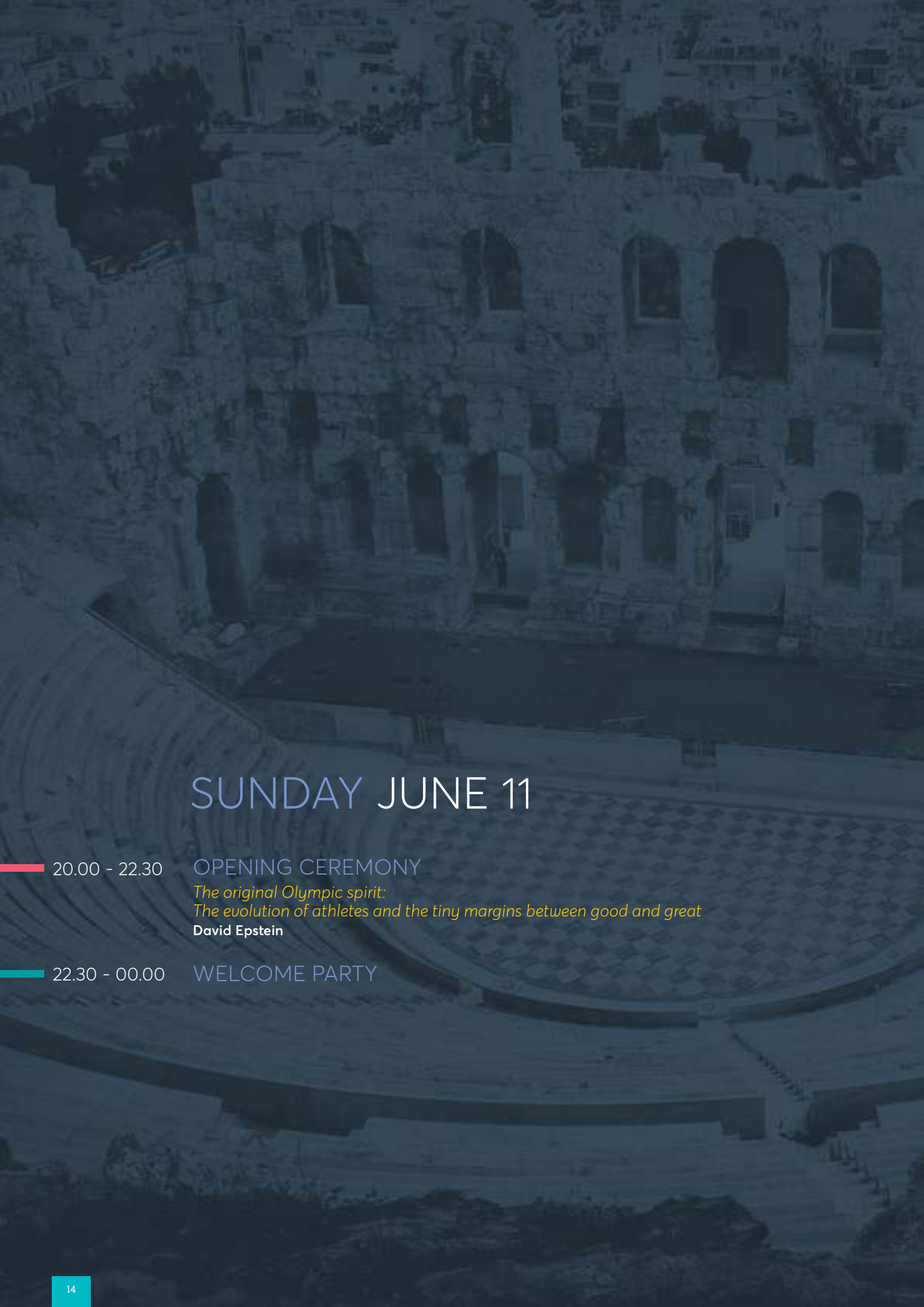




SUNDAY JUNE 11

20.00 - 22.30

OPENING CEREMONY

The original Olympic spirit:

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

David Epstein

22.30 - 00.00

WELCOME PARTY



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

David Epstein (USA)

21.00 - 21.30

SUMMARY

The original Olympic Games, started in Greece in the 8th 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,

Challenges in the diagnosis and follow-up of multiple myeloma

Efstathios Kastiris, Ioannis Papassotiriou, Bruno Paiva

Biomarkers of inflammation and vascular damage

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

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

George Tsivgoulis, Jakob Ström, Konstantinos Makris

Laboratory diagnosis of pathological conditions in pregnancy

Stefan Hansson, Giancarlo DiRenzo, Philippos Patsalis

12.30 - 14.30

DEBATE

Lessons from 30 years of cancer screening

Anne McTiernan / Laura Esserman

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 - 16.45

MEET THE EXPERTS

Accreditation and lab management - Why and how to do it

Wim Huisman, Michel Vaubourdolle & Elizabeth Frank

16.45 - 18.00

Success in research-academic career: Lessons and opportunities

Feng Zhang

WORKSHOPS

14.30 - 15.30

SYSMEX / ROCHE / ABBOTT / SIEMENS

15.45 - 16.45

BIORAD / ABBOTT / ROCHE / ORTHO

17.00 - 18.00

WERFEN / SEBIA / BECKMAN COULTER / BECKMAN COULTER



New vaccines and immunotherapies for AIDS and cancer

George Pavlakis (GR & USA)

09.00 - 10.00

ROOM: LAMBRAKIS HALL

CHAIR: TBA CO-CHAIR: TBA

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: TBA



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)

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

SESSION OVERVIEW

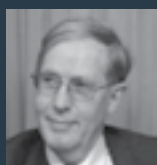
Harmonisation is a fundamental aspect of quality in laboratory medicine; its main goal is to provide a better patient outcome producing comparable laboratory information irrespective of where and how the laboratory data have been obtained. Harmonisation involves all the steps of the total testing process (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

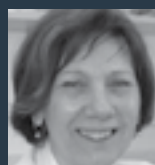
After this session, participants will be able to:

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 posters 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)

Gfr and drug dosage adaptation: are we still in the mist?
(25 min + 5 min discussion)

SESSION OVERVIEW

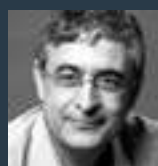
Cancer biomarker testing represents a major part of clinical biochemistry service. Cancer biomarkers are used for screening, diagnosis, prognosis, prediction of therapeutic response and monitoring of patients with cancer. The last 20 years, various omics technologies promised to revolutionize cancer 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 CHAIRS & SPEAKERS



Eleftherios P. 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.



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.

