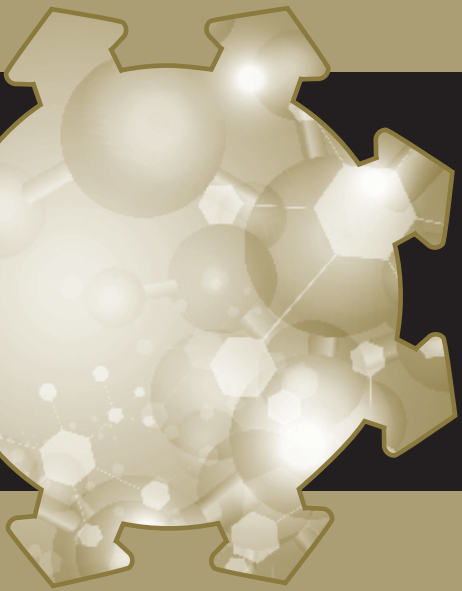
11th International IMBMC Medical Congress



Bio-medical Scientific Cyprus

18 Credits of Continued Education awarded by the CYMA

18 Credits of Continuing Professional Development awarded by the CBS

- **9th to 11th November 2023**
- **Cultural Center, European University Cyprus**

Organized & Supervised by: Professor Dr Ioannis Patrikios

Organized by:

European University Cyprus | School of Medicine

Co-organized and under the auspices:

CYPRUS MEDICAL ASSOCIATION

Under the auspices:

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CYPRUS CONVENTION BUREAU

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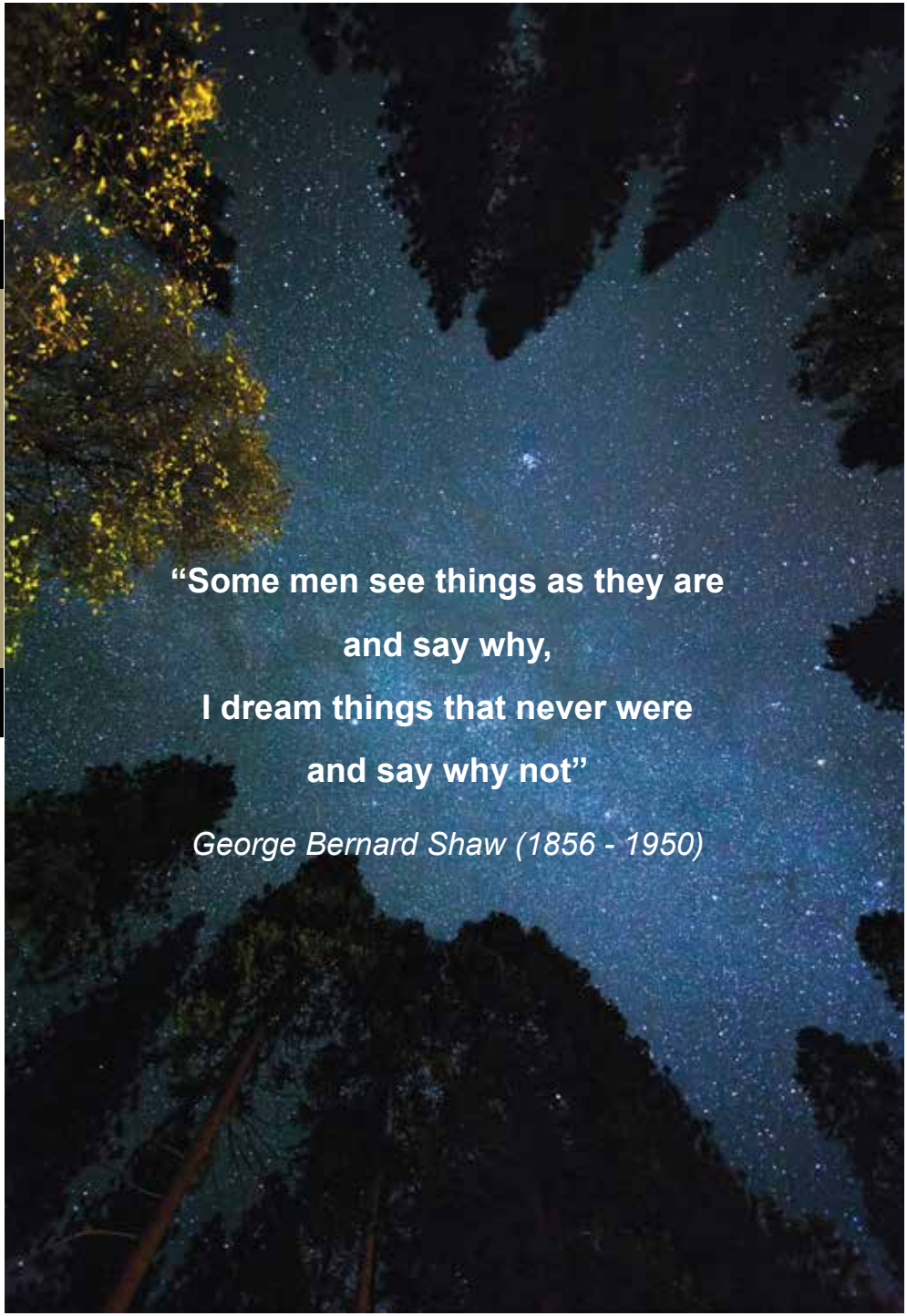
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and say why not”
George Bernard Shaw (1856 - 1950)

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AMODUO AD 2 10/2023

Welcome Address

By Professor Andreas Efstathiou

Distinguished guests and participants

It is my great pleasure and honor to welcome you today to European University Cyprus, on the occasion of the opening ceremony of the 11th International Multi-thematic Scientific Bio-Medical Congress organized by our School of Medicine.

The annual International Multi-thematic Scientific Bio-Medical Congress ranks as one of the most significant international scientific meetings organized in Cyprus and has already made a significant contribution in developing research and innovation activity in the fields of study it covers on the island.

The congress has already acquired a reputation for attracting to Cyprus distinguished scholars, academics, and researchers in the field of Bio-Medical Sciences and Medicine from all over the world and this year's congress is no exception.

On this important day for our university please allow me to say a few words about its history, our achievements, and our vision.

Our university has its roots in Cyprus College, which was founded in 1961, only one year after the establishment of the Republic of Cyprus. It therefore ranks as one of the most historic academic institutions in Cyprus.

Our institution has come a long way since its founding more than sixty years ago. An ever-increasing number of our faculty collaborate with scientists in some of the finest universities in the world. Our faculty also coordinate or participate in a few prestigious projects which are funded by the European Commission, the Research and Innovation Foundation here in Cyprus and other funding agencies. Our research activity in the last ten years increased at the average rate of around 20-30% per year boosting external research funding and publications in peer-reviewed journals. As a result, the University already fulfills the criteria for entering prestigious rankings such as the Times Higher Education World University rankings.

The establishment of the School of Medicine in the last decade, operating in concert with our School of Dentistry and the School of Sciences, which is offering numerous programs in the area of Health and Life Sciences, has given a new impetus to the research activity of our University with new achievements. The organization of the annual International Multi-thematic Scientific Bio-Medical Congress gives the opportunity to our faculty to contribute to the establishment of Cyprus as a leading center for teaching and research in Medicine in the region.

At a time when international security and stability are at risk following the first major conflict in Europe after the second world war but also the recent conflict in our neigh-

boring country Israel, European University Cyprus reaffirms its commitment for international collaboration and welcomes students and academics from all over the world. We are also very proud of the fact that our university last year began the offer of its program in Medicine at the branch of our School of Medicine in Frankfurt, Germany.

I would like to conclude with my warm thanks and congratulations to all those who worked onthe organization of this year's congress and especially Prof. Ioannis Patrikios, Deputy Dean of our School of Medicine and founder of the congress. I would also like to acknowledge Bayer / Novagem Ltd, the diamond sponsor of the congress and all the other sponsors and supporters for their contribution.

Best wishes to all for a successful congress.

Professor Andreas Efstathiou

Rector, European University Cyprus

November 2023

Welcome Address

By the Dean Professor Dr Elizabeth O. Johnson

Dear Friends & Colleagues,

It is a sincere pleasure to welcome you to European University Cyprus and to the 10th International Bio-Medical Scientific Congress.

