kinds of lab specialties and high throughput workflows. The ProTube™ system allows for the error-free matching of patient, test and tubes, in every collection situation. Inpeco has recently launched a solution for pathology labs, built around an intelligent workflow dashboard that manages the complex routing of this speciality.

Via San Gottardo 10, 6900 Lugano, Switzerland, [info@inpeco.com](mailto:info@inpeco.com) - [www.inpeco.com](http://www.inpeco.com)

## INSTAND E.V.

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INSTAND e.V. is one of the world's leading organisations for external quality assessment (EQA) in laboratory medicine, located in Düsseldorf, Germany. As a non-profit organization, it constitutes an interdisciplinary and independent scientific medical society with a unique and historically-grown network of outstanding experts in the different fields of laboratory medicine. As a recognized member of national and international scientific bodies, INSTAND e.V. works in close cooperation with national and international organisations that are shaped by their joint commitment for standardisation and quality control. INSTAND e.V. periodically organises national and international symposia, training courses and workshops. The high level of quality of INSTAND's work is documented by its recent accreditation in accordance with DIN EN ISO/IEC 17043. Internal as well as external quality control and quality assurance have formed the backbone of INSTAND e.V.'s activities over several decades. In recent years, external quality assessment has played an ever increasing role in improving the inter-laboratory reliability and comparability of diagnostic results in the application of the different assay or test methodologies of various manufacturers. Promoting these processes on a national and international level is a declared aim of INSTAND e.V. All our efforts and activities are for the improvement and assurance of patient care and patient safety.

For further information or participation in our External Quality Assessment Schemes: [www.instand-ev.de](http://www.instand-ev.de)

Mrs Michaela Wälter, Ubierstr. 20, 40223 Düsseldorf, Germany, +49 (0)211-15 92 13 17, [waelter@instand-ev.de](mailto:waelter@instand-ev.de) - [www.instand-ev.de](http://www.instand-ev.de)

## KONICA MINOLTA

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Business lines of Konica Minolta, Inc. are development, manufacturing and sale of multi-functional peripherals (MFPs), printers, equipment for production print systems and graphic arts, equipment for healthcare systems, measuring instruments for industrial and healthcare applications, inkjet printheads and textile printers for industrial use, and related consumables and solution services.

## LABQUALITY

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Labquality is an independent external quality assessment provider from Finland. Labquality assists medical laboratories in developing and maintaining their performance by offering external quality assessment services as well as quality control and training. Labquality's services are used by over 5000 customers mainly in Europe. Labquality is supporting medical laboratories to full fill ISO15189 standard requirements by providing clinically relevant external quality assessment for the whole process of laboratory investigation, including preanalytical and postanalytical aspects. Labquality's EQA program covers all main areas of laboratory medicine, microbiology and point-of-care testing. International Congress on Quality in Laboratory Medicine is one of the most interesting events in Europe offering a series of key note lectures and scientific symposium, focusing on the latest developments within quality of laboratory diagnostics. Labquality's main areas of activity are: EQAS (PT) External Quality Assessment Service, IQAS (QC) Third Party Quality Controls, Labquality Days International Congress on Quality in Laboratory Medicine

Kumpulantie 15, FI-00520 Helsinki, FINLAND, Tel. +358 9 85668200, Fax +358 9 85668280, E-mail: [info@labquality.fi](mailto:info@labquality.fi)  
Web site: [www.labquality.fi](http://www.labquality.fi) & [www.labqualitydays.com](http://www.labqualitydays.com)

## LIFOTRONIC

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Established in 2008, as a professional medical device manufacturer, Lifotronic specializes in the development, manufacturing and marketing of In-Vitro Diagnostic and Bedside Treatment products.

Headquartered in Shenzhen, China, Lifotronic provided products and services to over 50 countries worldwide with our regional distribution partners. Lifotronic is mainly focusing on the products as below:

- HPLC HbA1c Analyzer: H8/H9 HbA1c Analyzer, suitable for medium and big lab which need higher performance on HbF and variant hemoglobin detection with fast throughput. GH-900 HbA1c Analyzer, is a low cost automation solution for smaller sample volume. - Immunofluorescence Analyzer(POC) FA-160 is a convenient solution for small lab, clinic, doctor office etc., with multiple parameters availability, such as HbA1c, CRP, PCT, HCG, NT-proBNP, cTnI, CK-MB, Myo, D-dimer, mAlb, Cys-c, etc.

## MAYO MEDICAL LABORATORIES

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Mayo Medical Laboratories is a global reference laboratory bringing Mayo Clinic diagnostic excellence to physicians and patients around the world. Our personal approach to patient care extends into every aspect of our business. In addition to providing excellent reference laboratory services with over 23 million tests performed from around the world, we provide 24-hours access to diagnostic and clinical consultation. Your patient specimens are treated exactly as a Mayo Clinic patient's specimens with immediate turnaround.

## MEDICON

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Medicon specializes in development and manufacture of system-specific clinical chemistry reagents for several brands of clinical chemistry analyzers. We use our own technology and flexibility to develop and adapt our reagents to several types of automated chemistry analyzers, taking in account the special design characteristics of each analyzer, thus meeting and exceeding the original manufacturer's performance and we offer world class services to our customers. We have extensive expertise in reagents for Immunoturbidimetric assays that can be applied on any analyzer type and permits fast and economical testing of a variety of specific proteins.

We export branded and bulk products to more than 20 countries. Through our valued partnership with Diatron we strive for excellence and global market penetration. We exhibit at Euromedlab 2017 together with Diatron, showcasing the excellent design characteristics of our ITA products that ensure excellent analytical performance, safety from non-specific binding, and high prozone tolerance.

Contact: Mr. Sakis Mitropoulos - Director, Customer services - [mitropoulos@mediconsa.com](mailto:mitropoulos@mediconsa.com) - Tel: +302106606120  
Website: <http://www.mediconsa.com>

## MEDICON

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Website: <http://www.mediconsa.com>

## NEOMEDICA

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NeoMedica is a dynamic European company specialized in developing and manufacturing IVD medical devices. We focus on making continuous investments in key technologies, products and standards in the IVD field and are dedicated to providing safer, smarter, and more quality, user-friendly products, thereby creating a better experience for users. Being present on the market worldwide for more than 17 years, we make no compromise when it comes to quality, safety and customers' satisfaction. NeoMedica provides a wide range of high quality and innovative products. From our wide products assortment, we emphasize: High quality CHEMISTRY REAGENTS, NeoChem Series of FULLY AUTOMATED BIOCHEMISTRY ANALYZERS, COMPATIBLE HEMATOLOGY REAGENTS, Phoenix Series of HEMATOLOGY ANALYZERS, VETERINARY ANALYZERS, URINE ANALYZERS, ISE ANALYZERS, BIOCHEMISTRY WASHING SOLUTIONS, RAPID SCREENING TESTS, etc.

Having in mind that being successful comes with a great responsibility to give back to others, NeoMedica manufactures cyanide-free, environment-friendly reagents. Our products ensure inexpensive, fast and reliable diagnostics, essential for quality healthcare available for every member of the community.

Welcome to NeoMedica – excellence in your laboratory. Contact information: Ana Veljkovic - MARKETING AND LOGISTICS

Visit us in Athens on EUROMEDLAB 2017, June 11th to 15th 2016, booth 87 in Kokkali Hall

Blvd. Svetog Cara Konstantina 82-86, Nis 18000, Serbia, E-mail: [ivd@neomedica.rs](mailto:ivd@neomedica.rs) - Web site: [www.reagentsandanalyzers.com](http://www.reagentsandanalyzers.com)

Tel: +381 18 533936, Fax: +381 18 573616, Mob: +381 63 10 60 844

## NIHON KOHDEN

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Since Nihon Kohden foundation in 1951, our mission is to improve the quality of life with advanced technology. For over 40 years Nihon Kohden has developed its hematology expertise. As a leading manufacturer of medical electronic equipment, Nihon Kohden provided a number of state of the art medical electronic equipment for clinical practice and in mid-sized laboratories in the world. We are expanding our activities into emergency care, home care and health promotion. With the time, the structure of diseases in the society has changed. We respond to such changes and contribute to the world by Improving Healthcare with Advanced Technology.

## NOVA BIOMEDICAL

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Nova is a world leader in point of care and critical care in vitro diagnostics. Products include Allegro, a compact, POC analyser measuring HbA1c, Total Cholesterol, HDL Cholesterol, Triglycerides, Glucose and Creatinine from capillary whole blood, plus Urine Albumin and Urine Creatinine; the new Stat Profile® Prime Plus blood gas critical care analyser featuring ZERØ™ maintenance cartridge technology, automated, liquid QC, and a 22 test menu including iMg, Urea, Creatinine and Co-oximetry. StatStrip® Glucose/Ketone meters for accurate measurement while eliminating interferences from haematocrit, maltose, oxygen, and other substances; StatStrip® Lactate offers rapid POC screening and monitoring of sepsis or use as an alternative to fetal scalp pH testing in the delivery suite; StatSensor® Creatinine measures capillary whole blood creatinine and calculates estimated glomerular filtration rate (eGFR) for rapid assessment of renal function prior to using contrast media in radiology. Nova Biomedical develops manufactures and sells analyzers in six worldwide market areas: Hospital Based Blood Gas and Critical Care Analyzers, Hospital Based Point-of-Care Meters and Test Strips, Primary Care Chronic Disease Management, Chemistry and Cell Analyzers for Biotechnology, Self-Testing Diabetes Monitors, OEM Medical Device Development and Contract Manufacturing

200 Prospect Street, Waltham, Massachusetts 02454 USA, Tel. 781-894-0800, Fax. 781-894-5915

Email: [info@novabio.com](mailto:info@novabio.com), Web site: [www.novabiomedical.com](http://www.novabiomedical.com)

## NOVATEC IMMUNDIAGNOSTICA

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NovaTec Immundiagnostica GmbH is an IVD Manufacturer and a Research and Development Company located in Germany. We are ISO 13485 and CE Certified as well as register with the FDA (USA) as a Manufacturer. Our main focus is on the development and production of in vitro diagnostic test kits for both human and veterinarian markets.

Our product range includes ELISA, Real Time PCR and Blots. Private labeling (OEM) is also one of our core competencies. We manufacture tests for a wide range of analyzers, including fully automated and semi automated equipment (closed and open systems). Our expertise includes areas of: Infectious Diseases, Allergy, Food Intolerance, Hormones, Tumor Markers,

Waldstrasse 23 A6, Dietzenbach, 63128 – Germany, Phone: +49 6074 4876 0, Fax: +49 6074 4876 29

Email: [info@novatec-id.com](mailto:info@novatec-id.com), Website: [www.novatec-id.com](http://www.novatec-id.com)

## PHILIPS

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Royal Philips is a leading health technology company focused on improving people's health and enabling better outcomes across the health continuum from healthy living and prevention, to diagnosis, treatment and home care. Philips leverages advanced technology and deep clinical and consumer insights to deliver integrated solutions. Handheld Diagnostics is a dedicated Philips business that focuses on developing innovative in-vitro diagnostics solutions to revolutionize Point-of-Care testing. Together with key strategic partners, Philips is developing dedicated assays to create a suite of specific blood tests that could ultimately provide doctors with accurate blood test information near the patient to support real-time decision-making.

Visit us at: [www.philips.com/minicare](http://www.philips.com/minicare)

## RESPONSE BIOMEDICAL CORP.

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Response Biomedical Corp. develops, manufactures and markets the RAMP® system, a rapid diagnostics platform that delivers lab quality performance for efficient patient management in acute care settings.