Challenges in the diagnosis and follow-up of multiple myeloma



CHAIR: Meletios A. Dimopoulos (GR) CO-CHAIR: Evangelos Terpos (GR)

10.30 – 12.30

ROOM: TRIANTI HALL

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

LECTURES

Efstathios Kastritis (GR)

The role of free light chain in the diagnosis and follow-up of myeloma patients
(25 min + 5 min discussion)

Ioannis Papassotiriou (GR)

Diagnostic problems for the definition of response in myeloma patients who are treated with monoclonal antibodies
(25 min + 5 min discussion)

Bruno Paiva (SP)

Minimal residual disease for multiple myeloma: Can we do better?
(25 min + 5 min discussion)

SESSION OVERVIEW

This symposium will update on challenging issues for 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 talk about the value of free-light chain serum measurement for the diagnosis and follow-up of myeloma patients; they describe the new response criteria of myeloma based on minimal residual disease evaluation with either next generation flow cytometry or next generation sequencing and they 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

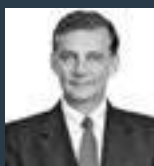
After this session, participants will be able to:

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 measurement.
2. Know how to evaluate complete response in a myeloma patient

who receives daratumumab.

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 CHAIRS & SPEAKERS



Meletios A. Dimopoulos is Professor and Chairman of the Department of Clinical Therapeutics at the National and Kapodistrian University of Athens (UoA) School of Medicine, Athens, Greece. He has been elected Vice Dean of the Medical School (2007-11), Dean (2011-15) and Rector from February 2015 to-date. He obtained his MD from the UoA, completed a residency in internal medicine at the Royal Victoria Hospital, McGill University, Montreal, Canada and a fellowship in hematology/oncology at the University of Texas M.D. Anderson Cancer Center, Houston, Texas, USA. He has authored more than 800 publications in peer-reviewed journals primarily focusing on plasma cell dyscrasias and genitourinary and gynecologic cancers, with more than 35,000 citations (h-index 89). He serves on the Scientific Advisory Boards of the International Myeloma Foundation, of the International Waldenström's Macroglobulinemia Foundation and he is a member of the Board of the European Myeloma Network.

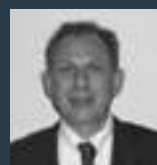


Efstathios Kastritis is Assistant Professor of Clinical Therapeutics-Internal Medicine in the Department of Clinical Therapeutics, National and Kapodistrian University of Athens, School of Medicine. He received his MD and Ph.D from the same University and was trained in Internal Medicine and Medical Oncology in the Department of Clinical Therapeutics. He was 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. Kastritis has published over 170 papers in peer reviewed journals and has over 5000 citations and an h-index of 35.

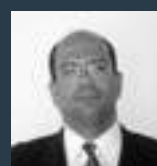


Bruno Paiva is research fellow of the Departments of Hematology and Immunology at the Clinica Universidad de Navarra & Centro de Investigaciones Medicas Aplicadas, Pamplona, Spain and the Director of the Flow Cytometry Core, and Scientific Coordinator of CIMA LAB diagnostics, the Laboratory Diagnostic Core of the University of Navarra. He graduated in Pharmaceutical Sciences at the University of Coimbra, Portugal

and received his PhD from the Medical School of the University of Salamanca. His main area of work is on multiparameter flow cytometry evaluation of hematological malignancies. His main research interests focus on improving the differential diagnosis, risk stratification, and monitoring of patients with hematological malignancies, particularly monoclonal gammopathies (MGUS, smoldering and symptomatic multiple myeloma, Waldenström's macroglobulinaemia, or amyloidosis) but also acute leukemias and lymphoproliferative disorders. He is author of several publications in peer-reviewed journals.



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.



Evangelos Terpos is Associate Professor of Hematology in the Department of Clinical Therapeutics in the University of Athens, School of Medicine, Athens, Greece. He has also been appointed as Honorary Senior Lecturer in the Department of Haematology, Faculty of Medicine Imperial College London, UK. He obtained his MD from the University of Thessaloniki and completed a fellowship in allogeneic transplantation in the Department of Haematology, Faculty of Medicine, Imperial College London, UK. His main research interest is the biology of plasma cell dyscrasias and especially the biology of bone disease in multiple myeloma. He authored more than 350 papers in peer-reviewed journals, has 10,000+ citations and an h-index of 50. Dr Terpos is chairing the Bone Subgroup of the International Myeloma Working Group and the Guideline Subgroup of the European Myeloma Network. He is reviewer in more than 50 medical journals and he is a member of the EB of Haematologica.

Biomarkers of inflammation and vascular damage

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



10.30 – 12.30

ROOM: HALL A

4 LECTURES (+ 2 oral presentations of related posters 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)

SESSION OVERVIEW

The symposium is focusing on the latest developments in the field of inflammation and vascular homeostasis and related biomarkers. Invited speakers will sequentially 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, Greece) 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. 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 CHAIRS & 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 a faculty member at the 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 Vice President of the Research Committee, University of Crete. His research is focusing on identification of molecular mechanisms regulating inflammation and macrophage activation

and has identified the role of miRNAs in this process and their potential value as serum biomarkers of inflammation in the context of low grade systemic inflammation in obesity, male subfertility, renal disease and sepsis. He has published 84 peer reviewed articles (h-index 28) and serves as Associate Editor in 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.



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: MITROPOULOS HALL

COOPERATION WITH: Greek Stroke Society

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

LECTURES

George Tsivgoulis (GR)

Stroke in the 21st 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)

SESSION OVERVIEW

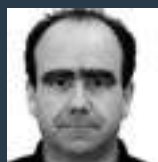
Stroke is the second most common cause of death in the world and a major cause of chronic sequelae of diseases. New therapeutic strategies are sorely needed and new diagnostic strategies to support them. Laboratory personnel need good understanding of the pathophysiology of stroke and of ischemic mechanisms unique to the brain including markers released in response to stroke in order to properly support the introduction and use of new biomarkers of stroke.

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.

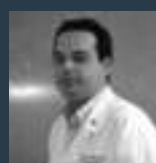
ABOUT THE CHAIRS & SPEAKERS



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.



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).



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.

Laboratory diagnosis of pathological conditions in pregnancy

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



10.30 – 12.30

ROOM: MC 3 HALL

COOPERATION WITH: Hellenic Society of Perinatal Medicine

3 LECTURES (+ 2 oral presentations of related posters 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)

Giancarlo DiRenzo (IT)

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

Philippos Patsalis (CY)

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

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 CHAIRS & SPEAKERS



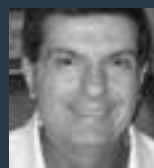
Demetrios Rizos is an Associate Professor of Clinical Chemistry in the Medical School of the National and Kapodistrian University of Athens. He is currently Director of Hormones' Laboratory in "Areataieon" University Hospital. He received his PhD in Biochemistry and he is working in Hormones Laboratory since 1984. He was the past president of the Greek Society of Clinical Chemistry-Clinical Biochemistry from 2001 to 2008. Demetrios is the representative of Greece in the EC4 Register of European Specialists in

Clinical Chemistry and Laboratory Medicine since 2001 and he is the Chairman of the Greek National Clinical Chemistry Registration Commission since 2004. He is the representative of Greece in the Board of the Balkan Clinical Laboratory Federation (BCLF).