This year, the School of Medicine of European University Cyprus has completed its first full decade. Just 10 short years ago, we 1st opened our doors of our new medical school. We opened our doors to our 1st cohort of medical students that came from 2 countries, Cyprus and Greece. Today, after one decade, we now open our doors to students from over 40 countries around the world, who come to us because they trust us for their medical education.

As our educational program has evolved with current thought in medicine, we have not stayed within the borders of this great Republic of Cyprus. Rather, our students have the opportunity to experience externships and clinical training in over 60 different placements around the world, including Oxford, Harvard, UCL, Shriners Hospital for Children, Athens Medical Center, and more. But that is not all. Our University – our School of Medicine has achieved a groundbreaking milestone with the triumphant launch of the first international branch in the heart of Europe, in Frankfurt, Germany. We are the first University in the region to open a campus abroad.

Not only has our School completed one full decade, but our Multi-thematic Congress has also closed a full decade and evolved. The Multithematic Congress was the vision and dream of Professor Ioannis Patrikios, one of the first faculty members of our School. While the first congress was humble, and more of an internal affair with a few guests, our small faculty and friends to fill the auditorium, today we step forward into our second decade with a with a resounding impact. In our celebratory 10-year Anniversary Congress, Prof. Patrikios has opened our doors to over 75 international speakers, among whom are internationally renowned scientists and clinicians.

With this Multithematic Congress, the School of Medicine has also opened its doors to legends – legends such as Nobel Prize Winner Professor Harvey Alter, who will awarded Honorary Professor of Medicine and Professor Joseph Brugada Terradellas who will be awarded with a Doctor Honoris Causa in recognition of their world-renowned work.

EUC continues to step to the forefront of global medical and health education. We are dedicated to preparing the healthcare leaders of tomorrow, with outstanding clinicians and scientists who will contribute to the advancement of science and medicine across the globe.

It is in this spirit that Professor Ioannis Patrikios, the Program Director, has constantly across the last decade created an excellent scientific program for our Multi-thematic Congresses, including plenary lectures, keynote lectures, and poster sessions designed to provide an innovative and comprehensive overview of the latest research developments in bio-medical sciences, across a wide gamma of topics. Distinguished scientists and clinicians have joined us to take part in the plethora sessions, assuring that this event will remain one of the major scientific events in Cyprus.

Congratulations to Professor Patrikios, whose inspiration was the incentive for creating this meeting. A sincere word of gratitude to our sponsors, Bayer Novagem (Diamond), Energon (Platinum), Novartis (Platinum), Deputy Ministry of Tourism (Platinum), Cyprus Athletic Association (KOA)(Gold), PMI Science/ Philip Morris International (Gold), Mundipharma (Bronze), and Sponsors include Ardius Hellas, WinMedica Hellas, P. Galanis & Co - Lab Supplies, C. Georgiou Lab supplies, Biotronics, Papaetis Cervices Ltd. and Vivant Co Ltd. Sigma TV / Dias Publishing House are the media sponsor. We are proud that the Congress is under the auspices of the Ministry of Health, the Cyprus Medical Association (CYMA), among many others. The quality of the congress ensures that participants can earn 18 CME credits from CYMA and 18 CPD (Continued Professional Development) from the Biological Society.

The scope and quality of the scientific exchange makes the Multi-thematic Congress a premier scientific forum in Cyprus. In addition to the rich program, I have no doubt that you will also enjoy your stay in beautiful Cyprus and exciting city of Nicosia.

Sincerely,

Professor Elizabeth O. Johnson

Dean

School of Medicine

European University Cyprus

Welcome Address

By the Congress Founder and Chairman

Professor Dr Ioannis Patrikios

Dear Congress participants and guests

It is my great pleasure to welcome you to the 11th International Multi-Thematic Bio-Medical Scientific Cyprus Congress that is organized by the School of Medicine of the European University Cyprus (EUC) with the Cyprus Medical Association as a co-organizer, that is taking place in Nicosia, Cyprus on the 9th, 10th and 11th of November 2023.

The School of Medicine of the EUC and Myself personally welcome all distinguished, invited, keynote, and plenary speakers and the medical/scientific community of Cyprus as well as the delegates from all over the world (Greece, Poland, UK, Romania, Italy, Germany, France, Austria, Spain and other) that are attending this exceptionally high quality and high caliber Multidisciplinary Scientific Symposium.

As the founder and general organizer of the congress, I would like to thank the Ministry of Health and the Cyprus Medical Association (CYMA) for their support and recognition. It is worth saying that our congress has been institutionalized by CYMA and this means a lot for the event itself, our School and University but also for me and I would like very much to thank Dr Petros Agathaggelou the president of CYMA but also the rest of the committee members for their decision. Moreover, CYMA is a co-organizer for this congress since 2019.

Once more, I would like to thank all my fellow colleagues and friends that accepted the invitation to participate, travel, attend and share with us their unique and innovative scientific work of excellence as well as the executives of the European University of Cyprus (EUC) for their support and trust in me to organize this event at the highest possible level.

I thank all our colleagues participating as chairpersons/moderators of the session committees and the highly specialized round table workshops and satellites. It is worth saying that for this year, and like never before and for no any other event, our IMBMC congress is endorsed and under the auspices of the Ministry of Health, the Deputy Ministry of Tourism, the Anesthesiology Society of Cyprus, the Cyprus Resuscitation Society, the Biological Society of Cyprus, the Cyprus Cardiology Society, the Cyprus Society of Atherosclerosis, the Cyprus Medical Student Association, the Cyprus Diabetic Association, the Cyprus Endocrinology Society, the Cyprus Perigenetic Society, the Cyprus Society of Genetic Medicine, the Medical Society of Nicosia-Kyrenia Ippokratis, the Nicosia Cancer Society, the Cyprus Pediatric Society, the Karaiskakio Foundation, the Cyprus Sports Organization (KOA), the Cyprus Oncology Society, the Unique Smiles for Rare Diseases, the Cyprus Association of Cancer Patients and Friends, the Charity Organization Elpida, ROTARY, EUROPA DONA Cyprus, EUROPA UOMO for prostate cancer, and The American Hellenic Educational Progressive Association (AHEPA). I thank you with all my heart.

Furthermore, I thank the abstract /poster participants from local higher Institutions as well

as from Institutions abroad, but also my colleagues here at the School of Medicine for their support and willingness to help making this an unforgettable date of our calendar.

"Biomedical Scientific Cyprus, (BSC)" has now been established as an annual event with global recognition. We are here for 11 consecutive years. The target has been accomplished. Now, the only thing we need to do is to keep this congress at the level it deserves. The level of excellence as a medium of a Continued Medical Education for the professionals in Medicine but also as an international arena of dissemination of innovations for networking and scientific excellence in Medical Science.

Our congress is now a three-day event with participation and submission of more than 250 abstracts with 150 selected and published in the ISBN International libraries numbered referenced congress abstract book; numbers that well exceeded all expectations and any previous participation.

Endorsing congresses for the level of original scientific work presented is not an accidental process. Our congress has been internationally recognized by one of the most reputable publishers in the world; through Meeting Reports in the Nature-Publisher-journal "Cell Death & Disease" for six continued years.

This alone, indicates the quality, seriousness, and scientific prestige of the conference that was first organized exactly with the opening of the Medical School ten years ago and has become an ordinance ever since.

Our Congress will not only remain one of the major scientific events in Cyprus, but it will continue serving as a primary forum for global academic exchange. In addition to reviewing the latest scientific developments and best clinical practices across the basic, clinical and translational contents presented at the meeting, the rich social program provides the opportunities for networking with colleagues from around the world in an exciting environment. The EUC Multi-Thematic Congress indubitably provides the opportunity to interact with colleagues and stimulates the creative and productive exchange of ideas for a personally and professionally rewarding experience. Its overall mission is to promote the advancement of Science/Medicine, knowledge and its humane and benevolent applications globally, accounting the role of Cyprus as a gateway of knowledge and innovation.