RAMP® is a global leader in point of care (POC) testing with a wide range of markers available on the platform including Troponin I, CK-MB, Myoglobin, NT-proBNP, D-dimer and Procalcitonin. For effective and efficient patient care, RAMP® tests aid in the rapid diagnosis of Acute Myocardial Infarction, Heart Failure and Sepsis.

Manufactured in a world class facility in Vancouver, Canada, RAMP® tests are of the highest quality and can be run on either the portable, battery-operated, single-port RAMP® reader or the high throughput, modular, RAMP®200 reader which has additional compliance features and enhanced connectivity. The system requires no calibration or maintenance is easy to use, cost-effective and has minimal service requirements.

1781 - 75th Avenue W., Vancouver, B.C., V6P 6P2  
[www.responsebio.com](http://www.responsebio.com)

## SARSTEDT

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The SARSTEDT Group, an international enterprise with headquarters in Germany, develops and produces instruments and consumables for medicine and research. Our subsidiaries and a wide network of authorized dealers guarantee world-wide distribution and sale of these products. Our product range includes the S-Monovette® Blood Collection System as well as high-quality consumables for use in laboratories, regional anaesthesia and haemotherapy, hospital supplies and system solutions for transfusion medicine and medical research. Special analysers and instruments for automated processes in the laboratory complement this range. By constant communication with our customers and uncompromisingly adapting to practice-oriented requirements we have established a user-friendly and extensive range of high-quality products. State-of-the-art technologies, a skilled workforce and comprehensive customer service guarantee these consistently superior quality standards in manufacturing and distributing innovative precision products tailored to suit the most sophisticated analytical requirements.

Sarstedt AG & Co. Sarstedtstr. 1: 51588 Nümbrecht/Germany Tel. +49 22 93 30 50, Fax +49/22 93 30 51 22,  
E-Mail: [info@sarstedt.com](mailto:info@sarstedt.com) - Homepage: [www.sarstedt.com](http://www.sarstedt.com)

## SCIEX

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SCIEX helps customers advance clinical research with easy-to-use mass spectrometry tools and pre-configured LC-MS/MS methods, as well as software ideal for clinical research applications. Our QTRAP® and TripleTOF® systems deliver superior results for trace-level analysis and quantification of steroids, immunosuppressants, drugs of abuse and related compounds. Researchers experience greater confidence across a wider range of testing, and at significantly lower levels of detection. SCIEX strives to exceed expectations and enable customers to turn insights into answers that change lives.

[www.sciex.com/clinicalresearch](http://www.sciex.com/clinicalresearch) For research use only.

## SEBIA

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Sebia a global specialty diagnostic company, develops, manufactures and commercializes IVD tests and analyzers dedicated to the in vitro diagnosis of cancer, inflammatory diseases, diabetes and hemoglobin disorders. Sebia's focus on electrophoresis techniques enables it to maintain a sustained R&D program, providing access to genuine innovations in any lab. Both agarose gel and capillary assays, and their dedicated automation, are designed to be integrated into the same routine workflow; for gel (Assist, Hydrasys 2 Scan) and for capillary electrophoresis (Capillarys 3 TERA, stand alone or in work cell configuration up to three instruments with tube loader, Capillarys 2 Flex Piercing, Minicap Flex Piercing). More recently Sebia completed its Myeloma product line, with two important additions, Hydrashift daratumumab, reagent to be used with the Hydragel IF test to mitigate the DARZALEX® interference, and two new generations sFLC assays, Seralite serum and Sebia FLC kappa and lambda kits.

SEBIA

Parc Technologique Léonard de Vinci, 27 rue Léonard de Vinci, CP 8010 Lisses – 91008 EVRY Cedex, Tel: 01 69 89 80 80  
[www.sebia.com](http://www.sebia.com)

## SEKISUI DIAGNOSTICS

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Headquartered in Lexington, MA, for over 30 years Sekisui Diagnostics has been committed to helping improve the lives of patients by providing innovative medical diagnostics to physicians and laboratories. We have a history of innovation which includes, as examples, the first homogeneous test for LDL and the first plastic vacuum blood collection tube. We continue to invest in new products in the areas of diabetes, infectious disease, coagulation, diagnostic enzymes and automated systems, and have a leading position as a provider of rapid tests in the US and high throughput coagulation systems in Japan. We develop, manufacture, and supply billions of tests each year to the global healthcare market through our commercial networks and partners. Our product lines include: Clinical chemistry systems and reagents, Coagulation systems and reagents, Rapid tests, Point of care immunoassay system, Enzymes and specialty biochemicals.

Sekisui Diagnostics Ltd

Liphook Way, Allington, Maidstone, Kent ME16 0LQ, Tel: +44 1622607800, Email: [info@sekisuidiagnostics.com](mailto:info@sekisuidiagnostics.com) Web: [www.sekisuidiagnostics.com](http://www.sekisuidiagnostics.com)

## SENTINEL

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Sentinel CH. SpA is an Italian company founded in Milan in 1983, committed to the development of innovative IVD devices in the bid to make clinical diagnosis ever more reliable. From 2006 Sentinel has new high-tech premises covering a total area of about 15.000m<sup>2</sup>. More than 100 different assays are released under the Sentinel brand and also as customized kits. Sentinel is in compliance with the IVD European Directive (98/79/CE), 21 CFR 820 "Code of Federal Regulations" FDA (U.S. Food and Drug Administration) and is ISO 9001:2008, EN ISO 13485:2012, ISO 13485:2003 CMDCAS, BS OHSAS 18001:2007 and ISO 14001:2004 certified. Sentinel has long lasting and successful partnerships with the major companies in the diagnostic sector (Abbott, Beckman-Coulter, Ortho-Clinical Diagnostics, Roche, Siemens and Sysmex) in addition to a well-developed commercial network which distributes Sentinel's products worldwide. Sentinel participates actively at the major international congresses; is an active partner of IRMM projects for new References Preparations for proteins release and of the WEO Colorectal Cancer (CRC) Screening Committee (SC); has established its own Scientific Board and is also a Corporate Member of the IFCC Federation. The Exhibiting COMPANY's main areas of activity are: Clinical Chemistry, Immunoturbidimetry, Fecal Occult Blood (FOB) and Fecal Immunoassay (FIT) testing, Molecular Biology: patented STAT-NAT® technology (Nucleic Acid Testing)

SENTINEL CH. SpA

Via Robert Koch,2 20152 Milano – Italy, Tel. +39 02 3455141, Fax +39 02 34551464

E-mail: [sentinel@sentinel.it](mailto:sentinel@sentinel.it), Web site: [www.sentinel diagnostics.com](http://www.sentinel diagnostics.com)

## SHENZHEN DYMIND BIOTECHNOLOGY

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Shenzhen Dymind Biotechnology Co.,Ltd. is a high-tech corporation specializing in R&D, manufacturing, marketing and service of medical equipments, including in vitro diagnostic products and home ventilator etc. Headquartered in Shenzhen.

Dymind was established by a group of scientist who are professional in medical field. R&D team is comprised of professional talents specializing in multiple disciplines, such as medicine, mechanics, electronics, computing, hydromechanics and optic. Our proprietary products is Auto Hematology Analyzer, including 3-part Auto Hematology Analyzer, 5-part Auto Hematology Analyzer and 5-part Auto Hematology Analyzer with CRP etc.

Dymind products have independent intellectual property rights. we are also with ISO9001&ISO13485 quality management system and the European Union CE certification. Dymind is continuously providing high quality products and excellent services for customers.

## SHIMADZU EUROPA GMBH

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Shimadzu is one of the worldwide leading manufacturers of analytical instrumentation. The company's equipment and systems are used as essential tools in all areas of clinical research. Since more than 140 years, Shimadzu is at the service of science ensuring precise and reliable analyses. Among the leaders in GCMS as well as in LCMS, Shimadzu has recently launched a high-end system LCMS-8060 that is opening new doors for applications in the world of screening and quantification of traces in complex matrices. It is creating new trends in clinical research, metabolomics and lipidomics fields. In addition, a unique fully automated sample preparation system completely integrated with our LCMSMS range will be shown.

Take the opportunity to visit our booth "71".

## T&O LABSYSTEMS

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We are a family-operated developer and manufacturer of laboratory automation solutions located in Hamburg, Germany. T&O was founded by our general manager Tom Lorenzen in 2009, who runs the company together with his sons Dave, who supports his father in the general management and Dennis, who is responsible for software development. Engineers, technicians and economists complete the young interdisciplinary team of T&O, working highly motivated in a familiar atmosphere, driven by innovation, to improve pre-analytical processes in clinical laboratories. Establishing flat hierarchies, as well as a team oriented business culture, has been a key factor for a constant and sustainable growth. With more than 100 installed systems in different countries all over the world, T&O can look back at successful market entries in close cooperation with well-known companies like Siemens, GBO or Roche PVT. We consider ourselves as a reliable partner aiming to build up long-term relationships with our partners.

T&O LabSystems GmbH & Co. KG, Leibnizstraße 7, 24568 Kaltenkirchen, Germany, Tel. +49 (0) 4191 991 3883, E-mail. [cs@to-labsystems.de](mailto:cs@to-labsystems.de)

## TEMPUS600

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TEMPUS600® solution is an easy and safe transport system designed for small clinical samples. The samples are sent in traditional test tubes and arrive securely at the laboratory. The pipeline is connected directly to the laboratory - with no risk of delay, clashes or misdelivery. The TEMPUS600® solution is specifically developed to increase the efficiency in the sample transportation. The system is fast, safe and dedicated – and by enabling one-touch handling and point-to-point delivery the system provides a crucial reduction of the ToTAT.

## TRINITY BIOTECH

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Trinity Biotech specialises in the development, manufacture and marketing of diagnostic test kits. Our continued success is based on the fact, that as a company, we consistently achieve standards of excellence in the quality of all we do. The test kits we manufacture are used in the clinical laboratory and point-of-care segments of the diagnostic market, to detect infectious diseases, sexually transmitted diseases, autoimmune disorders, haemoglobin disorders, and in the detection, monitoring and control of diabetes. We are also a significant provider of raw materials to the life sciences industry. Quoted on the NASDAQ exchange, and with facilities spanning Europe and America, our products are sold in more than 110 countries. We reach our customers worldwide by combining the skills of our own sales force with a network of international distributors and strategic partners.

## WATERS

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At Waters Corporation, we understand the factors necessary to succeed at each stage of the health sciences continuum, from the challenges of biomarker discovery and translation to validation and commercialization of innovative clinical diagnostics. We draw on first class scientific expertise to bridge the translation gap and help further the understanding and management of disease. Driven by purposeful innovation, Waters in vitro diagnostic medical devices such as LC-MS systems, reagent kits, chemistry consumables, and data management tools can add value to your clinical tests that require accurate, precise, and reliable measurements.

## WEQAS

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Weqas is one of the leading External Quality Assessment (EQA) providers with over 45 years experience providing Quality Assurance Programmes in Laboratory Medicine. The organisation based in Cardiff, UK, employs a dedicated team of clinical and biomedical scientists with a wealth of experience in EQA, Reference Method development and Quality Control production. The EQA service has over 30,000 users enrolled both nationally and internationally. Our programmes are underpinned by commutable metrological traceable samples, informative reports and a team of experienced scientists and Point of Care (POC) Co-ordinators. The organisation is accredited to ISO 17043 (Proficiency testing [EQA]), ISO 17025 (Calibration and Testing Laboratories) and ISO 15195 (Reference Measurement Laboratories). Our clinical, scientific and technical expertise places us in a unique position to help laboratories achieve compliance to ISO 15189:2012 and deliver a safe PoCT service.