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 post-doc 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, Preeluma 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.



Giancarlo DiRenzo Honorary Secretary of FIGO, is Professor and Chair at the University of Perugia (UOP) in Italy. He is Director of both the Reproductive and Perinatal Medicine Center and the Midwifery School at UOP. He is also Director of the Permanent International and European School of Perinatal and Reproductive Medicine in Florence. He holds multiple other positions including Founder & Editor-in-Chief of the Journal of Maternal Fetal and Neonatal

Medicine based in London and Corresponding Editor of the American Journal of Obstetrics and Gynecology. He is an Advisory Board Member for the March of Dimes Foundation based in New York and a fellow addendum of RCOG and an Honorary Fellow of ACOG and ICOG. Gian Carlo is an Honorary Professor and Doctor Honoris Causa at 15 different Universities throughout Europe, South America, and United States and he is an Academic Member of the Romanian and Russian Academy of Sciences. His scientific production comprises over 1,200 papers of which more than 300 have been published in peer reviewed international journals and 80 books. He has been an invited speaker in over 1,400 national and international congresses and meetings and in academic courses in over 100 countries.



Philippos Patsalis undertook his BSc in Biology from the Aristotelian University of Salonica, Greece and his MA, MPh and PhD in Genetics from the City University of New York, USA. He underwent specialization in cytogenetics and human genetics at Memorial Sloan-Kettering Cancer Center in New York and worked as post-doctoral fellow at the New York University Medical School, Cornell Medical Center and Columbia University, in New York. In 1993, he returned to Cyprus where he founded and directed the Department of Cytogenetics and Genomics at the Cyprus Institute of Neurology and Genetics and in 2007 he was appointed to the position of Chief Executive Director of the Institute. In 2012 he founded the Translational Genetics team and the Cyprus School of Molecular Medicine and served as the first Professor and Provost of the School. Prof. Patsalis appointed as Minister of Health of the Republic of Cyprus in 2014 – 2015. In 2010 he founded the biotechnology company NIPD Genetics LTD and he serves as CEO until today. He is a member of international academies of science, member of Editorial Boards and published a high number of innovative peer-reviewed papers in journals including Nature Medicine, Lancet, etc.



Anne McTiernan (USA)



Lessons from 30 years of cancer screening

CHAIR: TBA CO-CHAIR: TBA



Laura Esserman (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 SPEAKERS

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.

Laura Esserman is a Professor of Surgery and Radiology at the University of California, San Francisco (UCSF) and the Director of the UCSF Carol Franc Buck Breast Care Center. She is a leader of the innovative I-SPY TRIAL model, designed to accelerate the identification and approval of effective new agents for women with high risk breast cancers. The goal of the I-SPY TRIAL model is to shave several years and tens of millions of dollars off the drug development process. The trial paradigm is now being developed for use in other disease domains. In 2009, Dr. Esserman led the creation of the University of California-wide Athena Breast Health Network, a learning system designed to integrate clinical care and research as it follows 150,000 women from screening through treatment and outcomes. As part of the network, she has spearheaded the development of the WISDOM study to learn how to improve breast cancer screening by testing and comparing the safety and efficacy of a personalized screening strategy informed by each woman's breast cancer risk and preferences against the standard of annual screening. Dr. Esserman is a passionate and persistent advocate for her patients. She is keenly aware that many of her patients don't have 10 years to wait for the right treatment options. Her work is dedicated to accelerating the development of targeted, effective prevention and treatment options that can make a difference at the time when they are needed the most.

Standardization in endocrinology

CHAIR: *Philippe Gillery (FR)* CO-CHAIR: *TBA*



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

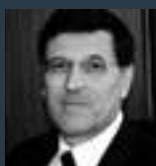
After this session, participants will be able to:

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 CHAIRS & SPEAKERS



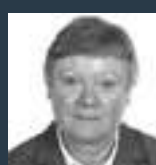
Philippe Gillery is Professor of Biochemistry and Molecular Biology at the Faculty of Medicine of Reims, University of Reims Champagne-Ardenne, France. He is the chair of the Laboratory of Paediatric Biology and Research and of the Biology and Pathology Department of the University Hospital of Reims. 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 lab management Why and how to do it



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

14.30 - 16.45

ROOM: MC 3 HALL

MODERATOR: Christos Kroupis (GR)

YOUNG SCIENTIST CO-MODERATOR: Ilenia Infusino (IT)

Santiago Fares Tale (AR)

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 & lab management will be addressed in two separate one hour parts. The Accreditation part will be presented by Drs. Wim Huisman and Michel Vaubourdolle.

In the second part, Dr. Elizabeth Frank will discuss on why and how to perform Lab 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 published many manuscripts and delivered many presentations during international and national congresses focusing on the topic of ISO-15189.

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»



Success in research - academic career: Lessons and opportunities



Feng Zhang (USA)

16.45 - 18.00

ROOM: MC 3 HALL

MODERATOR: Eleftherios Diamandis (CA, GR)

CO-MODERATOR: Damien Grouson (BE)

SUMMARY

In this session Prof. Feng Zhang, co-inventor of the promising CRISPR-Cas system for genome editing, and a young scientist himself, will provide a talk related to success in research and academic careers.

ABOUT THE EXPERT

Feng Zhang is a Core Member at the Broad Institute of MIT and Harvard, an Investigator at the McGovern Institute for Brain Research at MIT, and an Assistant Professor in the Department of Brain and Cognitive Sciences. He was born in Shijiazhuang (Hebei Province, China) in 1981 and moved to Des Moines, Iowa in 1993. His introduction to engineering biological tools for mammalian systems began as a sophomore in high school when he had the opportunity to intern in the gene therapy lab of John Levy in Des Moines, Iowa. He obtained an A.B. in Chemistry and Physics from Harvard University in 2004 during which time he conducted research with Xiaowei Zhuang. As a Ph.D. student in the Chemistry Department at Stanford University, Zhang worked with Karl Deisseroth to devel-

op optogenetics technologies for dissecting brain circuits, using light-sensitive proteins from microbes to enable control of neuronal activity in living organisms with light. After finishing his Ph.D. in 2009, Zhang joined the Harvard Society of Fellows as a Junior Fellow (2009-2010), focusing on developing gene editing tools based on transcription activator-like effectors (TALEs). In 2011, Zhang began his own laboratory at the Broad and McGovern Institutes, where he and his team pioneered the use of microbial CRISPR-Cas systems for gene editing in eukaryotic cells. His lab continues to play a critical role in the development of gene editing technologies and applications that are accelerating research around the world.