Finally, for once more I would like also to thank the sponsors of the congress, the Diamond sponsor for the last 10 consecutive years, Bayer/ NOVAGEM LTD and especially Mr. Marios Christodoulou, the General Director of the aforementioned Companies in Cyprus, for his generous support; investing in continued learning, knowledge, innovation and excellence. Bayer/NOVAGEM are the sponsors of this event since our first meeting, and we hope to have them for the ones to come. Our thanks extend to our Platinum sponsors Energo lab equipment

and Novartis Pharma, the gold sponsors, PMI Science of Philipp Morris International and P. Galanis & Co - Lab Supplies, our Bronze sponsors Mundipharma, the sponsors and the supporters, Papaetis Medical Co., Deloitte, the Cyprus Biological Society, Winmedica Hellas, Ardius Hellas, Rotary, UPPERVIS Pharmaceuticals and Vivant Medical. Our thanks extend to the Cyprus Sports Organization for supporting, endorsing and participating with a satellite session organized by the Cyprus Institute of Cardiology - Research and Study of Cardiovascular Diseases and Other Hereditary Cardiovascular Diseases (KIKEMM), EUROPA DONA Cyprus for Breast cancer, the EUROPA UOMO Cyprus for prostate cancer, the Cyprus Respiratory Society for organizing workshops for the public and patients with the general title "The specialists in close contact with the patients"; and CyMSA for participating with a medical student focused workshop.

The conference is being held in November, one of the best times to visit the island and enjoy its natural beauty as well as history. I thank each and every one of you for being here with us.

I feel confident that you will enjoy both the scientific program and the unique Mediterranean Island of Cyprus.

I wish you all the best and a productive Congress.

Ioannis Patrikios

Professor Dr Ioannis Patrikios

Deputy Dean, Faculty of Medicine, School of Medicine,

European University Cyprus

Founder, Chairman and General Congress Supervisor

Welcome Address

By the Congress Co-Chairman

Dr Petros Agathaggelou,

Chairman of the Cyprus Medical Association (CyMA)

Dear Colleagues, Distinguished guests,

It is a distinct honor to welcome you all, to the 11th International Multi-thematic Bio-Medical Scientific Cyprus Congress, organized by the School of Medicine of the European University Cyprus and co-organized by the Cyprus Medical Association. We are privileged to co-organize the Biomedical Scientific Cyprus, which has been established as an annual event with international recognition. We all understand the importance of medical science, technology and innovation in our day-to-day lives and the ways in which they are transforming the world.

A glance through the list of presentations planned reveals the important significance of this Multi-thematic Congress. They range from Infectious diseases and epidemiology after the Covid-19 pandemic, to genetics as a diagnostic and therapeutic tool, cancer genetics, oncology, novel surgery approaches, robotic surgery, advances in cardiology & cardiovascular disease, atherosclerosis and modern therapies, research in medicine, diabetes and many more fields and specialties. The medical field is as expansive and multifaceted as the intricacies of the human body. Fields of interest within medical specialties exist to serve the needs of a particular realm of care. Foreseeable, demand for specialists will likely continue to rise.

Medical practice is evolving rapidly as new information supplants obsolete. The Cyprus Medical Association strongly supports initiatives and scientific events like this Congress. Our aim is to provide our members with the tools for lifelong learning and continuing professional development. We all need to be lifelong learners so that we continue to adapt to the changing ecology of the medical environment.

The Congress brings together experts, researchers, scientists, physicians, Professors, pharmaceutical industry representatives, providing us, with all the ammunition to develop our science further, exchange knowledge, share experiences and research results, discuss challenges encountered. It is imperative for us all to sustain and empower the scientific exchange of knowledge.

The multi-thematic and multi-lateral approaches of the objectives of this Congress have great importance. We are eager to learn more about the innovations in the field of medicine which are applicable today globally and interact among a great team of well-known specialized Professors and Physicians in their fields.

Our practice requires a permanent update, in accordance with the advances in medicine, which as a science, implies innovation and creativity and research to invent new drugs, treatments and diagnostic techniques that alleviate human pain, restore lost health, and allow the prevention of multiple diseases that afflict the community.

Unquestionably, the International Multi-thematic Scientific Bio-Medical Congress, brings for

the 11th year, an excellent networking platform for experts to share their latest research and advancements in their fields.

I'm certain that the Congress will stimulate scientific debate, increase network between scientists, physicians, professors, representatives of pharmaceutical industry and policy makers and encourage further research.

So, let me conclude by congratulating the European University School of Medicine and by thanking all our supporters and all the participants.

Looking forward to a successful Congress.

ΤΟ NUBEQA▼ ΕΙΝΑΙ ΕΓΓΕΚΡΙΜΕΝΟ ΤΟΣΟ ΣΤΟΝ nmCRPC ΟΣΟ ΚΑΙ ΣΤΟΝ mHSPC

ΤΟ NUBEQA ΑΛΛΑΖΕΙ ΤΑ ΔΕΔΟΜΕΝΑ

Επιβίωση που διατηρεί την καθημερινότητα των ασθενών [1 – 5]

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Το NUBEQA ενδείκνυται για τη θεραπεία ενηλίκων ανδρών με:

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- μεταστατικό ορμονοευαίσθητο καρκίνο του προστάτη (mHSPC) σε συνδυασμό με δοσεταξέλη και θεραπεία στέρησης ανδρογόνων

▼Το φάρμακο αυτό τελεί υπό συμπληρωματική παρακολούθηση. Αυτό θα επιτρέψει το γρήγορο προσδιορισμό νέων πληροφοριών ασφαλείας. Ζητείται από τους επαγγελματίες υγείας να αναφέρουν οποιεσδήποτε πιθανολογούμενες ανεπιθύμητες ενέργειες.

Γλωσσάριο: AR (androgen receptor) : υποδοχέας ανδρογόνων, mHSPC (metastatic hormone-sensitive prostate cancer): μεταστατικός, ορμονοευαίσθητος καρκίνος του προστάτη, nmCRPC (non-metastatic castration-resistant prostate cancer) : μη μεταστατικός, ανθεκτικός στον ευνουχισμό καρκίνος του προστάτη.

Βιβλιογραφικές αναφορές: **1.** NUBEQA Περίληψη των Χαρακτηριστικών του Προϊόντος https://www.ema.europa.eu/en/documents/product-information/nubeqa-epar-product-information_el.pdf . **2.** Smith MR, Hussain M, Saad F, et al; ARASENS Trial Investigators. Darolutamide and survival in metastatic, hormone-sensitive prostate cancer. N Engl J Med 2022;386(12):1132-1142 **3.** Fizazi K, Shore N, Tammela T et al. Nonmetastatic castration-resistant prostate cancer and survival with darolutamide. N Engl J Med 2022;383(11):1040-1049 **4.** Smith MR, Saad F, Chowdhury S, et al. Apalutamide and overall survival in prostate cancer. Eur Urol. 2021;79(1):150 -158. **5.** Sternberg CN, Fizazi K, Saad F, et al. Enzalutamide and survival in nonmetastatic, castration-resistant prostate cancer. N Engl J Med 2020;382(23):2197 - 2206.

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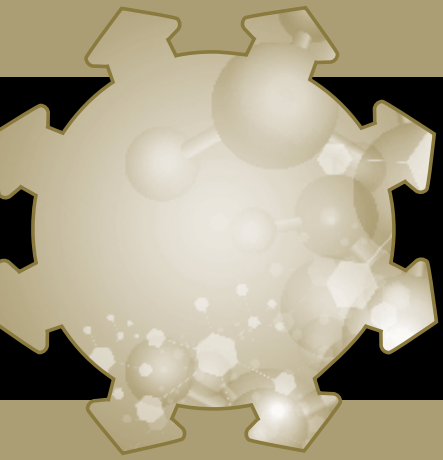

Bio-medical Scientific Cyprus

Program

PROGRAM

11th International IMBMC Medical Congress

Bio-medical Scientific Cyprus

- 9th to 11th November 2023
- Cultural Center, European University Cyprus

Under the auspices:

11th International Multithematic Scientific Bio-Medical Congress (IMBMC)

"Bio-medical Scientific Cyprus"

THURSDAY, 09 NOVEMBER 2023

Program

8:00 - 9:30 **Registration / Coffee**

9:20 - 9:25 **EUC School of Medicine**

9:25 - 9:30 **Masters of Ceremony**

Short Introduction and Kick-off
Prof. Dr Ioannis Patrikios
Founder and Organizing/Scientific Committee Chairman

SESSION I

POST-COVID-19 EPOCH AND THE EVOLUTION OF THE PANDEMIC EPIDEMIOLOGICAL NEWS AND WHAT IS COMING UP NEXT?