Global Provider of Quality in Diagnostic Medicine  
Weqas Laboratory & PoCT EQA Programmes  
Weqas Reference Laboratory – the only accredited Reference Laboratory in the UK  
Weqas Educational and Training Services

Unit 6, Parc Ty Glas, Llanishen, Cardiff, CF14 5DU, Tel: +44 (0)2920 314750, Fax: +44 (0)2920 314760, [www.weqas.com](http://www.weqas.com)

## WERFEN

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We are pioneers and developers of IVD testing solutions. We provide high quality systems, reagents and software to labs and hospitals around the world. We have a rich history of innovation across the past five decades and a strong commitment to the future. We strive to enhance care and improve the lives of patients, each and every day. Founded in 1966, Werfen has become a global leader, thanks to our dedication to Research & Development and a targeted acquisition strategy. Through the years, we have remained a private company, allowing us to focus on the long-term, and to grow our R&D investment by 10% annually. We manufacture our products in the USA, Spain and Italy. We are Instrumentation Laboratory, Inova Diagnostics, Biokit and Systelab. We are Werfen.

## YHLO

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Shenzhen YHLO Biotech Co., Ltd.(YHLO) is the leading company of Autoimmunity Solutions in China. Founded in 2008 and headquartered in Shenzhen China, together with a R&D center in Europe, YHLO is specialized in developing, manufacturing and distributing In-Vitro Diagnostic instruments and reagents. YHLO is one of few suppliers in China for the auto system of autoimmune instruments and reagents. YHLO has launched China's first monostest immunology analyzer-UNION IMMUNE ANALYZER and China's first new generation ESR analyzer-VISION ESR ANALYZER with direct EDTA tube testing. In 2016 YHLO has launched China's first high ultra-speed Chemiluminescence System-iFlash 3000 CLIA System. Our products have been confirmed to comply with the requirements of the European In Vitro Diagnostic Directive (98/79 EC). It is our objective to assist our distributors and their customers in increasing lab productivity as well as improving the quality of results and thus providing better medical care.

## ZIVAK TECHNOLOGIES

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Zivak Technologies is an international special company providing ready to use LC-MS/MS and HPLC analysis kits in the clinical diagnostic field. Zivak Technologies supplies also its own fully automated sample preparation and injection system which enables laboratories around the globe to make efficient use of their LC-MS/MS instruments as well as HPLC instruments in a fast, accurate and cost efficient way. Zivak Technologies' Head Office is in Istanbul/Turkey. Sales and marketing activities are carried out in more than 70 countries, either directly by the Headquarter or via distributors. Automated UHPLC system for MS/MS and walk away HPLC systems dedicated clinical analysis, HPLC and LC-MS/MS analysis kits, Consumables.



## BC-6000/6200

Auto Hematology Analyzer

### High Performance for ALL

- Unique SF Cube cell analysis technology (Laser scatter + Fluorescence + 3D analysis)
- NRBC result in every CBC+DIFF count, with additional RET count on BC-6200
- Whole blood and body fluid analysis
- Up to 110 tests per hour
- Touch screen operation
- More intuitive labXpert software for advanced application

Product launch:

Date: June 12 - 13

Time: 11:30 am; 15:00 pm

Venue: Booth No. 5 in Muses Foyer

**mindray**  
healthcare within reach

## Engage with us on stand 7 and:



### DISCOVER

NEW TOOLS TO  
ADDRESS THE  
EPIDEMIC OF ACUTE  
KIDNEY INJURY



### EXPLORE

THE FUTURE OF  
LAB INFORMATICS



### DESIGN

YOUR DREAM  
LAB IN 3D USING  
VIRTUAL REALITY



### EXPERIENCE

A NEW DIAGNOSTICS  
PARADIGM

## EduW 12

**Monday 12 June.** Workshop at Skalkottas Hall

15.45 - 16.45

Acute Kidney Injury and the Role of Cell Cycle Arrest  
Biomarkers in medical management today

**Chair:** F. Chaves (USA)

Acute Kidney Injury the Silent Killer. Incidence and Prevalence

**R. Rivero (SPAIN)**

Role of Cell Cycle Arrest Biomarkers and integration into clinical practice

**L. Forni (United Kingdom)**

## EduW 25

**Tuesday 13 June.** Workshop at Skalkottas Hall

15.45 - 16.45

Change and Change Management:  
Their Impact in Our Labs - And In Our Lives

Managing change in the laboratory to deliver more value

**G. Bradt (USA)**

Visit us at  
EuroMedLab: Booth 13  
Skalkotas Hall Foyer

# RANDOX

## JOIN THE EDUCATIONAL WORKSHOPS

EduW 16  
**Uncertainty of  
Measurement**



Tuesday 13<sup>th</sup> June 2017  
15:45 – 16:45 (Trianti Hall)  
**Speaker:** Margaret Fick  
**Chair:** Prof. M.M. Corsi Romanelli MD PhD

Wednesday 14<sup>th</sup> June 2017  
14:30 – 15:30 (Hall A)  
**Speaker 1:** Dr Jim Curry  
**Speaker 2:** Dr Konstantinos Makris  
**Chair:** Prof. M.M. Corsi Romanelli MD PhD



EduW 31  
**A rapid, automated  
multi analyte biochip  
array for early stroke  
diagnosis**

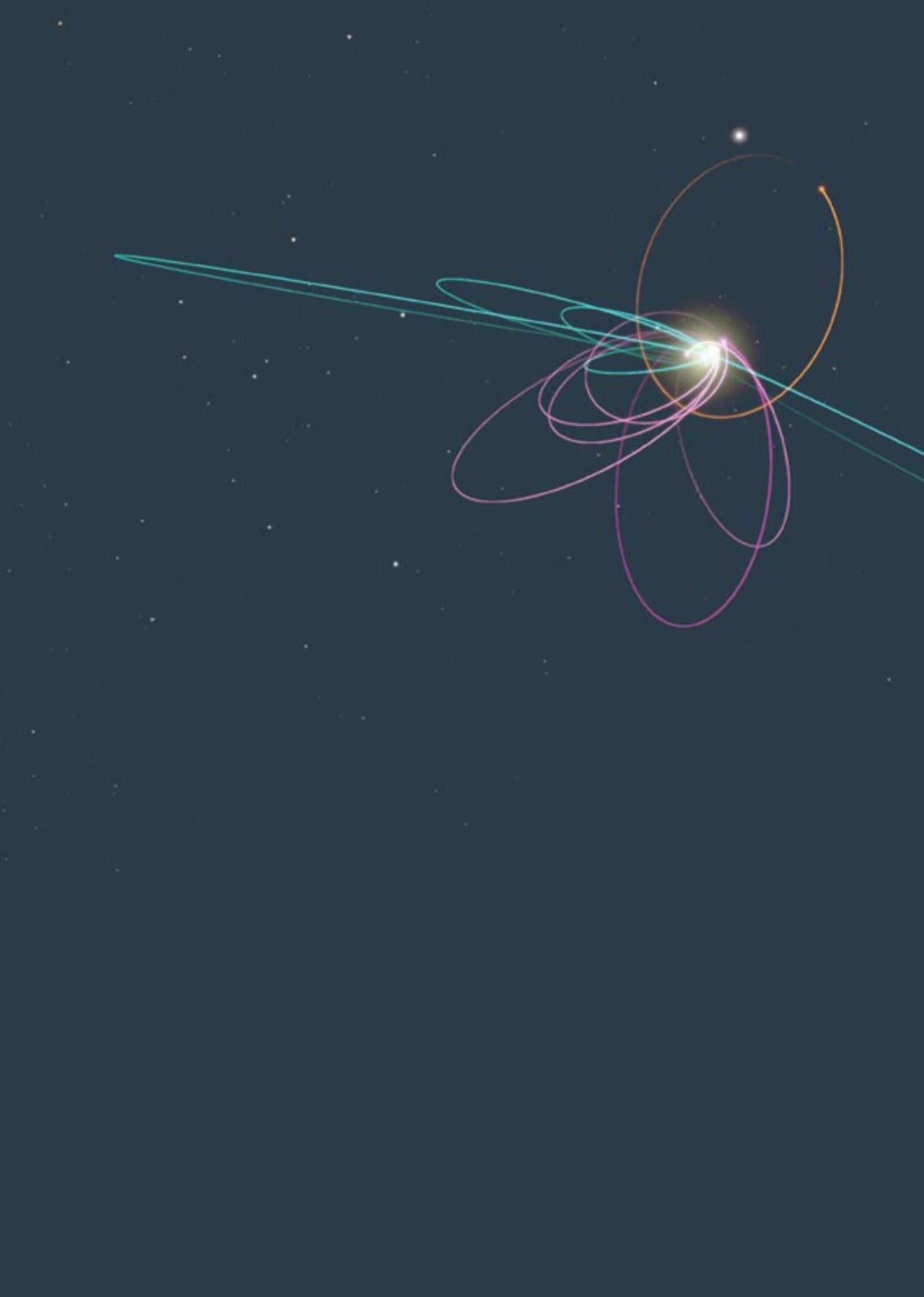
*Shaping the future of clinical diagnostics*



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THE RANDOX HEALTH GRAND NATIONAL

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randox.com/future-diagnostics





# SATELLITE MEETINGS

JUNE 10-11 & 15-19



**METABOLIC  
BONE DISEASE  
SATELLITE MEETING**

EUROMEDLAB 2017



**INBORN  
ERRORS OF  
METABOLISM  
SATELLITE MEETING**

EUROMEDLAB 2017



**SATELLITE  
MEETING  
DIABETES**

EUROMEDLAB 2017



**ADVANCES IN  
LABORATORY  
MEDICINE AND  
PATHOBIOLOGY  
SATELLITE MEETING**

EUROMEDLAB 2017





**METABOLIC  
BONE DISEASE  
SATELLITE MEETING**  
EUROMEDLAB 2017

**JUNE 10 2017**

ATHENS WAR MUSEUM  
ANNEX "SAROLGIO MANSION"

[www.athens2017.org/go/satellite](http://www.athens2017.org/go/satellite)

IFCC-IFCC Working Group Standardization of Bone Markers



## SCIENTIFIC PROGRAM

08:55

### Welcome

**Professor George P. Lyrītis**

*Chair Organizing Committee and Professor*

**Professor Howard Morris**

*Chair Scientific Committee*

### Session 1

#### Bone Turnover Markers in Osteoporosis

Chair: Prof George P. Lyrītis

09:00

#### The clinical usefulness of bone turnover assays

**Professor Samuel Vasikaran**

*Royal Perth Hospital, Perth, Australia*

09:30

#### Analytical requirements for bone marker assays

**Professor Niklas Rye Jørgensen**

*Research Centre for Aging and Osteoporosis,  
Copenhagen University Hospital, Glostrup, Denmark*

10:00

#### Clinical requirements for new biomarkers of bone metabolism

**Dr. Marie-Hélène Lafage-Proust**

*University Hospital Saint-Etienne,  
Université de Lyon, FRANCE*

10:30

#### Morning Break

### Plenary Lecture 1

Chair: Dr. Symeon Tournis

11:00

#### New Therapeutics for Osteoporosis

**Prof. Socrates Papapoulos**

*Center for Bone Quality, Leiden University Medical Center, Leiden, Netherlands.*