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 Beastall

10.30 - 12.30

SYMPOSIA

Kidney diseases hot questions on established and novel biomarkers

Michael Darmon, Bjørn Odvar Eriksen, Pierre Delanaye

Advances in neurodegeneration disorders

Armand Pierret-Liaudet, Kay Blennow, Diego Centonze

State of the art in cardiac markers

Mauro Panteghini, James L. Januzzi, Edmund J Lamb

12.30 - 14.30

DEBATE

The ethics of gene editing

Charis Thompson / Françoise Baylis

12.30 - 14.30

POSTER SESSION

14.30 - 15.30

PRESIDENT'S INVITED SPEAKER

Exploring the CRISPR diversity for novel genome editing tools

Feng Zhang

16.00 - 18.00



IFCC SYMPOSIUM

Role of communication in P4 laboratory medicine

Tahir Pillay, Peter Vervaart, Khosrow Adeli

15.30 - 16.45

MEET THE EXPERTS

How to succeed in science medicine as a woman

Laura Esserman, Ann Gronowski

16.45 - 18.00

Assessing vitamin d status in the clinical laboratory:

Assays and interpretation are the key issues

Howard Morris

WORKSHOPS

14.30 - 15.30

MENARINI / ABBOTT / ROCHE / SIEMENS

15.45 - 16.45

RANDOX / SYSMEX / ROCHE / ORTHO

17.00 - 18.00

FUJIREBIO / BECKMAN COULTER / BINDINGSITE / MINDRAY



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

Françoise Baylis (CA)

09.00 - 10.00

ROOM: LAMBRAKIS HALL

CHAIR: TBA CO-CHAIR: TBA

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: TBA

10.30 – 12.30

ROOM: SKALKOTAS HALL

COOPERATION WITH: *Clinical Laboratory Management Association*

5 LECTURES (2 from Increasing Clinical Effectiveness* Award Winner*)

LECTURES

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)

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 CHAIRS & 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 are 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. The speakers will not be known until March 2017 at the conclusion of the 2016/17 ICE Award competition

Kidney diseases - hot questions on established and novel biomarkers



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

10.30 - 12.30

ROOM: TRIANTI HALL

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

LECTURES

Michael Darmon (FR)

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

Bjørn Odvar Eriksen (NO)

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

Pierre Delanaye (BE)

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

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 measure 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 CHAIRS & 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).



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 publication in the fields of clinical bio-chemistry and transfusion medicine and is also a reviewer for Clinical Chemistry, JACC, CCLM and Journal of Translational Medicine.

Advances in neurodegeneration disorders

CHAIR: Sergio Bernardini (IT) CO-CHAIR: TBA



10.30 - 12.30

ROOM: HALL A

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

LECTURES

Armand Pierret-Liaudet (FR)

Prenatal 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)

Diego Centonze (IT)

Advances in multiple sclerosis
(25 min + 5 min discussion)

SESSION OVERVIEW

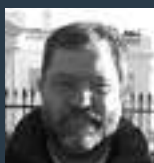
Neurodegenerative disorders are a tremendous challenge for the future. A human and social challenge and a challenge for sustainability on the part of the health system. The aim of this symposium is to bring together Laboratory professionals and Clinicians to debate the possible role of biomarkers in 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 classified the patients.
4. To understand the epidemiological relevance of neurodegenerative disorders.

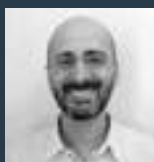
ABOUT THE CHAIRS & SPEAKERS



Sergio Bernardini is Doctor of Medicine, at the University of Rome "La Sapienza" Postgraduate Specialization in Pediatrics and in Clinical Biochemistry. Full Professor in Clinical Biochemistry, President of Master Degree Course in Pharmacy and Director of the Postgraduate Specialization in Clinical Pathology and Biochemistry University of Tor Vergata. Head physician of the Clinical Biochemistry and Laboratory Emergency Units at the University of Tor Vergata Hospital. It is the Secretary of the International Federation Clinical Chemistry and Laboratory Medicine (IFCC).

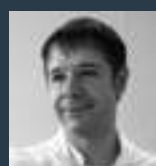


Kaj Blennow took his MD in 1984, and holds a Specialist Competence in both General Psychiatry and in Clinical Chemistry. He is Head of the Clinical Neurochemistry Lab at Sahlgrenska University Hospital, Gothenburg, Sweden, and Professor and Academic Chair in Clinical Neurochemistry at University of Gothenburg, 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.



Diego Centonze is Full Professor of Neurology at the Department of Systems Medicine of the University of Rome Tor Vergata and Director of the Neurology and of the Neurorehabilitation Units at the IRCCS Istituto Neurologico Mediterraneo Neuromed, Pozzilli (IS), Italy. He leads the Experimental Neurology Laboratory at Tor

Vergata University. His major clinical interest involves the evaluation of new drugs for the treatment of Multiple Sclerosis (MS); his 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. He graduated in Medicine at the University of Rome La Sapienza, specialized in Neurology and in Psychiatry at the University of Rome Tor Vergata. He obtained his PhD in Rehabilitation Medicine. He is member of advisory boards of Pharmaceutical Industries for treatment optimization in MS and Member of the Society for Neuroscience, the Italian Neurological Society (SIN) and the Italian Neuroscience Society (SINS). He is author of around 300 peer-reviewed articles (H-index 59).



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

State of the art in cardiac markers

CHAIR: Mauro Panteghini (IT) CO-CHAIR: TBA



10.30 – 12.30

ROOM: MITROPOULOS HALL

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

LECTURES

Mauro Panteghini (IT)

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

James L. Januzzi (USA)

*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)*

SESSION OVERVIEW

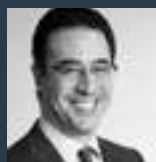
The availability of highly sensitive troponin assays (hsTn) allows the safe clinical application of international recommendations and the introduction of fast-track protocols for the definition of AMI. However, hsTn assays have not always been welcomed by clinicians, claiming an increase in false-positive 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.

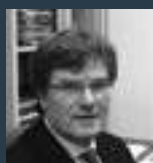
ABOUT THE CHAIRS & SPEAKERS



James Januzzi is Professor of Medicine at Harvard Medical School and Staff Cardiologist at Massachusetts General Hospital. He is senior faculty member at the Harvard Clinical Research Institute. He graduated from New York Medical College, performed residency in internal medicine at the Brigham and Women's Hospital, and fellowship in cardiology and cardiac ultrasound at the Massachusetts General Hospital. He is active in all aspects of

clinical trial design and execution, with main area of research the biomarkers in cardiovascular disease. He has published more than 400 manuscripts, book chapters, and review articles, has edited two text books on cardiac biomarker testing as well as the Massachusetts General Hospital Cardiology Review Book. He is on the EB of numerous scientific journals and was the chairman of the NT-proBNP and ST2 Consensus Panels, the lead author of the Heart Failure Section for the Universal Definition of MI Biomarker Task Force and is on the planning committee for the 2015 and 2016 Heart Failure Society of America meetings. He is currently the Chair of the ACC Task Force on Consensus Statements and was a section editor and member of the WG for the 2013 ACC/AHA Clinical Practice Guidelines for Heart Failure.