9:30 – 9:45 **"Epidemic/Pandemic Preparedness after COVID-19 pandemic. The role of ONE HEALTH"**

Asst. Prof. Dr Zoi Dorothea Pana
Specialist in Pediatrics, Faculty Member (European University, EUC Cyprus), Specialized in Hospital Epidemiology/ Infection Control/Stewardship (Johns Hopkins Hospital, USA); COVID-19 Advisory Committee/ Consultant (Ministry of Health, Cyprus)
Chairs: Violetta Raffay, Theodoros Lytras

9:45 – 10:05 **"Revisiting COVID-19 epidemiology after the pandemic"**

Prof. Dr John Ioannidis (hybrid)
Professor of Medicine, of Epidemiology and Population Health, and (by courtesy) of Biomedical Data Science and Statistics, Co-Director of the Meta-Research Innovation Center at Stanford (METRICS) , Stanford University
Chairs: Violetta Raffay, Theodoros Lytras

IN HONOR OF A GOOD FRIEND, AN OUTSTANDING PHYSICIAN AND A BLESSED HUMAN BEING, PROF. DR. LOIZOS LOIZOU (IN THE TOP 100 HAEMATOLOGY INFLUENCING PHYSICIANS IN THE FIELD OF PAEDIATRIC ONCOLOGY)

SESSION II

CHILDHOOD CANCER EPIDEMIOLOGY FROM A WORLD-RENOWNED EXPERT

10:05 – 10:25 **"The search for causes and prevention of childhood cancer and the Cyprus enigma"**

Prof. Dr Loizos Loizou
Clinical Professor of Pediatrics, Pediatric Oncology - Haematology, Medical School, University of Nicosia. Fmr. Director of the Pediatric Oncology - Haematology Clinic, Archbishop Makarios III Hospital, Nicosia. President of the ELPIDA Foundation for children and adolescents affected by cancer or leukemia

Chairs: Konstantinos Lampropoulos, Anastasis Stephanou

SESSION III

MEDICAL GENETICS AS A TOOL FOR NEW THERAPIES BLOOD MALIGNANCIES, CHRONIC AND RARE DISEASES

10:25 – 10:40 **"Genome editing of hematopoietic cells for translational research"**

Assoc. Prof. Dr Carsten Werner Lederer
The Cyprus Institute of Neurology and Genetics

Chairs: Stephanos Christodoulides, Panayiota Christodoulou

10:40 – 10:55 **"The Molecular Dissection of Rare Disease: Towards the Modeling of Inborn Errors of Metabolism"**

Asst. Prof. Dr Annita Achilleos
Assistant Professor of Embryology and Histology, Department of Clinical and Basic Sciences, University of Nicosia Medical School

Chairs: Stephanos Christodoulides, Panayiota Christodoulou

10:55 – 11:15 **"The framework of Network Medicine and the space of Bioinformatics within it"**

Prof. Dr Giorgos Spyrou
Bioinformatics Department, The Cyprus Institute of Neurology & Genetics

Chairs: Dimitris Papadopoulos, Konstantinos Lampropoulos

11:15 – 11:30 **"The Cyprus Genome Reference: a useful tool for research and diagnostic use"**

Dr Andri Miltiadous
Karaiskakio Idryma Foundation

Chairs: Dimitris Papadopoulos, Konstantinos Lampropoulos

SATELLITE SESSION BY PMI

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11:30 – 12:00 **"Evaluating the Lung Cancer Risk Reduction Potential of Novel Tobacco and Nicotine Containing Products - A Matter of Dose Response"**

Dr David Khayat
Former President of the National Cancer Institute, Professor of Medical Oncology,
Bizet Clinic, Paris, France

Chairs: Christina Kousparou, Elpida-Niki Emmanouil-Nikoloussi

12:00 – 13:00 **Lunch Buffet**
POSTER SESSION

SESSION IV

ADVANCES IN CARDIOLOGY / CARDIOVASCULAR DISEASES
SATELLITE SESSION BY SPORTS CARDIOLOGY CONGRESS, GREECE

ΤΟΠΟΘΕΣΙΑ ΔΕΛΦΟΙ
ΕΥΡΩΠΑΪΚΟ
ΠΟΛΙΤΙΣΤΙΚΟ ΚΕΝΤΡΟ

13:00 – 13:15 "The role of AI for the prediction of atrial fibrillation for the ECG"

Prof. Dr Vassilis Vassilikos (hybrid)
Aristotle University of Thessaloniki, Director of Cardiology Department
Chairs: Michael Myrianthefs, Konstantinos Lampropoulos

13:15 – 13:30 "The Management of Athletes with Hypertension"

Adj. Prof. Dr Andreas Pittaras
Clinical Hypertension Specialist ESH, George Washington University, Washington DC, USA
Adjunct Professor, School of Medicine, European University Cyprus
Chairs: Michael Myrianthefs, Konstantinos Lampropoulos

13:30 – 13:45 "Hyper-exercise and the cardiovascular system. Beneficial or detrimental relationship?"

Dr Kyriakos Yiangou
Consultant Cardiologist
Chairs: Michael Myrianthefs, Konstantinos Lampropoulos

SESSION V

THE HEART: FATS THAT HEAL, FATS THAT KILL, CORONARY ARTERY DISEASE, PREVENTIVE CARDIOLOGY
FOCUS ON TODAY TO ENLIGHTEN THE FUTURE
ATHEROSCLEROSIS: CARDIOMETABOLISM DYSFUNCTION AND INFLAMMATION IN THE VESSELS

13:45 – 15:00 INTERACTIVE WORKSHOP I

13:45 - 14:05 "Pleiotropic effects of PUFAs explain their role in cardioprotection"

Prof. Dr Philip Calder (hybrid)
Head of Human Development & Health and Professor of Nutritional Immunology within Medicine at the University of Southampton.

Chairs: Petros Agathaggelou, Theodoros Christodoulides
Commentator: Phivos Symeonides, Giorgos Miltiadous

14:05 – 14:20 **"Interconnection between obesity and lipoproteins: mechanisms beyond intuition"**

Prof. Dr Kyriakos Kypreos
School of Medicine, University of Patras
Chairs: Petros Agathaggelou, Theodoros Christodoulides
Commentators: Phivos Symeonides, Giorgos Miltiadous

14:20 – 14:40 **"Perivascular adipose tissue and inflammation. Is there a way to avoid it?"**

Dr Dimitri Richter
Consultant Cardiologist, Euroclinic Hospital, Athens, Greece
Chairs: Giorgos Miltiadous, Kyriakos Yiangou
Commentators: Petros Agathaggelou, Theodoros Christodoulides, Phivos Symeonides

14:40 – 15:00 **Coffee Break**

SESSION VI

INTERVENTIONAL CARDIOLOGY - SPECIAL CASES - MEET THE UNEXPECTED

New Frontiers in the old Game: What is new out there?

15:00 – 15:15 **Carorid Artery Revascularization in patients with contralateral Carotid Artery Occlusion - Case Pressentation**

Dr Christou Christos
Consultant Interventional Cardiologist, Medical Director, American Heart Institute
Chairs: George Panayi, Giorgos M. Georgiou

15:15 – 15:30 **Transcatheter Aortic Valve Implantation in Challenging Anatomies - Case Presentation**

Dr Eftychiou Christos
Interventional Cardiologist and Assistant Director of Cardiology Department, Nicosia General Hospital
Chairs: George Panayi, Giorgos M. Georgiou

15:30 – 15:45 **Improvising in the cath lab to deal with the unexpected: the tortuous aneurysmal RCA full of thrombus - Case Presentation**

Dr Constantinides Savvas
Consultant Interventional Cardiologist at American Heart Institute, Nicosia, Cyprus
Chairs: George Panayi, Giorgos M. Georgiou

15:45– 16:05 **"Neuromodulation as a Therapeutic Option for Uncontrolled Hypertension; where do we stand"**

Dr Tsioufis Konstantinos (hybrid)
Professor of Cardiology and Director of the 1st Department of Cardiology, University of Athens, Hippokration Hospital, Greece.
Chairs: George Panayi, Giorgos M. Georgiou

16:05– 17:00 **Coffee Break**

OPENING CEREMONY

17:00 – 17:05 **School of Medicine – Virtual presentation**

17:05 - 17:20 **Cypriot music for violin, saxophone and piano**
Saxophone: Associate Professor Yiannis Miralis, European University Cyprus
Violin: Professor Kypros Markou, Orchestra Conductor at Wayne State University, Detroit
Piano: Plotinos Mikrommatis

17:20– 17:30 **Welcome Addresses**

Prof. Dr Ioannis Patrikios
Deputy Dean of the School of Medicine, European University Cyprus & Congress Founder and Committee Chairman