### Session 2

#### Clinical impact of assay standardization for Metabolic Bone Disease

Chair: Prof. Niklas Rye Jørgensen

11:45

#### Practical considerations in parathyroid hormone testing

**Prof. Etienne Cavalier**

*University of Liège, Belgium*

12:15

#### Suggestion of vitamin D status – a changing landscape

**Professor Markus Herrmann**

*Zentrallabor für Klinische Pathologie / Laboratorio Centrale di Patologia Clinica  
Bozen (Italia)*

- 12:45 **Emerging biochemical markers of osteoarthritis**  
**Professor Martin Lotz**  
*Head of Arthritis Research. The Scripps Research Institute, CA*
- 13:15 **Lunch break**
- Session 3  
**Rare diseases of bone metabolism**  
Chair: Prof. Samuel Vasikaran
- 14:30 **Hypophosphatasia**  
**Dr Symeon Tournis**  
*Laboratory for Research of Musculoskeletal System, University of Athens, KAT Hospital, Athens, Greece*
- 15:00 **Bone markers in thalassemia major**  
**Professor Evangellos Terpos**  
*University of Athens, Greece*
- 15:30 **Inhibitors of bone resorption: from the treatment of cancer hypercalcemia to the prevention of metastases**  
**Professor Jean-Jacques Body**  
*University Hospital Brugmann, Dept. of Medicine, Head Université Libre de Bruxelles, Brussels, Belgium*
- 16:00 **Afternoon Break**
- Session 4  
**Chronic Kidney Disease**  
Chair: Prof. Jean-Jacques Body
- 16:30 **CKD-MBD – Input from the clinical laboratory**  
**Professor Jean-Paul Cristol**  
*University of Montpellier, Montpellier, France*
- 17:00 **Bone markers and vascular calcification in CKD-MBD**  
**Dr. Pierre Delanaye**  
*University of Liège, Liège, Belgium*
- Plenary Lecture 2  
Chair: Prof. Jean-Jacques Body
- 17:30 **The Clinical Impact of Standardisation of 25-Hydroxyvitamin D Assays**  
**Professor Howard Morris**
- Closing remarks**  
**Professor Howard Morris**



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**June 11th–15th,  
Megaron Congress Centre, Athens  
Roche exhibition booth No. 3**

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**INBORN  
ERRORS OF  
METABOLISM**  
SATELLITE MEETING  
EUROMEDLAB 2017

JUNE **10-11** 2017

**AMPHITHEATRE OF "CHOREMEIO"**

RESEARCH LABORATORY "AGHIA SOPHIA" CHILDREN'S HOSPITAL

[www.athens2017.org/inbornerrors](http://www.athens2017.org/inbornerrors)



# Final Program

Saturday

June 10, 2017

**MODERATORS:** Prof. Martin Hersberger (CH) & Prof. George Chrousos (GR)

17.00 - 17.15

## **Welcome and goals of the meeting**

**Dr. Ioannis Papassotiriou (GR)**

*Department of Clinical Biochemistry, "Aghia Sophia" Children's Hospital, Athens, Greece*

**Prof. Martin Hersberger (CH)**

*Division of Clinical Chemistry and Biochemistry, University Children's Hospital Zurich, Zurich, Switzerland*

17.15 - 18.00

## **Current status of newborn screening in Europe: 2016**

**Dr. J. Gerard Loeber (NL)**

*President of the International Society for Neonatal Screening, National Institute for Public Health, Bilthoven, the Netherlands*

18.00 - 18.45

## **Selective screening strategies for inborn errors of metabolism**

**Prof. Johannes Häberle (CH)**

*Division of Metabolism and Children's Research Center, University Children's Hospital Zurich, Zurich, Switzerland*

18.45 - 19.15

## **Genetic diagnosis of inborn errors of metabolism**

**Dr. Periklis Makrythanasis (CH)**

*Department of Genetic Medicine and Development, University of Geneva, Geneva, Switzerland*

20.00

**Dinner**

Sunday

June 11, 2017

09:00 - 11:00

## Round Table

**MODERATORS:** Prof. Ioannis Georgiou (GR) & Prof. Joanne Traeger-Synodinos (GR)

### **Phenotype, diagnosis, genotype and treatment of urea cycle disorders**

**Prof. Johannes Häberle (CH)**

*Division of Metabolism and Children's Research Center, University Children's Hospital Zurich, Zurich, Switzerland.*

### **Phenotype, diagnosis, genotype and treatment of amino acid disorders (PKU, MSUD)**

**Dr. Thomas Opladen (DE)**

*Division of Child Neurology and Metabolic Diseases, University Children's Hospital, Heidelberg, Germany*

### **Phenotype, diagnosis, genotype and treatment of mitochondrial energy disorders (fatty acid oxidation, ketones)**

**Prof. Shamima Rahman (UK)**

*Genetics & Epigenetics Department, UCL Institute of Child Health, and an Honorary Consultant in the Metabolic Medicine Department at Great Ormond Street Hospital, London, UK*

11:00 - 11:15

**Coffee break**

11:15 - 13:15

## Round Table

**MODERATORS:** Prof. Christina Kanaka-Gantenbein (GR) & Dr. Katerina Psarra (GR)

### **Phenotype, diagnosis, genotype and treatment of lysosomal storage disorders (Fabry, Pompe, Gaucher and Lysosomal Lipase Acid Deficiency)**

**Dr. Helen Michelakakis (GR)**

*Department Enzymology and Cellular Function, Institute of Child Health, Athens, Greece*

### **Phenotype, diagnosis, genotype and treatment of vitamin-responsive disorders (B6, B12, biotin)**

**Prof. Barbara Plecko (CH)**

*Division of Child Neurology, University Children's Hospital Zurich, Zurich, Switzerland*

### **Phenotype, diagnosis, genotype and treatment of dyslipidemias (Familial Hypercholesterolemia)**

**Prof. Martin Hersberger (CH)**

*Division of Clinical Chemistry and Biochemistry, University Children's Hospital Zurich, Zurich, Switzerland*

### **Transition from childhood to adulthood with inborn errors of metabolism**

**Dr. Christel Tran (CH)**

*Division of Endocrinology, Diabetology and Metabolism, University Hospital Lausanne, Lausanne, Switzerland*

13:15 - 14:15

## Lunch break

14:15 - 16:00

## Clinical cases: In memoriam: Dr. Athina Xaidara

**MODERATOR:** Prof. Ching-Wan Lam (PRC)

**Dr. Lilia Lycopoulou (GR)**

*First Department of Pediatrics, University of Athens Medical School, Athens, Greece*

**Prof. J. Häberle (CH)**

*Division of Metabolism and Children's Research Center, University Children's Hospital Zurich, Zurich, Switzerland.*

**Dr. Anastasia Skouma (GR)**

*First Department of Pediatrics, University of Athens Medical School, Athens, Greece*

**Dr. Christel Tran (CH)**

*Division of Endocrinology, Diabetology and Metabolism, University Hospital Lausanne, Lausanne, Switzerland*

**Prof. Barbara Plecko (CH)**

*Division of Child Neurology, University Children's Hospital Zurich, Zurich, Switzerland*

**Dr. Thomas Opladen (DE)**

*Division of Child Neurology and Metabolic Diseases, University Children's Hospital, Heidelberg, Germany*

**Prof. Shamima Rahman (UK)**

*Genetics & Epigenetics Department, UCL Institute of Child Health, and an Honorary Consultant in the Metabolic Medicine Department at Great Ormond Street Hospital, London, UK*

\*Presentation of posters of unpublished clinical cases is encouraged

## MODERATORS

**Prof. George P. Chrousos**

*First Department of Pediatrics and Division of Endocrinology, Metabolism and Diabetes, University of Athens Medical School, Athens, Greece*

**Prof. Ioannis Georgiou,**  
*Medical Genetics and Assisted Reproduction, University of Ioannina Medical School, Ioannina, Greece*

**Prof. Christina Kanaka-Gantenbein,**  
*Pediatric Endocrinology and Diabetology, First Department of Pediatrics, University of Athens Medical School, Athens, Greece*

**Prof. Ching-Wan Lam**  
*Department of Pathology, Faculty of Medicine, The*

*University of Hong Kong, Hong Kong, Hong Kong Special Administrative Region of the People's Republic of China.*

**Dr. Katerina Psarra,**  
*Department of Immunology-Histocompatibility, "Evangelismos" General Hospital, Athens, Greece. President of Greek Society of Clinical Chemistry-Clinical Biochemistry.*

**Dr. Anastasia Skouma,**  
*Registrar Pediatrician, First Department of Pediatrics, University of Athens Medical School, Athens, Greece*

**Prof. Joanne Traeger-Synodinos,**  
*Department of Medical Genetics, University of Athens Medical School, Athens, Greece*



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# SATELLITE MEETING DIABETES

EUROMEDLAB 2017

*Under Poseidon's eye*

JUNE **15-16** 2017  
SOUNIO GREECE

FINAL PROGRAM

[www.athens2017.org/diabetes](http://www.athens2017.org/diabetes)



Thursday, June 15, 2017



16:30 - 16:45	<b>Welcome Addresses</b> <span>15'</span> Moderator: <b>Eleni Bairaktari (GR)</b> <b>Cas Weykamp (NL)</b>
16:45 - 17:45	<b>Session 1: Overview / Introduction</b> <span>60'</span> Moderator: <b>Eleni Bairaktari (GR)</b> <b>Cas Weykamp (NL)</b>  <b>1. Diabetes overview</b> <span>60'</span> <b>David Leslie (UK)</b>
17:45 - 18:10	<b>Coffee Break</b> <span>25'</span>
18:10 - 19:40	<b>Session 2: Glucose</b> <span>90'</span> Moderator: <b>Ioannis Ioannidis (GR)</b>  <b>1. CGMS, Continuous Glucose Monitoring System</b> <span>30'</span> <b>Alberto Maran (IT)</b>  <b>2. Glucose Meters: Quality and how to choose?</b> <span>30'</span> <b>Rosy Tirimacco (AU)</b>  <b>3. Self monitoring, how to do it and interpretation</b> <span>30'</span> <b>Roy Derks (NL)</b>
19:40 - 20:00	<b>Intermezzo: Sun Set Session</b> <span>20'</span>
20:00-21:00	<b>Walk to Poseidon temple</b> <span>60'</span> <b>(Sunset on June 15, 2017 at 20:47)</b>
21:00	<b>Dinner</b>

09:00 - 11:10

**Session 3: HbA1c**

130'

Moderator: **Garry John (UK)**

- 10' **1. What is HbA1c in the eyes of Patient, Clinician and the Laboratory?**  
**Garry John (UK)**
- 20' **2. POCT Instruments: quality, how to use how to choose**  
**Emma English (UK)**
- 20' **3. HbA1c for diagnosis?**  
**David Sacks (USA)**
- 20' **4. Controversies in the interpretation of the HbA1c: pre- and post-analytical factors**  
**Andrea Mosca (IT)**
- 20' **5. Debate: HbA1c into the target in type 2 DM: do we need SMBG? Yes/No**  
**Nikolaos Papanas (GR)**  
**Vasilis Tsimihodimos (GR)**
- 20' **6. Glycation Gap**  
**Rajiv Erasmus (ZA)**

11:10 - 11:30

**Coffee Break**

20'

11:30 - 13:40

**Session 4: New views and future developments**

130'