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 Milano, Italy. Director of the Department of Laboratory Medicine and Director of Clinical Pathology Unit of the "Luigi Sacco" University Hospital in Milano, 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.



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



Charis Thompson (USA)

The ethics of gene editing

CHAIR: TBA CO-CHAIR: TBA



Françoise Baylis (CA)

12.30 - 14.30

ROOM: LAMBRACKS HALL

SESSIONS OVERVIEW

In this speech, I will put forward an architecture designed by our collective, Science FARE (feminist, anti-racist, equity), to make sure that gender, racial, class, inter-nation, and disability justice are global goals in the threshold development of genome editing. The architecture includes benchmarks for justice as well as ways to mitigate emerging injustices in relation to gene editing of plants, animals, and humans. I advocate an ongoing iterative process between science and society, according to which cautious progress would be permissible.

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 SPEAKERS

Charis Thompson is Chancellor's Professor at the University of California, Berkeley, where she is Chair of the Department of Gender and Women's Studies and a former founding director and steering committee member of the Center for Science, Technology, Medicine, and Society. She serves on the board of the Center for Race and Gender, and on the Stem Cell Oversight Review Committee at Berkeley, and on the Nuffield Council on Bioethics committee on Gene Editing. She is also RQIF Professor in the Department of Sociology at the London School of Economics. She is author of *Making Parents* (MIT Press 2005) and *Good Science* (MIT Press 2013) and is at work on a third book in this series on science and society, called *Getting Ahead*.

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).



Exploring the CRISPR diversity for novel genome editing tools

Feng Zhang (USA)



14.30 - 15.30

ROOM: LAMBRAKIS HALL

CHAIR: Alexander Haliassos (GR) CO-CHAIR: TBA

SUMMARY

Advances in genome sequencing technology have accelerated the rate at which we can identify genetic variants associated with phenotypes related to human health and disease, but functionally interrogating these variants remains time intensive. Being able to quickly find the causative variants in a sea of a natural variation is essential to the goal of personalized medicine. To this end, new genome editing tools adapted from the microbial CRISPR-Cas system can be employed to rapidly screen through variants for functional effects as

well as to model diseases based on patient-specific mutations. I discuss here how the CRISPR-Cas system can be deployed as a powerful discovery platform, highlighting recent findings from CRISPR screens, and describe our efforts to improve and refine these tools. Finally, I present recent work exploring the next generation of genome editing technologies beyond Cas9, and how these new tools will further expand our ability to connect genotype to phenotype and, ultimately, treat human disease.

ABOUT THE SPEAKER

Feng Zhang is a Core Member at the Broad Institute of MIT and Harvard, an Investigator at the McGovern Institute for Brain Research at MIT, and an Assistant Professor in the Department of Brain and Cognitive Sciences. He was born in Shijiazhuang (Hebei Province, China) in 1981 and moved to Des Moines, Iowa in 1993. His introduction to engineering biological tools for mammalian systems began as a sophomore in high school when he had the opportunity to intern in the gene therapy lab of John Levy in Des Moines, Iowa. He obtained an A.B. in Chemistry and Physics from Harvard University in 2004 during which time he conducted research with Xiaowei Zhuang. As a Ph.D. student in the Chemistry Department at Stanford University, Zhang worked with Karl De-

isseroth to develop optogenetics technologies for dissecting brain circuits, using light-sensitive proteins from microbes to enable control of neuronal activity in living organisms with light. After finishing his Ph.D. in 2009, Zhang joined the Harvard Society of Fellows as a Junior Fellow (2009-2010), focusing on developing gene editing tools based on transcription activator-like effectors (TALEs). In 2011, Zhang began his own laboratory at the Broad and McGovern Institutes, where he and his team pioneered the use of microbial CRISPR-Cas systems for gene editing in eukaryotic cells. His lab continues to play a critical role in the development of gene editing technologies and applications that are accelerating research around the world.

Role of communication in P4 laboratory medicine

CHAIR: Khosrow Adeli (CA) CO-CHAIR: TBA



16.00 - 18.00

ROOM: LAMBRAKIS HALL

COOPERATION WITH: Communications and Publications Division, IFCC

3 LECTURES

LECTURES

Tahir Pillay (ZA)

Online resources for patients and
healthcare professionals
(30 min + 5 min discussion)

Peter Vervaart (AU)

E-learning and online educational
tools in laboratory medicine
(30 min + 5 min discussion)

Khosrow Adeli (CA)

Electronic apps and medical
diagnostics data management
(30 min + 5 min discussion)

SESSION OVERVIEW

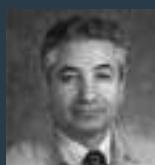
P4 Medicine describes a healthcare delivery model that is Predictive, Preventive, Personalized and Participatory. This novel concept has attracted much attention in recent years and holds significant promise that is innovative and transformative. P4 Medicine is obviously very reliant on clinical laboratory 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 CHAIRS & SPEAKERS



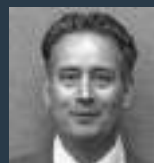
Khosrow Adeli is currently the head and full professor of Clinical Biochemistry at the Hospital for Sick Children and the Departments of Biochemistry, and Laboratory Medicine & Pathobiology at the University of Toronto in Toronto, Canada. He also serves as the Chair of Publications and Communications 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.



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,

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).



How to succeed in science and laboratory medicine as a woman



Laura Esserman (USA) & Ann Gronowski (USA)

15.30 - 16.45

ROOM: MC 3 HALL

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

SUMMARY

Professors Laura Esserman 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

Laura Esserman is a Professor of Surgery and Radiology at the University of California, San Francisco (UCSF) and the Director of the UCSF Carol Franc Buck Breast Care Center. She is a leader of the innovative I-SPY TRIAL model, designed to accelerate the identification and approval of effective new agents for women with high risk breast cancers. The goal of the I-SPY TRIAL model is to shave several years and tens of millions of dollars off the drug development process. The trial paradigm is now being developed for use in other disease domains.

In 2009, Dr. Esserman led the creation of the University of California-wide Athena Breast Health Network, a learning system designed to integrate clinical care and research as it follows 150,000 women from screening through treatment and outcomes. As part of the network, she has spearheaded the development of the WISDOM study to learn how to improve breast cancer screening by testing and comparing the safety and efficacy of a personalized screening strategy informed by each woman's breast cancer risk and preferences against the standard of annual screening.

Dr. Esserman is a passionate and persistent advocate for her patients. She is keenly aware that many of her patients don't have 10 years to wait for the right treatment options. Her work is dedicated to accelerating the development of targeted, effective prevention and treatment options that can make a difference at the time when they are needed the most.