Prof. Dr Elizabeth Johnson
Dean, School of Medicine, European University Cyprus

Prof. Dr Andreas Efstathiou
Rector, European University Cyprus

Clinical Prof. Dr Petros Agathaggelou
President, Cyprus Medical Association & Congress Committee Vice Chairman

Tersa Konstantinidou
On behalf of the Minister
Cyprus Ministry of Education, Culture, Sport, and Youth

Ministry of Health
Dr Popi Kanari, Minister of Health

17:30 – 17:45 **OPENING CEREMONY TEDx LECTURE**
"Toward Precision Diabetes Medicine"

Professor Stefano Del Prato
Professor of Endocrinology and Metabolism at the University of Pisa School of Medicine and Chief of the Section of Diabetes, University of Pisa, Italy

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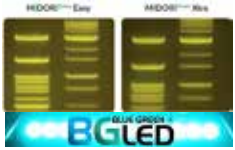
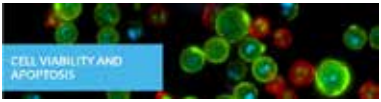
17:45 – 19:30 **Cheese and Wine**

Lab Supplies Scientific

Reagents for Immunology/Cell Biology
Reagents for Molecular Biology
Laboratory Equipment
Laboratory Consumables





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ISO 9001:2015 ISO 13485:2016

11th International Multithematic Scientific Bio-Medical Congress (IMBMC)

"Bio-medical Scientific Cyprus"

FRIDAY, 10 NOVEMBER 2023

Program

8:00 – 8:45 **Registration / Coffee**

8:45 – 8:50 **EUC School of Medicine**

8:50 – 9:50 (10 min each presentation)

SELECTED ABSTRACTS
Oral Presentations
(The Presenting Authors are underlined)

"Multi-omics factor analysis to detect temporal patterns associated with disease progression in Parkinson's patients"
Efi Athieniti, Sotiroula Afxenti, Dr George Minadakis, Dr George Spyrou
Department of Bioinformatics, The Cyprus Institute of Neurology and Genetics

"Investigating the Effects of Long-term Leucine and Isoleucine Treatment on Cognition and Behaviour in Male BALB/c Mice"
Alexandra Raftopoulou, Dimitrios Sergetzis, Panagiotis Bouzios, Markos Ioannidis, Simon McArthur, Saahith Pathmanathan, Inès Bardaji, Patrick N. Pallier
Queen Mary, University of London, Barts and the London

"Bilateral pneumothorax accompanied by temporary blindness and hemiplegia due to decompression sickness"
Arsene F. Ferguson, George T. Chountis, George Sotiropoulos, Panagiotis Hountis
European University Cyprus, Medical School Cyprus; Department of Cardiothoracic Surgery, Athens Naval and Veterans Hospital, Athens, Greece

"Quantification of complement proteins in Multiple Sclerosis patients to assess their role in the neuroinflammatory response"
Anna Pafiti, George Krashias, Marios Pantzaris, Christina Christodoulou, Anastasia Lambrianides
The Cyprus Institute of Neurology and Genetics

"Investigation of SLIT3 sequence variants as genetic contributors to congenital heart disease"
Dimitra Mouzourou, Stephanie Baross, Elisavet Fotiou, Bernard Keavney, Kathryn Hentges
The University of Manchester

"The influence of environmental risk factors in the development of ALS in the Mediterranean island of Cyprus"
Ellie Mitsi, Christiana Christodoulou, Paschalis Nicolaou, Kyproula Christodoulou, Eleni Zamba-Papanicolaou
Neurogenetics Department, The Cyprus Institute of Neurology and Genetics, Nicosia, Cyprus; Neuroepidemiology Department, The Cyprus Institute of Neurology and Genetics, Nicosia, Cyprus

"Targeting the desmoplastic tumor microenvironment to improve the efficacy of pancreatic cancer immunotherapy."
Fotini Poyia, Christiana M Neophytou, Maria Christou, Niovi Nicolaou, Fotios Mpekris, Myrofora Panagi, Antonia Charalambous, Alexandros Tzatsos, Pavlos Kosteas, Triantafyllos Stylianopoulos, Maria-Ioanna Christodoulou, Panagiotis Papageorgis
European University Cyprus Research Centre, Nicosia, Cyprus; Tumor Microenvironment, Metastasis & Experimental Therapeutics Group, Basic and Translational Cancer Research Centre, Life Sciences Department, European University Cyprus, Nicosia, Cyprus; University of Cyprus, Nicosia, Cyprus; George Washington University, Washington, USA; Centre for Study of Haematological Malignancies, Nicosia, Cyprus; Tumor Immunology & Biomarkers Group, Basic and Translational Cancer Research Centre, Life Sciences Department, European University Cyprus, Nicosia, Cyprus

Chairs: Anastasis Stephanou, Iva Tzvetanova (1 to 4)
Panayiota Christodoulou, Charalambos Michaeloudes (5 to 7)

SESSION VII

NEUROLOGY, NEUROIMMUNOLOGY, NEUROPHARMACOLOGY CHRONIC DISEASES

Therapeutic Tools, Novelties and Emerging Targets and Drug Repurposing

"Zebrafish: a Translational Splash in Drug Discovery and Repurposing"
Assist. Prof. Dr Nikolas Dietis
University of Cyprus Medical School, Head of the Experimental Pharmacology Laboratory at UCY (dietislab.org)
Chairs: Dimitrios Papadopoulos, Stephanos Christodoulides

"The significance of the complement in MS"
Prof. Dr Marios Pantzaris
Senior Consultant Neurologist, Head of Neuroimmunology Department, Cyprus Institute of Neurology and Genetics
Chairs: Dimitrios Papadopoulos, Stephanos Christodoulides

10:30 – 10:50 **Sponsored by the CYPRUS BIOLOGICAL SOCIETY (CBS)**

Lecture Title: Multimodal neuroprotective and neurogenic effects of BNN27, a Nerve Growth Factor mimetic, in the 5xFAD humanised mouse model of Alzheimer's Disease

Prof. Dr Achilleas Gravanis
School of Medicine, University of Crete
Chairs: Pavlos Neophytou, Iva Tzvetanova

10:50 – 11:05 **Lecture Title: The pleiotropic benefits of oleuropein**

Prof. Dr Maria Konstandi
Department of Pharmacology , Faculty of Medicine, University of Ioannina
Chairs: Pavlos Neophytou, Iva Tzvetanova

SESSION VIII:

ENCOUNTER WITH THE PIONEERS
STATE OF THE ART THERAPEUTIC SURGICAL METHODS
THE ROBOTIC "DAVINCI" & CASE STUDIES

11:05 – 11:20

Dr Dimitrios Kyparissopoulos
IASO Medical Center; Harefield Hospital, Royal Brompton and Harefield NHS Foundation Trust, London, UK; Head of Thoracic Department, IASO Hospital, Athens, Greece, and Adj. Ass. Prof. in Robotic Surgery, European University Cyprus
Lecture Title: Overcoming challenging thoracic cases using Robotic DaVinci system
Chairs: Panos Hountis, Anastasios Karandreas

11:20 – 11:35

Assoc. Clin. Prof. Dr Savvas Hiridis
General Surgeon in Athens Medical Center and American Heart Institute, Nicosia, Cyprus, and Ass. Clin. Prof. with the Nicosia University Cyprus
Lecture Title: Robotic Hiatal Hernia Repairs. True benefits in comparison to conventional laparoscopy
Chairs: Panos Hountis, Anastasios Karandreas

11:35 – 11:55

Dr Timoleon F. Terzis
Director of Otorhinolaryngology Department and Head of Athens Rhinology Center, Athens Medical Center in Greece
Lecture Title: Contemporary management of Nasal Polyps: A new role for Surgery in the era of biologic treatment
Chairs: Panos Hountis, Anastasios Karandreas

11:55 – 12:55 **LUNCH BUFFET**

POSTER SESSIONS

SESSION IX:

CANCER: NEW FRONTIERS

FROM GENETICS TO CLINICAL TRIALS TO CLINICAL PRACTICE: NOVEL AND PIONEER STRATEGIES FOR TREATING PATIENTS

GENETICS AND MOLECULAR MEDICINE: NEW FRONTIERS FOR HUMANITY 'S HEALTHY BEING

12:55 - 13:15 **Prof. Dr Vasso Apostolopoulos (hybrid)**

Vice-Chancellors Distinguished Professorial Fellow, and Head of Immunology and Translational Research at Victoria University, Australia

Expertise with development of drugs and vaccines

(First vaccine against breast cancer)

Lecture Title: Identification of cancer pathways and markers in mouse models of spontaneous chronic colitis: From inflammation to cancer

Chairs: Ioannidis Georgios, Stavros Gravas

13:15 - 13:30 **Dr Alexis Papadopoulos**

Consultant in Respiratory Medicine

Current President of Cyprus Respiratory Society

Lecture Title: Idiopathic Pulmonary Fibrosis: unfolding the present and future.