Moderator: **Asimina Mitrakou (GR)**

- 30' **1. EurA1c: results of shared EQA in European countries**  
**Cas Weykamp (NL)**
- 25' **2. Advanced glycation end products (AGEs) as biomarkers and pathogenic agents**  
**Philippe Gillery (FR)**
- 25' **3. Diabetic Nephropathy**  
**Luigi Gnudi (UK)**
- 25' **4. Gestational Diabetes**  
**David Sacks (USA)**
- 25' **5. Questions and answers from**  
**Asimina Mitrakou (GR)**

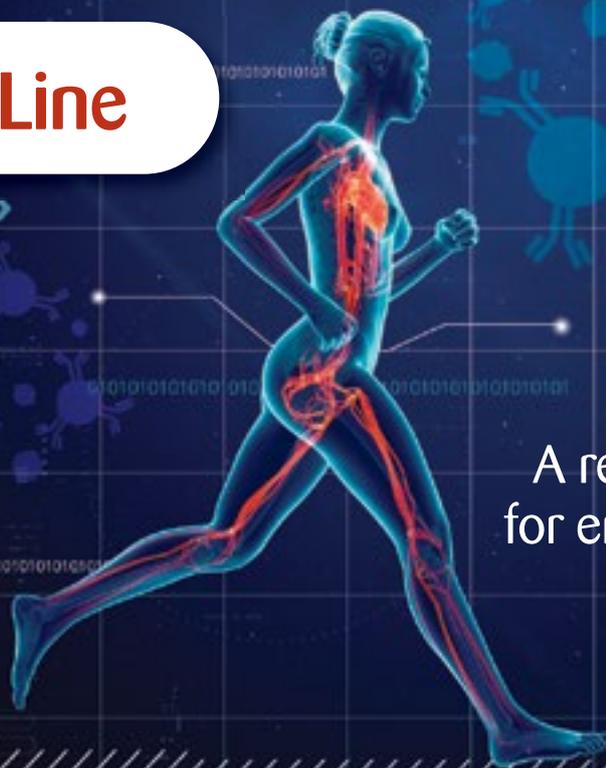
13:40 - 13:50

**Closing remarks**

- 10' **Cas Weykamp (NL)**  
**Eleni Bairaktari (GR)**



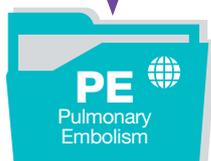
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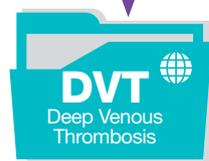
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suspected of PE**

with low or moderate pre-test probability

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**5 countries, 16 sites, 980 patients  
suspected of DVT**

with low or moderate pre-test probability

NPV*	Sensitivity	Specificity
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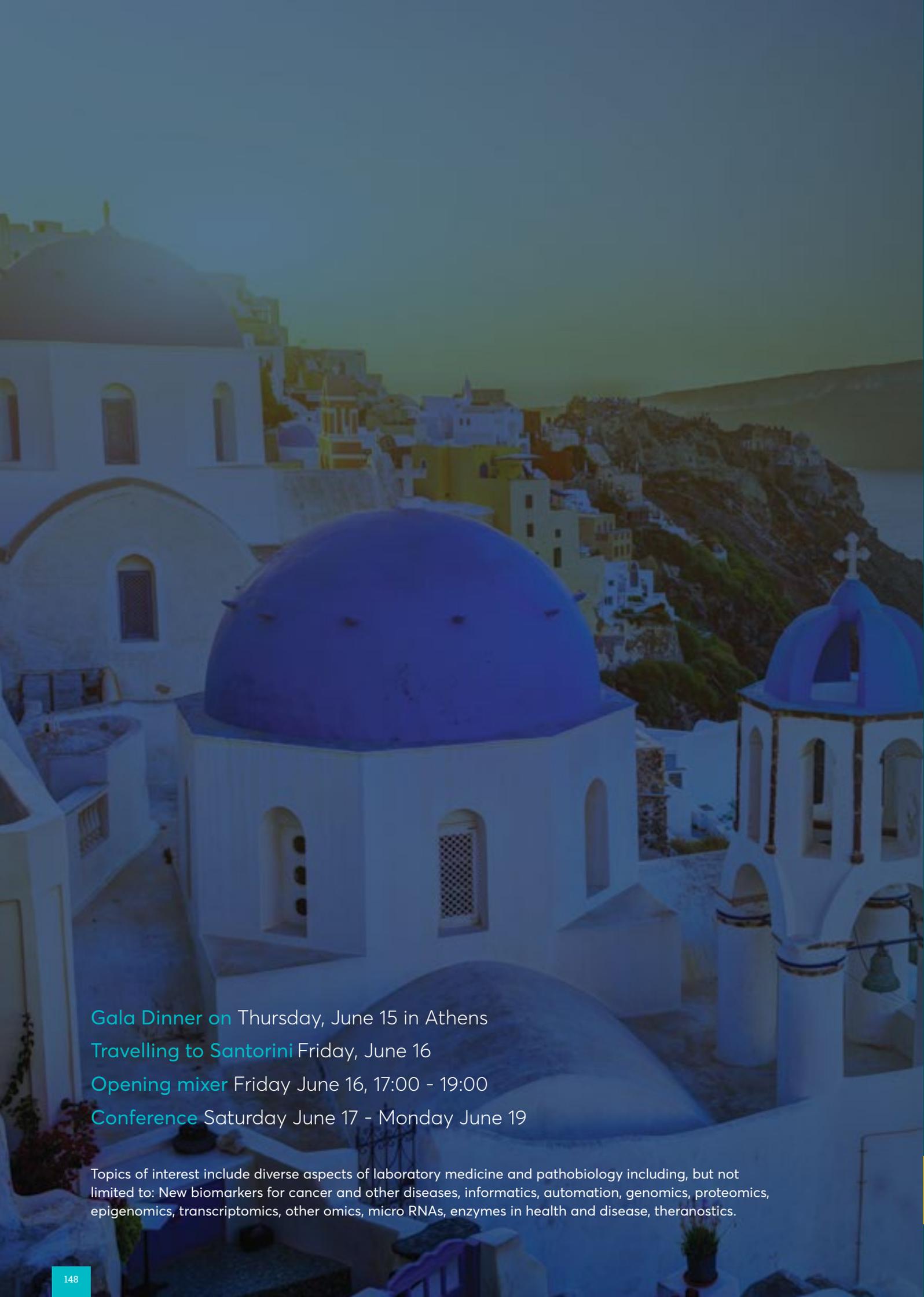
  
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**Gala Dinner on** Thursday, June 15 in Athens  
**Travelling to Santorini** Friday, June 16  
**Opening mixer** Friday June 16, 17:00 - 19:00  
**Conference** Saturday June 17 - Monday June 19

Topics of interest include diverse aspects of laboratory medicine and pathobiology including, but not limited to: New biomarkers for cancer and other diseases, informatics, automation, genomics, proteomics, epigenomics, transcriptomics, other omics, micro RNAs, enzymes in health and disease, theranostics.



**ADVANCES IN  
LABORATORY  
MEDICINE AND  
PATHOBIOLOGY  
SATELLITE MEETING**  
EUROMEDLAB 2017

**JUNE 16-19 2017**

**SANTORINI ISLAND, GREECE.**

[www.athens2017.org/go/satellite](http://www.athens2017.org/go/satellite)



## SCIENTIFIC PROGRAMME

### Friday 16 June

- 15:00 – 17:00 **Registration**
- 17:00 – 18:00 **Opening Ceremonies**  
*Eleftherios P. Diamandis & Andreas Scorilas*  
**History of Greek Music and of the Island Santorini**  
*Eleftherios P. Diamandis*
- 18:00 – 18:30 **Modern Greece between East and West**  
*Sotiris Mitralaxis*
- 18:30 – 19:00 **Questions & Discussion**
- 19:00 – 20:00 **Opening Mixer** (Dinner on your own)

### Saturday 17 June

- 09:00 – 09:15 **New cancer biomarkers**  
*Eleftherios P. Diamandis*
- 09:15 – 09:30 **Enzymes, life molecules**  
*Enrique de la Morena*
- 09:30 – 09:45 **Updates of Biomarkers in Prostate Cancer**  
*Qing Meng*
- 09:45 – 10:00 **Managing accreditation performance in Europe**  
*Bernard Gouget*
- 10:00 – 10:30 **Questions & Discussion**
- 10:30 – 11:00 **BREAK** (e-poster viewing)
- 11:00 – 11:15 **Simulated computer based OSCE module for competency assessment of pathology trainees: moving into a new era of digital education**  
*Adriana Krizova*
- 11:15 – 11:30 **The future of clinical proteomics**  
*Daniel Chan*
- 11:30 – 11:45 **The human gut microbiome: its role in pathological conditions**  
*Francesco Salvatore*
- 11:45 – 12:30 **Questions & Discussion**
- 12:30 – 15:00 **Lunch**
- 15:15 – 15:30 **Overcoming barriers for PGX Implementation in Clinical Practice: the 1200PP Project**  
*Jerry Yeo*
- 15:30 – 15:45 **Our last 7-8- years research in diabetes**  
*Iuan Brandslund*
- 15:30 – 15:45 **Immune based diagnostics for cancer detection**  
*Karen Anderson*
- 16:00 – 16:30 **Questions & Discussion**

## SCIENTIFIC PROGRAMME

### Sunday 18 June

- 09:00 – 09:15 **Diabetic Dyslipidemia: A Major Complication of Obesity and Diabetic States**  
*Khosrow Adeli*
- 09:15 – 09:30 **Diagnosis of genetic cardiomyopathies by way of multigene panels**  
*Valeria D'Argenio*
- 09:30 – 09:45 **PT or EQA program: A necessary evil or a guardian angel in Laboratory Medicine?**  
*Alexander Haliassos*
- 09:45 – 10:00 **Long non-coding RNAs in cancer and their potential clinical applications**  
*Herbert Yu*
- 10:00 – 10:30 **Questions & Discussion**
- 10:30 – 11:00 **BREAK** (e-poster viewing)
- 11:00 – 11:15 **High sensitivity and ultrasensitive cardiac troponin assays in the clinical laboratories**  
*Petr Jarolim*
- 11:15 – 11:30 **KLK6 proteolysis is implicated in the regulation of extracellular alpha-synuclein species and may represent a novel therapeutic approach..**  
*Georgia Sotiropoulou*
- 11:30 – 11:45 **Enhanced proteolytic activities in Acral Peeling Skin Syndrome: A role of transglutaminase 5 in epidermal homeostasis".**  
*Dimitra Kiritsi*
- 11:45 – 12:00 **New targeted multimodal therapeutic approaches for type 2 diabetes mellitus: the new kids on the block!**  
*Steven C. Boyages*
- 12:00 – 12:30 **Questions & Discussion**
- 12:30 – 15:00 **Lunch**
- 15:00 – 15:15 **Therapeutic modulation of BDNF signaling in autism**  
*Margaret Fahnestock*
- 15:15 – 15:30 **Discovery of novel tumor biomarkers in prostate cancer using high sensitive proteomic methodologies**  
*Spiros D. Garbis*
- 15:30 – 16:00 **Non-coding RNAs as novel tumor biomarkers in urological tumors**  
*Andreas Scorilas*
- 16:00 – 16:30 **Questions & Discussion**
- ### Monday 19 June
- 09:00 – 09:15 **GcfDNA as a liquid biopsy in transplantation and cancer**  
*Michael Oellerich*
- 09:15 – 09:30 **Tumor cell-free DNA copy number instability (CNI) to early predict and monitor therapeutic response to anticancer therapy**  
*Ekkehard Schuetz*
- 09:30 – 09:45 **Mycobacterium brumae cell wall fractions with potential immunotherapeutic activity for bladder cancer**  
*Naciye Leyla Acan*
- 09:45 – 10:00 **Demonstrating the value of laboratory medicine**  
*Howard Morris*
- 10:00 – 10:30 **Questions & Discussion**
- 10:30 – 11:00 **CLOSING REMARKS**
- 11:00 – 15:00 **ISE General meeting**



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## General Information

### CONGRESS VENUE

#### MEGARON ATHENS INTERNATIONAL CONFERENCE CENTER (MAICC)

Vassilisis Sophias & Kokkali  
Athens Gr-115 21, Greece

Megaron Athens International Conference Centre is a landmark in Athens and is situated in the centre of a vibrant, modern city.