Ann M. 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: Simeon 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.

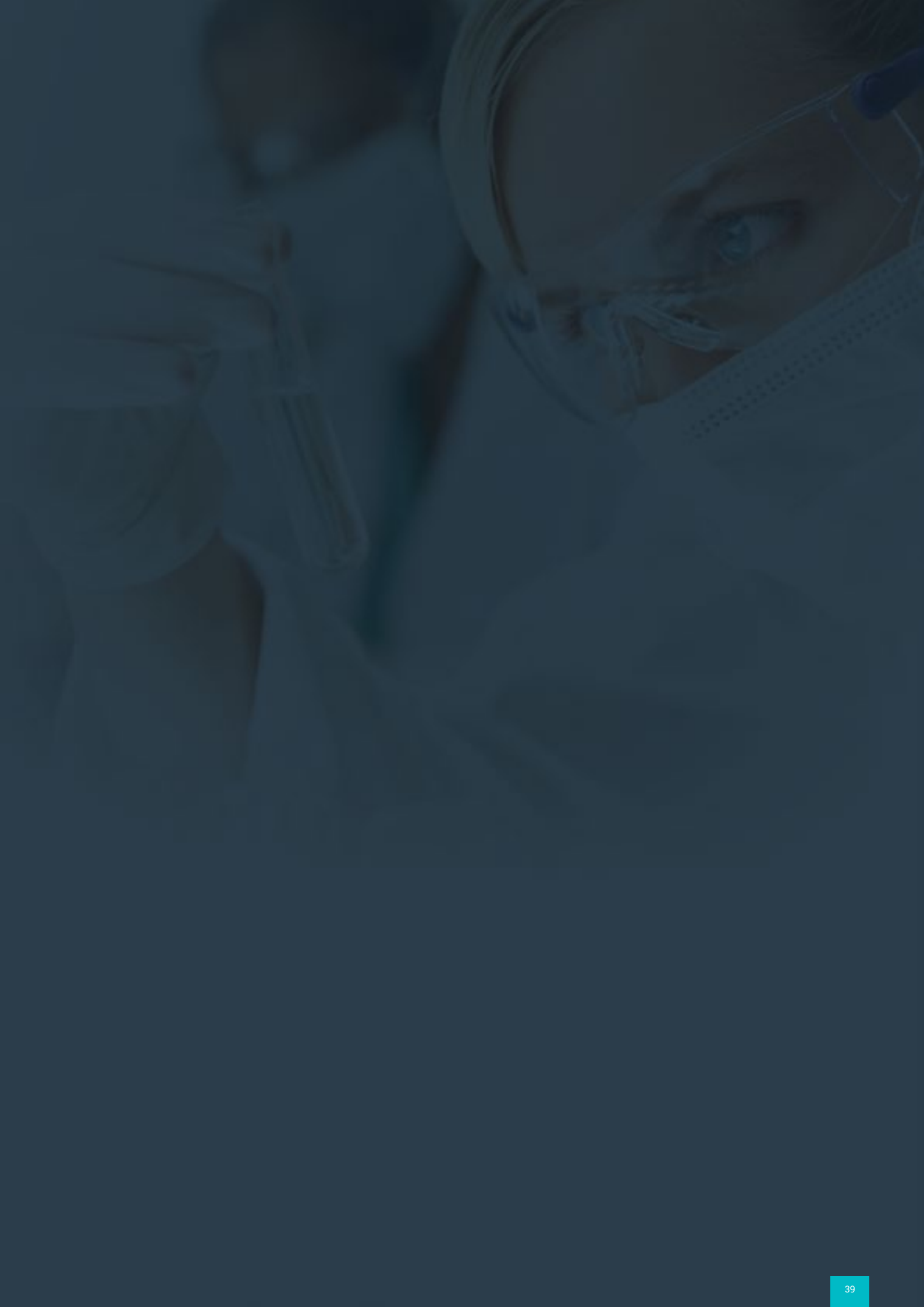
ABOUT THE EXPERT

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 XXII 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.



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

The interface of laboratory medicine and clinical diagnosis

Aasne K. Aarsand, Éva Ajzner, Jane French

Personalized medicine

Maurizio Ferrari, Paola Fortina, Ron Van Schaick

Future outlook on POCT and clinical effectiveness

rosy Tirimacco, Jim Nichols, David McClintock, Michel Vaubourdolle



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

robert Wielgosz, Elvar Theodorsson, Graham Jones, Graham Beastall

12.30 - 14.30

DEBATE

Direct to consumer testing

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 - 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

WORKSHOPS

14.30 - 15.30

BIORAD / RANDOX / SIEMENS / MENARINI

15.45 - 16.45

KONICA-MINOLTA / SIEMENS / THERMOFISHER

17.00 - 18.00



The influence of stress in human disease risk

George P. Chrousos (GR)

09.00 - 10.00

ROOM: LAMBRAKIS HALL

CHAIR: TBA CO-CHAIR: TBA

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: TBA

10.30 - 12.30

ROOM: LAMBRAKIS HALL

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

3 LECTURES

LECTURES

Mauro Panteghini (IT)

Defining performance specifications in laboratory testing

(35 min + 5 min discussion)

Sverre Sandberg (NO)

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

(35 min + 5 min discussion)

Ferruccio Ceriotti (IT)

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

(35 min + 5 min discussion)

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 CHAIRS & SPEAKERS



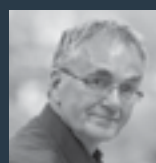
Ferruccio Ceriotti MD is deputy Director of the Service of Laboratory Medicine of San Raffaele Hospital in Milan. He is Director of the Laboratory for Standardization in Clinical Chemistry of the same Institution and responsible for quality management and quality assurance of the laboratory. He has been 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.

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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 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.



Sverre Sandberg is director of the Norwegian quality improvement of primary care laboratories, NOKLUS (www.noklus.no) and the Scandinavian evaluation of laboratory equipment for primary health care, SKUP (www.skup.nu), director of the Norwegian Porphyria Centre, NAPOS (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: TBA

10.30 - 12.30

ROOM: TRIANTI HALL

COOPERATION WITH: Critical Illness Study Institute

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

LECTURES

Viviane Van Hoof (BE)

The case for POC 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)

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

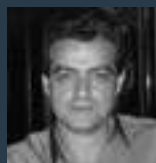
After this session, participants will be able to:

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 CHAIRS & SPEAKERS



George J. Baltopoulos is Professor of Critical Care & Pulmonary Diseases in the National and Kapodistrian University of Athens, School of Health Sciences, Department of Nursing and the Director of the University Intensive Care Unit at "Agiol Anargyroi" Hospital of Kifissia. He received his MD and his PhD from Athens University Medical School. Initially, he specialized in internal medicine and then he was further trained in the U.S. (University of Colorado at Denver and the University of Chicago) in Pulmonary and Critical Care Medicine. He served as chairman of the Department, as Post Graduate Studies Program director and in several other positions as well. He has participated in more than 160 papers in international peer reviewed journals and books and also served as reviewer and editor in several medical journals. His main research interests are focused on critical care and pulmonary medicine and particularly on: sepsis, pulmonary edema elimination mechanisms, acute lung injury mechanisms, mechanical ventilation induced lung injury, management of respiratory failure and ICU management and cost.