Chairs: Ioannidis Georgios, Stavros Gravas

13:30 - 13:45 **Dr Dimitris Vomvas**

Director of Radiation-Oncology and Nuclear Medicine at the Bank of Cyprus Oncology Centre in Nicosia

Lecture Title: SBRT for localized prostate cancer. The future of prostate cancer radiotherapy!

Chairs: Ioannidis Georgios, Stavros Gravas

13:45 – 14:00 **Prof. Dr Konstantinos Dimas**

Department of Pharmacology, School of Medicine, University of Thessaly, Greece.

Lecture Title: A novel rare triple negative breast cancer (TNBC) patient-derived xenograft: Development, characterization, and application

Chairs: Anastasia Konstantinidou, Pittaka Maria

14:00 – 14:20 **Dr Fiorita Poulakaki**

Director of the Breast Clinic, Athens Medical Center,
Vice President Europa Donna, The European Breast Cancer Coalition,
President Build a Bridge Foundation

Lecture Title: Advances in Breast Surgery

Chairs: Anastasia Konstantinidou, Pittaka Maria

14:20 – 14:50 SATELLITE by Novartis NOVARTIS

Dr Konstantinos Papazisis

Director of the Oncology Department of the Euromedica General Clinic, Thessaloniki, Greece

Lecture Title: Advances in Endocrine Treatment for HR-possitive, HER2-Negative Early Breast Cancer

Chairs: Stylianos A. Kakoullis, Violetta Raffay

14:50 – 15:10 Break

15:10 – 15:35 Extraordinary participation
Special Quest
Keynote Lecture (hybrid)

Prof. Dr George Paxinos

NHMRC Senior Principal Research Fellow at Neuroscience Research Australia and Scientia Professor at The University of New South Wales.

Prof. Paxinos's Atlas of the Human Brain received the American Association of Publishers Award for Excellence in Publishing in Medical Science and the British Medical Association

Lecture title: Is the Brain in the Goldilocks Zone?

Chairs: Marios Pantzaris, Dimitris Papadopoulos

15:35 – 15:55 **Dr Alfred Barich**

President of Hellenic Society for Integrative Oncology
Chairman Scientific Advisory Board to Hellenic Society for Hyperthermic Oncology; AHEPA University Hospital/Euromedica/Thessaloniki Oncothermia Center

Lecture Title: The role of oncothermia in integrative oncology- exploring unchartered waters

Chairs: Marios Pantzaris, Dimitris Papadopoulos

15:55 - 16:45

Honorary Keynote Speaker

Prof. Dr Harvey J. Alter.

Professor of Physiology at National Institute of Health, Bethesda, MD, USA.
Nobel Prize for the discovery of Hepatitis C virus in 2020.

Lecture Title: Hepatitis C: The End of the Beginning and Possibly the Beginning of the End

Chairs: Petros Agathaggelou, Zoi-Dorothea Pana

16:45 - 16:55 Workshop By ENERGON

16:55 – 18:25 **SATELLITE By Rotary**

How artificial intelligence (AI) is transforming the world

16:45 – 17:00 **Salutation By the president of the Rotary Cyprus**

17:00 – 17:30 **Prof. Antonis Kakas**

University of Cyprus, Computer Science and Biomedical Research Center

Lecture title: Artificial Intelligence in the Large (part 1)

Prof. Costas Pattichis

University of Cyprus, Computer Science and Biomedical Research Center

Lecture title: Artificial Intelligence in the Large (part 2)

Chairs: Charalambos Papageorgiou, Klea Panayidou

17:30– 17:50 **Prof. Dr Paul Friedman (hybrid)**

Norman Blane & Billie Jean Harty Chair, Mayo Clinic Department of Cardiovascular Medicine

Lecture title: The role of the artificial intelligence ECG in cardiovascular medicine today: real world experience

Chairs: Charalambos Papageorgiou, Klea Panayidou

17:50 – 18:10 **Prof. Dr Iordanis Karagiannidis (hybrid)**

Chief Scientific Officer of Athos USA Company

Lecture title: AI-based target identification for the development of novel compounds against IBD

Chairs: Charalambos Papageorgiou, Klea Panayidou

18:10 – 18:25 **Dr. Victor Volovici (hybrid)**

Vascular and Skull Base Neurosurgeon in Rotterdam, The Netherlands

Lecture title: The hype and pitfalls of AI

Chairs: Charalambos Papageorgiou, Klea Panayidou

18:30 – 19:15 **Clinical Faculty Inauguration Ceremony**
Prof. Elizabeth Johnson, Dean
Prof. Ioannis Patrikios, Deputy Dean

19:15 – 20:30 Cheese and Wine

BLOOD DONATION

Be the reason for someone's heartbeat, be the gift to someone's life

Donate your blood !

DATE

Saturday 11th of November

TIME

1pm – 6pm

PLACE

EUC Cafeteria

EUC MSS

Medical Students' Society

MORE INFO

@euc_mss

11th International Multithematic Scientific Bio-Medical Congress (IMBMC)

"Bio-medical Scientific Cyprus"

SATURDAY, 11 NOVEMBER 2023

8:00 - 8:40 REGISTRATION

8:40 – 8:45 **EUC School of Medicine**

8:45 – 9:30 SELECTED ABSTRACTS - Oral Presentations

The Presenting Authors are underlined.

Effectiveness of COVID-19 vaccine mandates in raising vaccination rates among the elderly and general population in Europe: controlled interrupted time series analysis

Theodore Lytras, Abba Adema Alumasa Di Gregorio, Dimitrios Apostolopoulos, Demetris Naziris, Christina Zingerle, Alexandros Heraclides.

A combination of epigenetic deregulation of stem cell differentiation, mitosis and DNA replication stress predispose for Drosophila midgut tumorigenesis.

Maria Koumouri, Constantina Neophytou, Savvas Teloni and Yiorgos Apidianakis
Infection and Cancer Laboratory, Department of Biological Sciences, University of Cyprus.

Evaluating the differences in polygenic risk scores in European ancestry populations: implications for breast cancer risk prediction

Kristia Yiangou, Nasim Mavaddat, Joe Dennis, Jacques Simard, Antonis C. Antoniou, Douglas F. Easton, Kyriaki Michailidou on behalf of the Breast Cancer Association Consortium. Biostatistics Unit, The Cyprus Institute of Neurology and Genetics, Nicosia, Cyprus; Centre for Cancer Genetic Epidemiology, Department of Public Health and Primary Care, University of Cambridge, Cambridge, UK; Genomics Center, Centre Hospitalier Universitaire de Québec-Université Laval Research Center, Québec City, Canada; Centre for Cancer Genetic Epidemiology, Department of Oncology, University of Cambridge, Cambridge, UK

Sympathetic inferior laryngeal anastomosing branch

Michael Yiallourides

Royal Infirmary, Doncaster, Thorne Rd, Doncaster DN2 5LT.

Cross-Talks between RKIP and YY1 through a multilevel bio-informatics pan-cancer analysis
Baritaki S and **Zaravinos A**
Laboratory of Experimental Oncology, Division of Surgery, School of Medicine, University of Crete, Heraklion, Greece, Department of Life Sciences, School of Sciences, EUC, Cancer Genetics, Genomics & Systems Biology Group, Basic & Translational Cancer Research Center (BTCRC), Nicosia, Cyprus.