The Centre is on a direct metro line to the award winning Eleftherios Venizelos International Airport, journey time 37 minutes, making it extremely accessible for international delegates travelling from and to global destinations.

Megaron is also very close to major hotels, many of which are within walking distance.

### HOW TO REACH MAICC

MAICC is situated right in the heart of Athens and is easily accessible by metro, bus and trolley bus. It is also located at a walking distance from major

hotels and many other smaller hotels. Commuting to and from the city centre and the Athens International Airport or other locations is quite easy:

- 30 min. from the Athens International Airport ([www.aia.gr](http://www.aia.gr))
- 3-5 min. from the city centre.

**By Metro:** There is direct access from the airport and the city centre to MAICC from the metro station "Megaron Moussikis" on metro line 3 (blue line). Please visit the Athens Metro website for detailed information at [www.ametro.gr](http://www.ametro.gr)

**By Bus:** The following buses, express buses and trolley buses pass and stop near The International Conference Centre of the Athens Concert Hall

- Buses: 450, 550, 601, 603
- Express Buses: X95 (direct airport line), A5, E6, E7, X14
- Cable "Trolley" Buses: 3, 7, 8, 13

For more information about the public transportation network in Athens please visit: [www.oasa.gr](http://www.oasa.gr)

**From the airport:** Athens International Airport "Eleftherios Venizelos" is located in Spata, 33 km southeast of Athens and serves all international and domestic flights. The airport is easily accessible from MAICC and the city centre via motorway, express bus or metro. An average journey by taxi from the airport to the city centre should take approximately 40-50 minutes, depending on traffic, costing €38 (flate fare). The express bus line X95 (direction Syntagma) serves Athens city centre. A ticket for the airport express line costs €3.20. It allows unlimited travel by all public transport means (incl. bus and metro) for 24 hours from the time of validation. The metro line 3 runs every 10 minutes from the airport and the trip to the city centre takes approximately 30 minutes and costs €6.

## ATHENS METRO MAP



## How to get to Athens

Athens is easily accessed by air, sea and land (road and railroad) as it is the Greece's capital and one of the major cities of the Balkans and the Eastern Mediterranean area. Moreover, moving around the city is a real pleasure. Athens public transportation system connects the city center and Megaron - Athens International Conference Center, the Congress Venue, with all surrounding areas through a modern network combining many lines of metro, suburban railway, train, buses, trolleys and trams. The road system has been modernized in recently with new highways. The capital is connected with other parts of the mainland through a network of railways, buses and coaches. Furthermore, Athens has direct connections to all Greek islands through the ports of Piraeus, Lavrio and Rafina.

### BY AIR

The new award-winning "Eleftherios Venizelos" Athens International Airport, has been serving the Greek capital since its opening to the public on March 28th, 2001. Its exciting design has, according to surveys, made it one of the world's leading airports in overall passenger satisfaction

for the last four years and Europe's fastest growing airport. At the crossroads of Europe, Africa and the Middle East, Athens is a city that is easily accessible from virtually any point of the world. Flights from major airport hubs in London, Frankfurt, Paris, Berlin, Zurich, Milan, Rome, Istanbul, New York, Larnaca and Dubai come in at least once per day. Located 33 km (20 miles) southeast of Athens, it is easily accessible via Attiki Odos, a major highway part of the Athens City Ring Road. Public transport to Athens and the port of Piraeus is provided by the new metro system, express airport bus connections, taxi and high-speed rail.

### BY ROAD

Athens can be reached by road via the Western Balkan countries, Bulgaria, Albania and Turkey.

### BY RAILROAD

The main railway network of Greece currently provides links between Athens and Northern and Southern Greece and the rest of Europe through the Western Balkan countries and Bulgaria.

### BY SEA

There are daily ferryboat connections from Italy (Ancona, Bari and Brindisi, Venice and Trieste) to Patras the second largest port of entry to Greece; approximately 220 km (135 miles) from Athens. The Middle East is accessible via the port of Volos located 300km (180 miles) from Athens.

### FREE SHUTTLE

A free shared shuttle service is offered to you from and to Athens international airport and Megaron Convention Center from June 10, 2017

- Saturday 10 June 8am-8pm
- Sunday 11 June 8am-8pm
- Monday 12 June 10am-6pm
- Tuesday 13 June 10am-6pm
- Wednesday 14 June 10am-6pm
- Thursday 15 June 8am-15pm

The detailed timetable and frequency will be available soon at [www.athens2017.org](http://www.athens2017.org)

The service is kindly offered by Mindray

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# Organization and Registration

## REGISTRATION DESK

The registration desk for the congress, located at the entrance of the Megaron Athens International Conference Center (MAICC) – Level 0 – is open as follows:

<b>Sunday, June 11</b>	11:00 - 19:00
<b>Monday, June 12</b>	08:00 - 18:00
<b>Tuesday, June 13</b>	08:00 - 18:00
<b>Wednesday, June 14</b>	08:00 - 18:00
<b>Thursday, June 15</b>	08:30 - 14:00

## CONGRESS LANGUAGE

The congress' official language is English. No simultaneous translation is provided

## NAME BADGE

All participants will receive a name badge when they check-in at the registration desk. The badge must be worn at all times because only registered participants will be admitted to the scientific sessions. It must also be worn at the social events organised as part of the congress.

## CONGRESS KIT

The congress kit can be collected at the Congress Kit Desk near the registration desk at Level 0, upon presentation of the congress-kit ticket provided with your badge.

## CERTIFICATE OF ATTENDANCE

A certificate of attendance will be issued to properly registered attendees, for the day(s) they actually take part in the congress. Certificates of attendance must be picked up at the registration desk just before departure.

## CATERING SERVICE

Several areas selling food will be open to all delegates, exhibitors and visitors inside the congress centre.

## INDUSTRY EXHIBITION

The exhibits of diagnostics companies make up a very important part of the congress. All major international and Greek clinical-biochemistry and laboratory-medicine companies are represented.

Participants are encouraged to visit the large industry exhibition, which will be open as follows:

<b>Monday, June 12</b>	10:00 - 17:30
<b>Tuesday, June 13</b>	10:00 - 17:30
<b>Wednesday, June 14</b>	10:00 - 17:30

Access to the exhibition area is free of charge and does not require congress registration. However for security reasons, anyone wishing to visit the exhibition without registering for the congress must report to the **Visitors and Debates Desk** near the registration desk, **Level 0**.

## Social event



**Wednesday June 14<sup>th</sup>**  
Starting at 19:30  
**at Vouliagmeni Nautical Club**

### Bus transfer

Meeting at Megaron Athens International Conference Center at 19:00 & bus transfer to Vouliagmeni Nautical Club. Return starting at 23:00

### By Taxi

An average journey by taxi from Megaron Athens International Conference Center to Vouliagmeni Nautical Club should take approximately 35'-45' minutes, depending on the traffic. The cost of the ride should be around € 35-40 per way.

Address: Lemos Vouliagmenis  
166 71 Vouliagmeni Attica  
Tel.: +30 210 8962416  
website: [www.nov.gr](http://www.nov.gr)



## REGISTRATION FEES

All delegates must register for the congress.

**Full registration and young registration fees include:**

1. Entrance to plenary lectures, symposia, educational workshops, poster area and exhibition
2. A free app containing the Scientific Programme with the Abstracts and the slides of the presentations, and the Abstracts of the posters
3. Certificate of attendance
4. Shuttle service from Athens Airport and vice versa
5. Coffee and tea service during morning intermissions
6. Opening Ceremony and Welcome Reception
7. Closing Ceremony

**The day registration fee includes, for the day of registration only:**

1. Entrance to plenary lectures, symposia, educational workshops, poster area and exhibition
2. A free app containing the Scientific Programme with the Abstracts and the slides of the presentations, and the Abstracts of the posters
3. Certificate of attendance
4. Coffee and tea service during morning intermissions

### On-site registration fees

#### Full Registration

€925,00 (€745,96 + 24% VAT)

#### Young Registration (≤35 years)

€495,00 (€399,19 + 24% VAT)

#### Day Registration

€430,00 (€346,77 + 24% VAT)

#### Special Thursday Registration

€300 (242 + 24% VAT)

Registration fees must be paid in euros only; cash or credit card (American Express, MasterCard, Visa) accepted.

### Social event Ticket

#### Wednesday June 14<sup>th</sup>

Delegates €45 (€36,29 + 24% VAT)

Accompanying persons €85 (€68,55 + 24% VAT)

## LIABILITY AND INSURANCE

Registration fees do not include the insurance of participants against personal accidents, sickness and cancellations by any party, theft, loss or damage to personal possessions.

## CLOAKROOM

Cloakrooms are available in every level of the congress venue. Delegates' belongings (such as coats, bags, posters, etc.) can be left **ONLY** on a daily basis and **ONLY** during the congress's hours. In the end of each day, all left items will be given to security.

## INTERNET POINT

Complimentary internet access is available on Level 0 of the Congress Center. As a courtesy to the other delegates, please limit your use to 15 minutes at busy times.

## AUDIOVISUAL CENTRE

The audiovisual centre is located on Level 0 of the Congress Center. Speakers are kindly requested to bring their presentation to the audiovisual centre on a USB drive at least two hours before the presentation is scheduled. Personal laptops cannot be connected to the system.

## WIRELESS CONNECTION

Euromedlab Athens 2017 is offering free WiFi for delegates in all Congress Center. Network: **Euromedlab Athens 2017**

## EUROMEDLAB ATHENS APP

The Euromedlab Athens 2017 app is designed to enrich delegates', visitors', and exhibitors' experience. Search "EuroMedLab" in the App Store or Google Play and download:

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## POSTERS

Posters are displayed in the courtyard, Level 0, of the Congress Center. Posters are arranged by topic and displayed on three different days:

- Monday, 12 June 10:00-17:30

- Tuesday, 13 June 10:00-17:30
- Wednesday, 14 June 10:00-17:30

Posters are numbered and must be on display on the day that the Organising Secretariat assigned the authors, according to the following schedule only:

- set-up 09:30-10:00
- removal 17:30-18:00

Posters differ by topic every day and the Organising Secretariat declines any responsibility for posters left on display afterwards.

**In order to encourage discussions about posters, the poster Presenter must beat the assigned poster panel from 13:00 to 14:00.**

## ABSTRACT PUBLICATION

All abstracts are published in a special on-line issue of Clinical Chemistry and Laboratory Medicine (CCLM).

## OPEN DISCUSSIONS DEBATES

An Euromedlab congress innovation, these sessions following the plenaries presentations are open to the general public and press. Access to these sessions is free of charge. However, for logistic reasons, anyone wishing to attend the debates must report to the Visitors and Debates Desk near the registration desk, Level 0.