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.



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.



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.

The interface of laboratory medicine and clinical diagnosis



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

10.30 – 12.30

ROOM: HALL A

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

3 LECTURES (+ 2 oral presentations of related posters 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)

Jane French (UK)

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

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. An overview of the existing PA practices in European laboratories through the findings of recent surveys of WG-POST of EFLM will be presented. The status of the current practice of the PA activities where laboratories and clinicians should work together and for which laboratories proposed to be primarily responsible in the TTP 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 CHAIRS & SPEAKERS



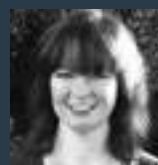
Éva Ajzner is Private Professor, accredited PhD tutor of the University of Debrecen Medical Health Science Center. She is head of the Department of Laboratory Medicine and Clinical Microbiology, Józsa András University Hospital. She received her PhD in the field of experimental hemostasis from the University 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, Haraldsplass 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.



Jane French is NHS Consultant Clinical Scientist at Birmingham Quality (UK NEQAS), Director of the UK NEQASs for Lipid Investigations, Glycated Haemoglobins & Fructosamine, Faecal Markers of Inflammation, Faecal Haemoglobin (FIT & FOB) and TPMT. She serves as Scheme Manager of the UK NEQAS Interpretative Comments in Clinical Chemistry and she was able to blend the EQA know-how with the real life scientific and clinical aspects that the jobbing biochemist deals with on a daily basis. She is Secretary of The HEART UK Laboratory Sub-committee, which is the premier forum for scientific and clinical aspects of the laboratory assessment of cardiovascular risk. She is also the secretary of the UK NEQAS Clinical Chemistry Steering Committee and the UK NEQAS Specialist Advisory Group for Interpretative Comments and was a founder member of the Association for Quality Management in Laboratory Medicine (AQMLM).

Personalized medicine

CHAIR: Maurizio Ferrari (IT) CO-CHAIR: TBA



10.30 - 12.30

ROOM: MITROPOULOS HALL

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

LECTURES

Maurizio Ferrari (IT)

P4 medicine: predictive, preventive, personalized and participatory. A new trend in laboratory medicine
(25 min + 5 min discussion)

Paola Fortina (USA)

Personalized genomic medicine approaches in the study of cancer
(25 min + 5 min discussion)

Ron Van Schaick (NL)

Pharmacogenetics and personalized therapy
(25 min + 5 min discussion)

SESSION OVERVIEW

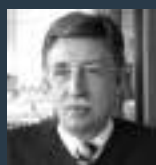
Molecular biology is not a new field in laboratory medicine, but several new areas of applications will be developed. The future of health care is on P4 medicine (Predictive, Preventive, Personalized and Participatory) and the applications of the different OMICS will enter in Laboratory Medicine area. 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 CHAIRS & SPEAKERS



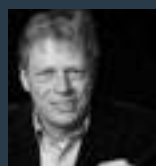
Maurizio Ferrari is Professor of Clinical Pathology, Vita-Salute San Raffaele University, Director of Clinical Molecular Biology and Cytogenetics Laboratory, and Head of Genomic Unit for the Diagnosis of Human Pathologies, IRCCS San Raffaele Hospital, Milan, Italy. He received his MD at the Milan University, 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.



Paola 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 Penn-

sylvania where he served 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.



Ron van Schaick 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 (and 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.

Future outlook on POCT and clinical effectiveness

CHAIR: Bernard Gouget (FR) CO-CHAIR: TBA



10.30 – 12.30

ROOM: SKALKOTAS HALL

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

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

LECTURES

Rosy Tirimacco (AU)

POCT Integrated into clinical care to ensure better outcomes

(25 min + 5 min discussion)

Jim 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

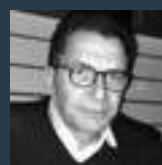
Over the last few decades, the availability of new Point-of-care testing devices and the range of clinical applications of nano-biosensors have steadily increased. POCT has become a critical component of the diagnostic industry and is revolutionizing the continuum of patient care. It can be applied in 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 POC 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:

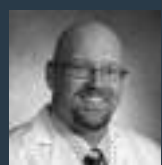
1. Discuss challenges associated with rapidly increasing number of POCT applications.
2. To promote quality in the use, performance, interpretation and reporting of POCT across the full spectrum of Clinical chemistry and Lab Medicine.
3. Formulate strategies for efficiently managing a growing POCT quality 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 CHAIRS & SPEAKERS



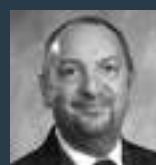
Bernard Gouget is assistant Professor in Paris-Descartes V University and Counselor for Public Health at the Fédération Hospitalière de France where he is responsible for monitoring national programs involving the growing challenges facing public hospitals and the health and safety of the patient. He 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.



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.



James H. 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».



Traceability in Laboratory Medicine: What is it and Why is it Important?



CHAIR: Gary Myers (USA) CO-CHAIR: TBA

10.30 – 12.30

ROOM: MC 3 HALL

COOPERATION WITH: IFCC, BIPM and ILAC

4 LECTURES

LECTURES

Robert Wielgosz (FR)

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

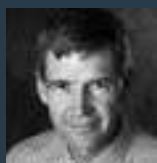
After this session, participants will be able to:

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 CHAIRS & 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).

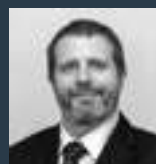


Graham Jones has been the chemical pathologist at St Vincent's Hospital Sydney since 1997. He has wide interests beyond the routine laboratory, representing pathology on national position statements on chronic kidney disease, HbA1c and drug units. He has been a member of the JCTLM executive for 9 years,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



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).



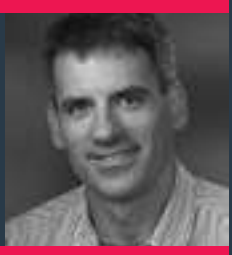
Robert Wielgosz is the Director of the Chemistry Department within the Bureau International des Poids et Mesures (BIPM) in Sèvres, France. He is responsible for the management of the BIPM program in Metrology in Chemistry, including the coordination of international comparisons for chemical standards, resulting in 170 participation from National Metrology Institutes (NMIs) in a program cycle. He is also the Executive Secretary for the Consultative Committee for Amount of Substance; metrology in chemistry (CCQM), which coordinates international comparisons for NMIs, covering the fields of protein, nucleic acid, cells, organic, inorganic, electrochemical, gas and surface analysis. He is Executive Secretary to the Joint Committee for Traceability and Laboratory Medicine (JCTLM), which develops and maintains an international database and review process for Reference Materials, Methods and Measurement Services for in vitro diagnostics. He represents the BIPM on the IUPAC Interdivisional Committee on Terminology, Nomenclature and Symbols (ICTNS), as well as ISO TC 212 for Clinical laboratory testing and in vitro diagnostic test systems.