Scabies update: even in the modern XXIst century a challenging issue
Andrija Stanimirovic, Marianna Kakoulli, Skerlev Mihael
School of Medicine, European University Cyprus, Nicosia, Cyprus; Dermatology & Venereology, University of Applied Health Sciences, Zagreb, Croatia; Department of Dermatology and Venerology, Zagreb University School of Medicine and Zagreb University Hospital Center, Zagreb, Croatia

Effective bedside prognostic tools for septic and septic shock patients – a necessity
Bianca-Liana Grigorescu, **Oana Coman,** Georgescu Anca Meda, Bacârea Anca, Alexandra Elena Lazăr, Petrișor Marius, Irina Săplăcan
Department of Anesthesiology and Intensive Care, University of Medicine, Pharmacology, Sciences and Technology, Târgu Mureș, Romania; Department of Simulation Applied in Medicine, University of Medicine, Pharmacology, Sciences and Technology, Târgu Mureș, Romania; (M.P); Department of Infectious Diseases, University of Medicine, Pharmacy, Science and Technology of Târgu Mureș, Romania; Department of Pathophysiology, University of Medicine, Pharmacy, Science and Technology of Târgu Mureș, Romania; Department of Anesthesiology and Intensive Care, Emergency County Hospital, Târgu Mureș, Romania.

Chairs: George Loukaides, Antonia Sophocleous (1 to 4)
Anastasis Stephanou, Charalambos Michaeloudes (5 to 7)

10:00 – 13:00

SATELLITE by KOA

Room: Amphitheater B

In Greek Language

Organized & Sponsored By: Cyprus Sports Organization (CSO)

Διοργάνωση και Χορηγία: Κυπριακός Οργανισμός Αθλητισμού: ΚΟΑ

CARDIOLOGY INTERACTIVE WORKSHOP I

(Hybrid Format)

SPORTS CARDIOLOGY

Pre-Athletic Medical & Cardiological Testing for the Prevention of Sudden Cardiac Death in Young Athletes: Meet the experts

Σεμινάριο ενημέρωσης για τον Προ-Αθλητικό Ιατρικό & Καρδιολογικό Έλεγχο για την Πρόληψη του Αιφνίδιου Καρδιακού Θανάτου στους Νέους, Αθλουμένους και Αθλητές

ΚΥΠΡΙΑΚΟΣ ΟΡΓΑΝΙΣΜΟΣ ΑΘΛΗΤΙΣΜΟΥ

ΑΝΩΤΑΤΟ ΣΥΜΒΟΥΛΙΟ ΥΓΕΙΑΣ ΑΘΛΗΤΩΝ

ΚΥΠΡΙΑΚΟ ΙΝΣΤΙΤΟΥΤΟ ΚΑΡΔΙΟΛΟΓΙΑΣ

Room: Amphitheater B

SESSION X:
DIABETES
THE MAGNITUDE OF AN UNRESOLVED PROBLEM
ADVANCES AND NEW TREATMENT APPROACHES

9:45– 10:00

Prof. Dr Christos Savopoulos (hybrid)
Prof. of Internal Medicine, Aristotle University of Thessaloniki,
Director of 1st Medical Propedeutic Dept of Internal Medicine & Stroke Unit, Excellence Center of Hypertension, AHEPA University Hospital
Lecture Title: Clinical relevance of adverse remodeling of microcirculation in hypertensive patients, at the level of cerebral circulation
Chairs: Economides Panagiotis, Kadi Ioannidou Stelia

10:00 – 10:20

Prof. Dr Nikolaos Tentolouris (hybrid)
1st Department of Propaedeutic and Internal Medicine, Medical School, National and Kapodistrian University of Athens
Lecture Title: Screening asymptomatic people with Type 2 Diabetes Mellitus for Coronary Artery Disease
Chairs: Economides Panagiotis, Kadi Ioannidou Stelia

10:20 – 10:40

Prof. Dr Konstantinos Makaritsis
Professor of Internal Medicine University of Thessaly Medical School Larissa, Greece
Lecture Title: Blood pressure management in a 70-year-old patient after acute ischemic stroke
Chairs: Economides Panagiotis, Kadi Ioannidou Stelia

10:40 – 11:00

Prof. Dr Philip Froguel (hybrid)
Professor and chair of Genomic Medicine Imperial College London, and Professor of Endocrinology at Lille University hospital
Lecture Title: Precision Diabetes and obesity medicine: achievements and future outcomes
Chairs: Christodoulos Kaisis, Giorgos Moustras

11:00 – 11: 25

KEYNOTE SPEAKER
Prof. Dr Stefano Del Prato
Professor of Endocrinology and Metabolism at the University of Pisa School of Medicine and Chief of the Section of Diabetes, University of Pisa, Italy
Lecture Title: Modern approaches to treatment of Type 2 diabetes
Chairs: Christodoulos Kaisis, Giorgos Moustras

11:25 -12:15 **LUNCH BUFFET**
POSTER SESSION

SESSION XI:
ENCOUNTER WITH THE PIONEERS
STATE OF THE ART THERAPEUTIC SURGICAL METHODS & CASE STUDIES

12:15 – 12:30

Dr Sotiris Moraitis
Consultant Cardiothoracic Surgeon
Director and Commanding Officer, Naval and Veterans Hospital of Athens
Lecture Title: Selection of Thoracoscopic Thymectomy for Thymic Epithelial Tumors, based on PET/CT scan findings
Chairs: Panos Hountis, Georgios P. Georgiou

12:30 – 12:45

Dr Mathaios Panayiotou
Director of Cardiac Surgery Clinic -Center for Thoracic Aortic Surgery; Athens Medical Center
Lecture Title: New guidelines for the treatment of Thoracic Aortic Aneurysms
Chairs: Panos Hountis, Georgios P. Georgiou

12:45 – 13:00

Dr Antonis Pitsis (hybrid)
Head of Cardiac
Surgery at European Intertbalkan Hospital
Medical Center in Thessaloniki, Greece.
Lecture Title: Endoscopic Cardiac Surgery: The edge of tomorrow
Chairs: Panos Hountis, Georgios P. Georgiou

SESSION XII:
CARDIOLOGY TODAY AND WHERE THE FUTURE TAKES US

13:05 – 13:35

Hypertension the cursing demon of the heart; true or false
A note by the specialists

13:05 – 13:20

Adj. Prof. Dr Charalambos Grassos
Director Cardiologist-General Hospital of Attica "KAT", Adjunct Professor, School of Medicine, European University Cyprus
Lecture Title: How can we detect Left Verticular Hypetrophy in hypertensive patients
Chairs: Nikolaides Bambis, Petros Agathaggelou
Commentator: Symeonides Phivos, Milionis Haralambos, Triposkiades Filippos

13:20 – 13:35

Adj. Prof. Dr Andreas Pittaras
Clinical Hypertension Specialist ESH
George Washington University, Washington DC, USA
Adjunct Professor, School of Medicine, European University Cyprus
Lecture Title: Hypertensive patients with comorbidities: the "usual suspect" of HFpEF phenotype - Case report
Chairs: Nikolaides Bambis, Petros Agathaggelou
Commentator: Symeonides Phivos, Milionis Haralambos, Triposkiades Filippos

Session XIII:
CARDIOLOGY TODAY AND WHERE THE FUTURE TAKES US

13:45 – 14:50

Thrombosis / influence current clinical practice on treatments intervening on vascular biology and blood vessel-wall interactions.
A note by the specialists

13:45 – 14:00

Prof. Dr Milionis Haralambos
Professor of Internal Medicine at the School of Medicine, University of Ioannina, Greece.
President of the Hellenic Atherosclerosis Society (HAS)
Lecture Title: The Emerging Interest in Lp(a) as a Risk Factor and Potential Treatment Target
Chairs: Nikolaides Bambis, Petros Agathaggelou

14:00 – 14:15

Prof. Dr Grigoris Gerotziafas
Leader of the Thrombosis and Haemostasis Department in the Service d'Hématologie Biologique of Tenon University Hospital in Paris, France and the research group "Cancer Hemostasis and Angiogenesis" at the Faculté de Médecine, Sorbonne Université.
Lecture Title: Applying ESMO 2023 guidelines for the prevention of cancer associated thrombosis in a real-life patient.
Chairs: Neophytos Zamba, Eleftheria-Elmina Lefkou
Commentator: Evagoras Economides, Petros Agathaggelou, Giorgos Andrikopoulos

14:15 – 14:30

Prof. Dr Eleni Arnaoutoglou
Professor of Anesthesiology and Chair, Department of Anesthesiology,
Faculty of Medicine, University of Thessaly, Larissa University Hospital
School of Medicine, University of Thessaly
Lecture Title: Case Scenarios
1. Perioperative management of DOAC therapy in a patient with AF that undergo a hip replacement
2. Optimal perioperative management of aspirin in a patient that needs bilateral inguinal hernia repair
Chairs: Neophytos Zamba, Eleftheria-Elmina Lefkou
Commentator: Evagoras Economides, Petros Agathaggelou, Giorgos Andrikopoulos