## COFFEE POINTS

During intermission in the morning, in all exhibition areas, self-service coffee points offer coffee and tea free of charge for all properly registered delegates (full, young and day registrations).

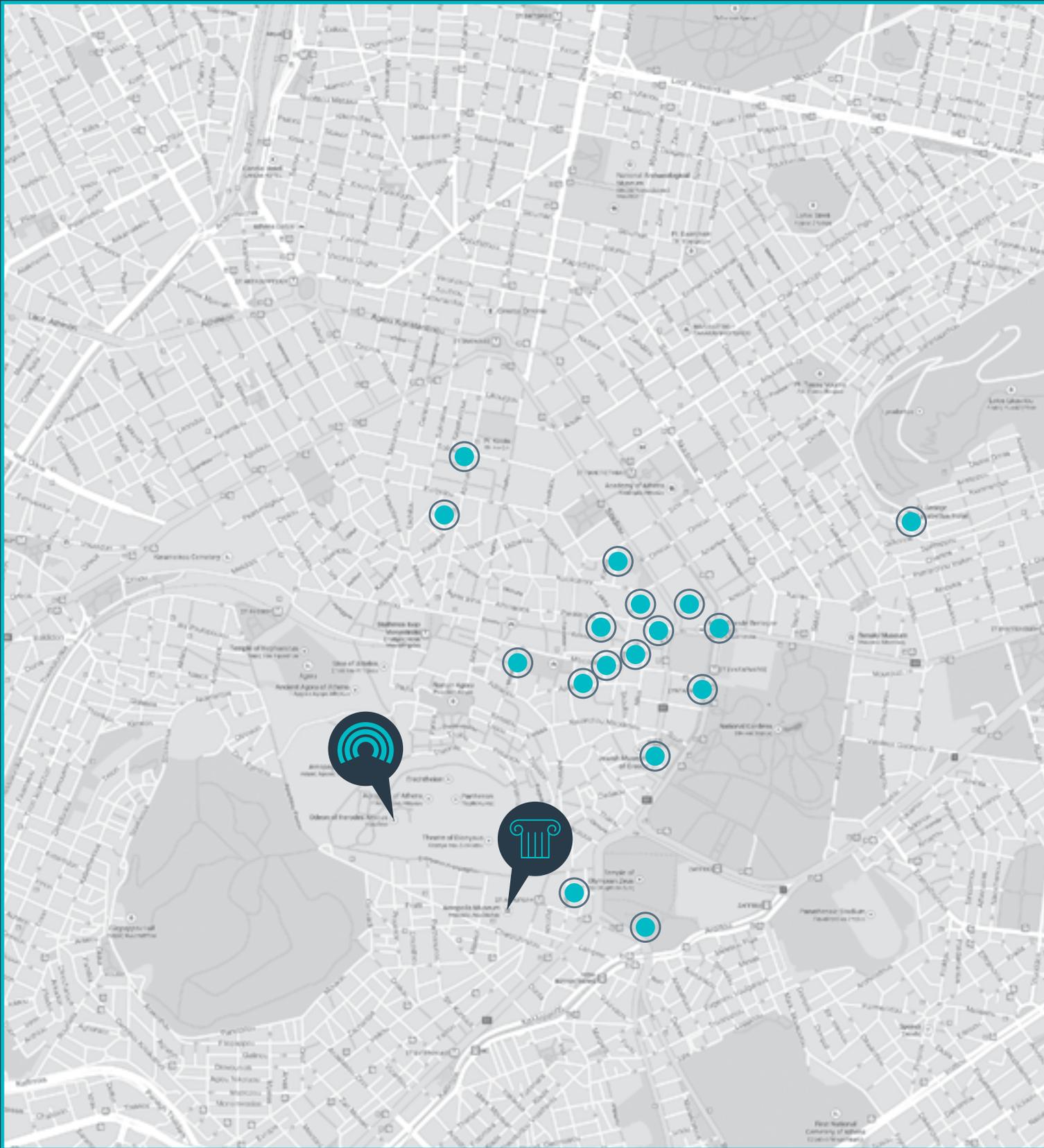
## ORGANISING SECRETARIAT



### MZ Congressi

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Url: [www.mzcongressi.com](http://www.mzcongressi.com) - [www.athens2017.org](http://www.athens2017.org)

At the congress venue, from Saturday 10 June to Thursday 15 June: phone: +30 2107282000



**Congress Venue**  
Megaron Athens International Conference Center

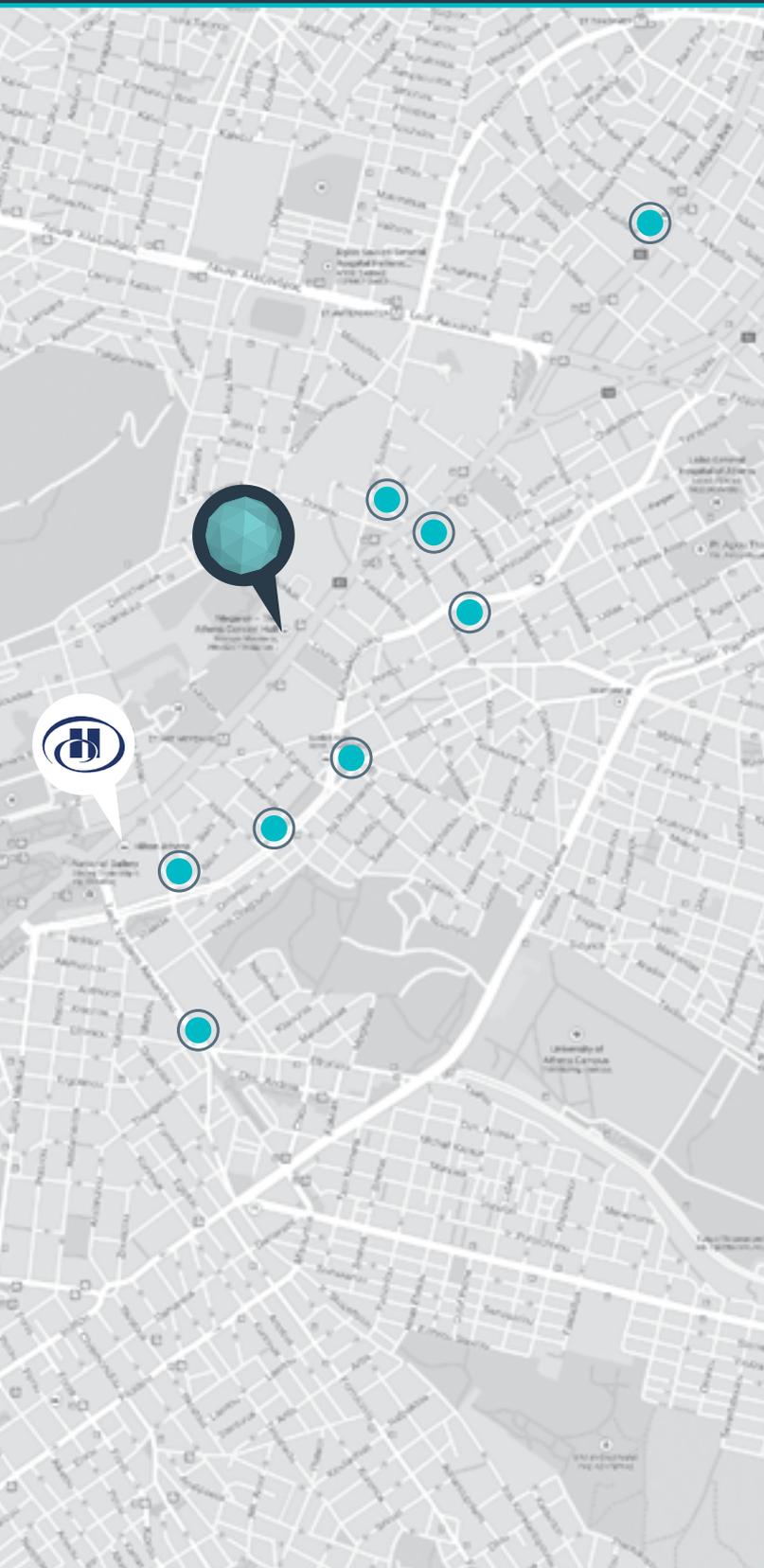


**Opening Ceremony**  
Herodes Atticus Theatre (Herodion)



**New Acropolis Museum**

*In case of inclement weather the opening ceremony will take place at the same time at Megaron. To be informed please visit [www.athens2027.org](http://www.athens2027.org) or your incoming email folder*



## Hotel Information

ERA LTD, Official Partner of Euromedlab Athens 2017 offers a customized services for the hotel reservations and related services without any additional booking fees.

If you need any information about hotels and the city, you can go to the **Hotels ERA Desk** and ask our professional staff, who will be happy to help you.

They deliver their expertise to organise:

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**Congress Headquarters Hotel**  
Athens Hilton



**Congress Hotels**

# Closed Meetings

## Friday, 9 June 2017

	Chair	Time	Room
IFCC Executive Board	M. Ferrari	09:00-17:00	Thalia 1
EFLM Executive Board	S. Sandberg	09:00-17:00	Thalia 2
IFCC SD EC	P. Gillery	09:00-17:00	Thalia 3

## Saturday, 10 June 2017

	Chair	Time	Room
IFCC Executive Board	M. Ferrari	09:00-17:00	Erato A
EFLM Executive Board	S. Sandberg	09:00-15:00	Erato B
IFCC SD EC	P. Gillery	09:00-17:00	Terpsichore C
IFCC CPD EC	K. Adeli	09:00-17:00	Erato C

## Sunday, 11 June 2017

	Chair	Time	Room
IFCC JCTLM EC	G. Beastall / G. Myers	08:00-12:00	Thalia 2
EFLM C-P	G. Wieringa	08:30-13:00	Patmos
IFCC C-RIDL	Y. Ozarda	09:00-17:30	Thalia 1
IFCC C-NPU	R. Flatman/H. Morris	09:00-17:00	Santorini 3
IFCC WG-SCDT	J. Wielders	09:00-16:30	Terpsichore C
EFLM C-QR - WG-ISO	W. Huisman / F. Vanstapel	09:00-17:00	Erato A
EFLM WG-POST	E. Ajzner	09:00-16:00	Santorini 2&4
IFCC C-PR	E. Delvin	09:00-17:30	Erato C
IFCC WG-C	G. Miller	09:00-17:00	Erato B
EFLM WG-PFLM	I. Watson	09:00-16:00	Santorini 5&6
EFLM TFG-LTD	M. Langlois	09:00-16:00	Santorini 1
IFCC WG-Enews	T. Pillay	12:00-14:00	Thalia 3
IFCC TF-PT	A. Haliassos	13:00-17:30	Thalia 2
EFLM C-ET, WG-CPE, WG-DE	R. Lichtin角度 / E. Hom- sak / D. Rajdl	14:00-19:00	Patmos
EFLM General Assembly		14:00-18:15	Galaxy
IFCC C-leL	E. Freggiaro	14:30-18:30	Thalia 3

## Monday, 12 June 2017

	Chair	Time	Room
IFCC C-leL & C-DL	J. Smith / E. Freggiaro	08:00-12:00	Thalia 1
CCLM Board		08:00-10:00	Erato A
IFCC C-NPU	R. Flatman	08:30-17:00	Santorini 1
EFLM WG-H	F. Ceriotti	09:00-17:00	Thalia 2