Direct to consumer testing

CHAIR: TBA CO-CHAIR: TBA



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

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 Bioenergy 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.



Performance specifications in laboratory medicine - Part 2

CHAIR: *Suerre Sandberg (NO)* CO-CHAIR: *TBA*



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)

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 CHAIRS & 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 Biopathology 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, H_i 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.



Established and emerging biomarkers in heart failure diagnosis and management



Gerasimos Filippatos (GR)

14.30-15.45

ROOM: MC 3 HALL

MODERATOR: *James L. Januzzi (USA)*

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

SUMMARY

Prof. Filippatos, co-author in the 2012 seminal article on the 3rd 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: Bernard Gouget (FR)

YOUNG SCIENTIST CO-MODERATOR: Pradeep Kumar Dabla (IN)

SUMMARY

In this session Rosy Trimaco, 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 Lab 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.

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

12.30 - 13.30

CLOSING CEREMONY



Whole genome sequencing in health and disease

Nicholas Katsanis (GR)

09.00 - 10.00

ROOM: LAMBRAKIS HALL

CHAIR: TBA CO-CHAIR: TBA

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.



David Epstein (USA)

Antidoping testing

CHAIR: TBA CO-CHAIR: TBA



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

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)



10.30 - 12.30

ROOM: TRIANTI HALL

COOPERATION WITH: Balkan Clinical Laboratory Federation (BCLF)

5 LECTURES

LECTURES

Tomris Ozben (TR)

Coping with 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)

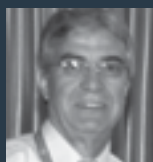
SESSION OVERVIEW

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

LEARNING OBJECTIVES

General knowledge on Laboratory Medicine.

ABOUT THE CHAIR & SPEAKERS



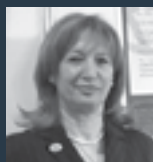
Demetrios Rizos is an Associate Professor of Clinical Chemistry in the Medical School of the National and Kapodistrian University of Athens. He is currently Director of Hormones' Laboratory in "Aretaieion" University Hospital. He received his PhD in Biochemistry and he is working in Hormones Laboratory since 1984. He was the past president of the Greek Society of Clinical Chemistry-Clinical Biochemistry from 2001 to 2008. He is the representative of Greece in the EC4 Register of European Specialists in Clinical Chemistry and Laboratory Medicine since 2001 and the Chairman of the Greek National Clinical Chemistry Registration Commission since 2004. He represents Greece in the Board of the BCLF.



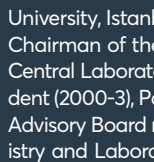
Najdana Gligorovic Barhanovic has specialized in medical biochemistry in 2000, and subspecialised in laboratory endocrinology in 2012. She is Director of Center for Clinical Laboratory diagnostic in Clinical Center of Montenegro, and scientific associate of Medical Biochemistry at the University of Montenegro. 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.



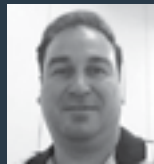
Tomris Ozben Tomasi is professor at the Dept. of Clinical Biochemistry, Faculty of Medicine, Akdeniz University, Antalya Turkey. She obtained her BSc from American University "Robert College" in Istanbul, her Ph.D. in Biochemistry from Ege University, Izmir, Turkey; and Specialty in Clinical Biochemistry 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 Biochemical 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: TBA

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 CHAIRS & SPEAKERS



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 micro-metastasis, 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.



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.



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.



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.

Advances in mass spectrometric applications

CHAIR: *Pierre Wallemacq (BE)* CO-CHAIR: *TBA*



10.30 – 12.30

ROOM: HALL A

COOPERATION WITH: IATDMCT

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

LECTURES

Michael Vogeser (DE)

Quality assurance and standardization in clinical application of mass spectrometry (25 min + 5 min discussion)

Brian Keevil (UK)

LC-MSMS analysis of steroids in the clinical laboratory (25 min + 5 min discussion)

Olof Beck (SE)

High resolution mass spectrometric analysis for new psychoactive substances (25 min + 5 min discussion)

SESSION OVERVIEW

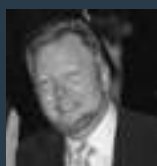
Mass spectrometry is expected to appear more and more in routine laboratory medicine. This symposium aims to review cutting edge progress in clinical applications of mass spectrometry. World opinion leaders will share their experiences covering fields including practical aspects (quality assurance, pitfalls 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 CHAIRS & SPEAKERS



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.



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.



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.



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.

Ethical issues in laboratory medicine

CHAIR: Ann M. Gronowski (USA) CO-CHAIR: TBA



10.30 - 12.30

ROOM: MITROPOULOS HALL

COOPERATION WITH: IFCC Task Force-Ethics

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

LECTURES

Ann M. Gronowski (USA)

A primer in biomedical Ethics
(25 min + 5 min discussion)

Nader Rifai (USA)

Ethics in publishing
(25 min + 5 min discussion)

Trefor Higgins (CA)

Biomarkers in stroke
(25 min + 5 min discussion)

SESSION OVERVIEW

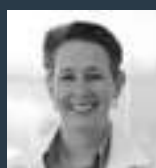
Ethical issues have been given limited attention by professionals in laboratory medicine. Specific issues that challenge laboratory professionals include: allocation of health-care resources, testing conducted nearer the patient, confidentiality, screening tests, direct to consumer testing, residual 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

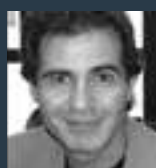
After this session, participants will be able to:

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 CHAIRS & 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 DynaLIFE Dx 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: TBA

ROOM: SKALKOTAS HALL

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

3 LECTURES (+ 2 oral presentations of related posters 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 point-of-care testing, is it necessary?
(25 min + 5 min discussion)

Piet Meijer (NL)

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

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.



Anne Vegard Stavelin is the current Chairman of EQALM. She has a PhD degree from the University of Bergen and has since 1998 been working at the Norwegian Quality Improvement of Primary Care Laboratories (Noklus). Her research field is Laboratory Quality Management with special focus on

internal and external quality control of point-of-care testing, commutability of control materials and coagulation. She is currently a member of the Norwegian National Advisory Group in anticoagulation treatment, member of the advisory group of the Norwegian Institute of Biomedical Science, member of the National and International Advisory Group of Professional Masters of Laboratory Quality Management in Canada, and member of the EFLM TFG on Performance Specifications for External Quality Assurance.