IFCC WG-IANT	MC. Pasquel	09:00-12:00	Thalia 3
IFCC C-RIDL	Y. Ozarda	09:00-12:00	Thalia 4
IFCC TF-PG	M. Linder	09:00-12:00	Erato C
IFCC EMD EC	L. Lai	09:00-17:00	Terpsichore C
EFLM WG-BV / TFG-BV	A. Aarsand / S. Sandberg	09:30-16:00	Erato B
IFCC Editors Meeting	K. Adeli	12:30-14:30	Erato C
IFCC C DL	J. Smith	14:00-17:00	Thalia 1
IFCC TF-CKD	FP. Alcantara	14:00-17:00	Thalia 4
EFLM WG-R	I-A Haagen	14:00-18:00	Erato A
IFCC C-CMBC	E. Lianidou	15:00-18:30	Thalia 3
IFCC WG-eJIFCC EB	G. Kovacs	15:00-16:30	Erato C

### Tuesday, 13 June 2017

	Chair	Time	Room
IFCC WG-GMECC	C. Bowman	08:30-12:30	Terpsichore C
SD-EC Chair	P. Gillery	08:30-13:00	Thalia 3
IFCC TF-E	A. Gronowski	09:00-12:00	Thalia 1
EFLM C-S	E. Kilpatrick	09:00-11:00	Thalia 2
ELAS Assembly		09:00-10:00	Erato A
EFLM TFG-CPD	E. Topic	09:00-16:00	Erato B
IFCC WG LEPS	L. Sciacovelli	09:00-11:00	Erato C
IFCC TF-YS	P. Dabla	09:00-12:30	Santorini 4&5&6
EFLM C-C / WG-P	S. Graziani / M. Gungoren	12:00-16:00	Erato A
IFCC WG-FC	U. Sack	12:30-14:30	Erato C
EFLM TFG-STCC	A. Simundic	12:30-14:30	Thalia 2
IFCC C-STFT	L. Thienpont	13:00-17:00	Thalia 4
IFCC WG APO MS	C. Cobbaert	13:00-17:00	Santorini 2
IFCC C-NPU	R. Flatman	14:00-17:00	Thalia 1
Euromedlab Barcelona 2019 - ISAB meeting	E. Kilpatrick	14:30-16:30	Thalia 3
IFCC WG-PAPP A	S. Wittfooth	15:00-18:00	Erato C

### Wednesday, 14 June 2017

	Chair	Time	Room
IFCC C-TLM	L. Siekmann	09:00-12:00	Erato B
Euromedlab Barcelona 2019 - SPC meeting	E. Kilpatrick	09:00-12:00	Terpsichore C
EFLM WG-G		09:00-17:00	Erato A
IFCC Corporate Members	R. Hinzmann	13:00-15:00	Erato B
IFCC WG-PE	D. Grote-Koska	13:00-17:30	Terpsichore C
IFCC WG-FIT	S. Benton	14:00-17:00	Santorini 1 & 2
EU-PIC / TF-PG	R. van Schaik	14:00-18:00	Erato C

### Thursday, 15 June 2017

	Chair	Time	Room
EFLM WG-TE	C. Cobbaert	09:00-17:00	Patmos



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### SANDWICHES

4,00 €

Baguette turkey & cheese or tomatoes mozzarella  
Wrap with tuna salad  
Rye Baguette with grilled vegetables



### SALADS

6,00 €

Greek salad, tomatoes, cucumber, feta cheese, olives & green peppers  
Green salad, rocket, lettuce hearts, sun dried tomatoes & parmesan flakes  
Potato salad with capers & bacon



### DESSERTS

Muffins: Chocolate & strawberry, Caramel, Red velvet 3,00 €  
Donuts 3,00 €  
Walnut pie or Apple pie or Chocolate pie 3,50 €  
Fresh fruit 1,00 €



### SOFT DRINKS

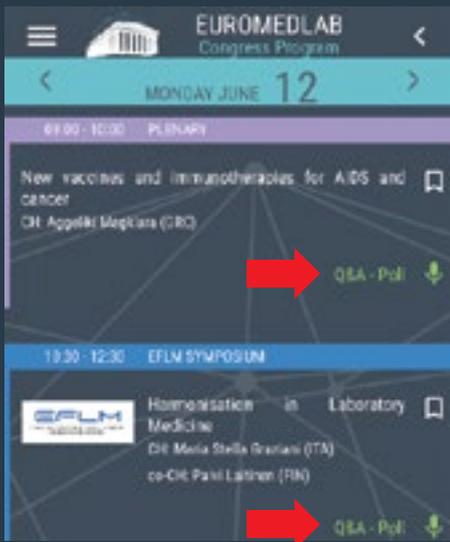
Sodas, ice tea, 330ml, juices, sparklingwater 2,50 €

### COFFEES

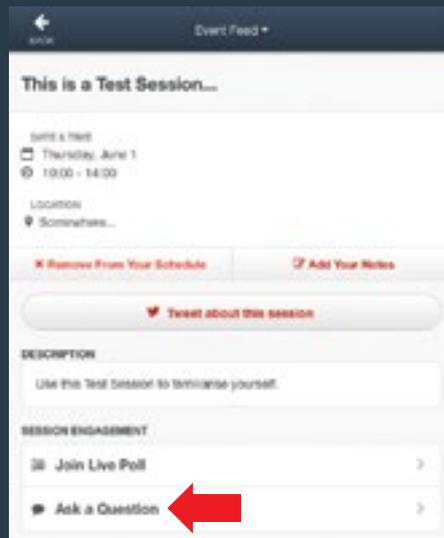
Nescafé, double espresso 3,50 €  
Tea, filter coffee, espresso 3,00 €  
Mineral water 500ml 1,00 €

# EuroMedLab App Q&A - Polls Quick Start Guide

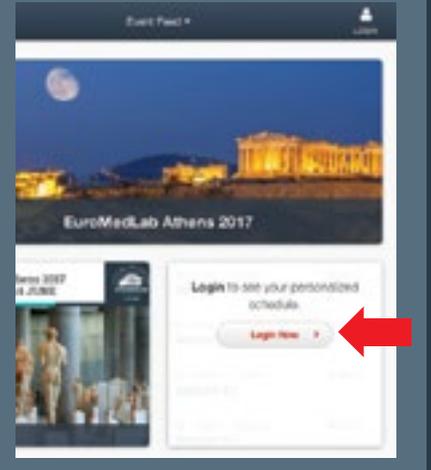
1. When you arrive via the small microphone icon from the Congress Program screen from the app:



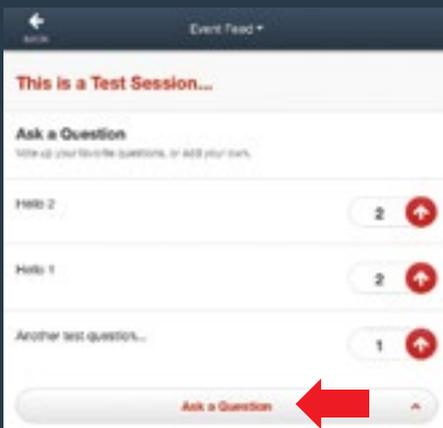
2. You will be presented with the actual Live Poll and Ask a Question screen:



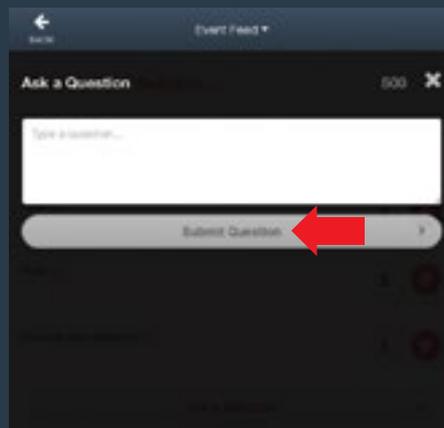
In your first visit you will be asked to login to the Q&A module using just your e-mail (that e-mail will be used for any Q&A correspondence)



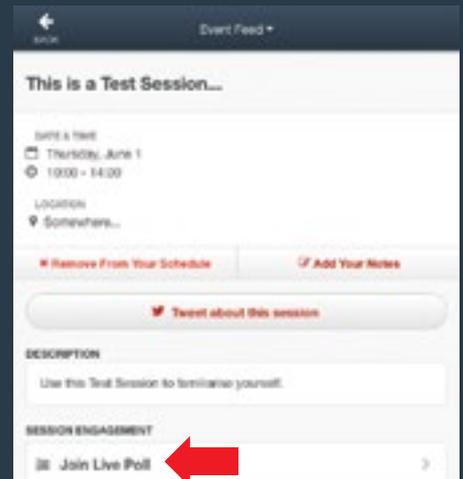
3. Click on Ask A Question button to immediately write and publish a relevant question:



4. You can ask a new question:

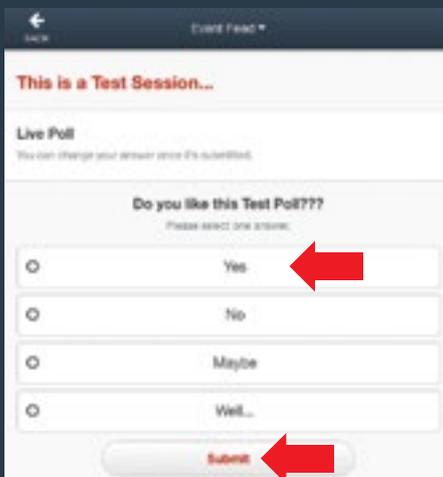


5. To go to the Live Polls section (if the presenters had activated this option for the session), please select the Back button on the far left of the screen. Then select the Join Live Poll button:

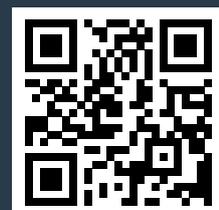
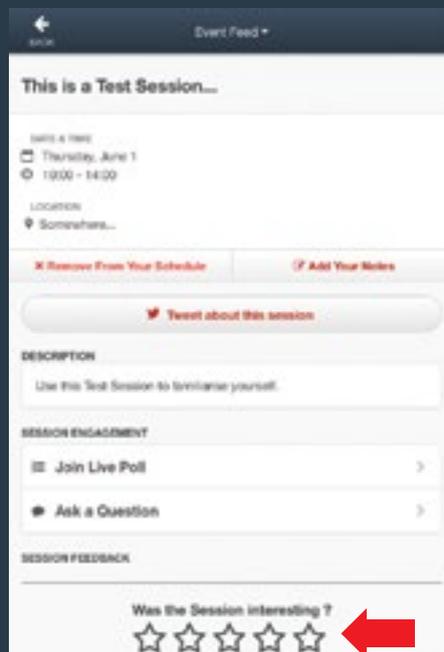


The audience will vote all Questions so that the most popular ones get to be answered. You can vote questions already asked or you can ask a new question.

6. Select your preferred answer(s), hit Submit:



7. At the end of each session you can assess it by a Star rating:



For incompatible mobile devices, laptops and in order to access directly the Q&A module please scan this QR or visit:  
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23<sup>th</sup> IFCC-EFLM European Congress of Clinical Chemistry and Laboratory Medicine  
National Congress of the Spanish Society of Laboratory Medicine



May 19-23 2019 - CCIB, Barcelona - Spain



**SAVE THE DATES**

**January 15<sup>th</sup>, 2019**

Deadline for poster abstract submission

**March 31<sup>st</sup>, 2019**

Deadline for reduced registration fees

***See you in Barcelona***