14:30– 14:45

Prof. Dr Miltiadis (Miltos) Matsagkas
Department of Vascular Surgery, Faculty of Medicine, University of Thessaly, Larissa University Hospital, Pressident Institute for the Study and Education of Thrombosis and Antithrombotic Therapy (IMETHA)
Lecture Title: Case Scenarios
1. Antithrombotic treatment in the PAD patient post revascularization
2. Optimal anticoagulation in Cancer Associated Thrombosis
Real case presentations
Chairs: Neophytos Zamba, Eleftheria-Elmina Lefkou
Commentator: Evagoras Economides, Petros Agathaggelou, Giorgos Andrikopoulos

14:50– 15:00 Coffee Break

SESSION XIV
HEART FAILURE
CARDIOLOGY TODAY AND WHERE THE FUTURE TAKES US

15:00 – 15:15

Prof. Dr Filippos Triposkiadis
Form. Director of the Department of Cardiology of the Larissa University Hospital; School of Medicine, Larissa, Greece
Lecture Title: The Heart's "Little Brain"
Chairs: Theodoros Christodoulides, Kyriakos Yiangou

15:15 – 15:30

Ass. Prof. Dr Dimitris Farmakis
National and Kapodistrian University of Athens Medical School, Athens University Hospital Attikon, Athens, Greece.
Lecture Title: Recent advances in the pharmacological management of chronic heart failure
Chairs: Theodoros Christodoulides, Kyriakos Yiangou
Commentators: Katerina Naka, Filippos Triposkiadis, Theodoros Christophides, Elias Papassavas, Giamouzis Grigoris

15:30 – 15:45

Ass. Prof. Dr Giamouzis Grigoris
School of Health Sciences, University of Thessaly, Cardiology Clinic of Larissa University General Hospital, Heart Failure Working Group Chair (2020-2022), Hellenic Cardiology Society
Lecture Title: Conventional vs. rapid initiation of HFrEF pharmacological therapy: Tips and tricks
Chairs: Theodoros Christodoulides, Kyriakos Yiangou
Commentators: Katerina Naka, Filippos Triposkiadis, Theodoros Christophides, Elias Papassavas, Dimitris Farmakis

15:45 – 16:00

Prof. Dr Katerina Naka
Professor of Cardiology, Faculty of Medicine, School of Health Sciences, University of Ioannina
Lecture Title: Current treatment of HF - good news for HFpEF
Chairs: Petros Agathaggelou, Konstnatinos Lampropoulos
Commentators: Filippos Triposkiadis, Theodoros Christophides, Elias Papassavas, Dimitris Farmakis, Giamouzis Grigoris

16:00 – 16:10 Discussion Time

16:10 – 16:30 **KEYNOTE SPEAKER**

Prof. Dr Paolo R Madeddu
Chair of Experimental Cardiovascular Medicine, Bristol Heart Institute, Bristol, UK
Lecture Title: Drug repurposing for treatment of cardiac steatosis and ischemia
Chairs: Petros Agathaggelou, Konstnatinos Lampropoulos

SESSION XV:
ARRHYTHMIAS – ELECTROPHYSIOLOGY AND CARDIOMYOPATHIES- ATRIAL FIBRILLATION-HYPERTROPHIC CARDIOMYOPATHY, BRUGADA SYNDROME-HEART FAILURE; WAYS OF TREATMENT FOR PROPER THERAPY: IS THERE SUCH A THING?
MEET THE EXPERTS

16:30 – 16:55

KEYNOTE SPEAKER

Prof. Dr Josep Brugada
University of Barcelona, Senior Consultant of Cardiology, Hospital Clinic de Barcelona, Head of Arrhythmia Unit, Quiron Palma Planas and Clinica Rotger in Palma de Mallorca, Head of the Arrhythmia Unit, Clinica Girona, Head of the Josep Brugada International Arrhythmia Institute in Porto Alegre, Brazil

Lecture Title: Brugada Syndrome: 30 years later and we keep learning
Chairs: Christophides Theodoros, Papassavas Elias

16:55 – 17:10

Dr George K. Andrikopoulos
President of the Hellenic Arrhythmia Institute, Director of Cardiology and the department of Electrophysiology and Pacing, Henry Dunant Hospital

Case Title: Is Electrophysiology Entering the Era of Selective High Precision Medicine? The case of Pulsed Field Ablation for Atrial Fibrillation

Chairs: Theodoros Christophides, Elias Papassavas
Commentators: Josep Brugada, Pantelis Kourtellaris, Daniel Georgia
Petros Agathaggelou, Kyriakos Yiangou, Nikolaos Frangakis

17:10 – 17:25

Prof. Dr Nikolaos Fragakis
Professor of Cardiology in Aristotle University of Thessaloniki Medical School and Director of 2nd Department of Cardiology in Hippokrateion General Hospital of Thessaloniki

Case Title: Systematic Approach to Catheter Ablation in a Patient with Electrical Storm Using New Mapping Techniques

Chairs: Theodoros Christophides, Elias Papassavas
Commentators: George Andrikopoulos, Josep Brugada, Pantelis Kourtellaris
Petros Agathaggelou, Kyriakos Yiangou, Daniel Georgia

17:25 – 17:40

Dr. Kourtellaris Pantelis
American Medical Centre

Case Title: Calculates the risk in Hypertrophic Cardiomyopathy- clinic case
2 cases

Chairs: Theodoros Christophides, Elias Papassavas
Commentators: George Andrikopoulos, Josep Brugada, Petros Agathaggelou, Kyriakos Yiangou, Nikolaos Fragakis, Daniel Georgia

17:40 – 18:00

Prof. Dr Josep Brugada

Case Title: Electrical storm in a patient with a channelopathy

Chairs: Christophides Theodoros, Papassavas Elias

Commentators: George Andrikopoulos, Josep Brugada, Petros Agathaggelou, Kyriakos Yiangou, Nikolaos Fragakis, Daniel Georgia

18:00 – 18:15 Discussion

18:15 – 18:30

POSTER AWARDS
Congress Chair, Prof. Dr Ioannis Patrikios
Award of an Honorary plaque from the Congress

Closing Remarks

18:30 – 18:45 **BREAK**

18:45 – 19:45 HONORARY PROFESSORSHIP AND DOCTOR HONORIS CAUSA CEREMONY

Professor Dr Harvey J. Alter

Professor Dr Josep Brugada

19:45 – 20:30 **Cheese and Wine**

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Workshop

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10:00 – 13:00

Workshop I

Saturday November 11th
Amphitheater B, European University Cyprus
Sponsored by KOA
In Greek Language
Organized & Sponsored By: Cyprus Sports Organization (CSO)
Διοργάνωση και Χορηγία: Κυπριακός Οργανισμός Αθλητισμού: ΚΟΑ

Cardiology Interactive Workshop I - SPORTS CARDIOLOGY

Pre-Athletic Medical & Cardiological Testing for the Prevention of Sudden Cardiac Death in Young Athletes: Meet the experts.

Σεμινάριο ενημέρωσης για τον Προ-Αθλητικό Ιατρικό & Καρδιολογικό Έλεγχο για την Πρόληψη του Αιφνίδιου Καρδιακού Θανάτου στους Νέους, Αθλουμένους και Αθλητές

Ημερομηνία Σεμιναρίου: 11 Νοεμβρίου 2023, Ημέρα Σάββατο, Ωρα: 10:00-13:00

Τόποθεσία εκδήλωσης: Λευκωσία, Αμφιθέατρο Ευρωπαϊκού Πανεπιστημίου Κύπρου

ΠΡΟΓΡΑΜΜΑ ΣΕΜΙΝΑΡΙΟΥ

Προεδρείο Δρ Ηρα Μούστρα Ηρακλέους, Δρ Γεωργία Δανιήλ

10:00-10:15 ΠΡΟΣΦΩΝΗΣΕΙΣ

Πρόεδρος ΚΟΑ, Πρόεδρος ΠΙΣ, Πρόεδρος ΑΣΥΑ

10:20-10:40 (20 min) Δελτίο Υγείας του ΚΟΑ

Σημασία της ορθής αξιολόγησης και συμπλήρωσης του Δελτίου Υγείας για την ανίχνευση πληροφοριών για ενδεχόμενη ύπαρξη νοσημάτων που να θέτουν σε κίνδυνο την υγεία των αθλουμένων. Τελικός στόχος είναι η πρόληψη του Αιφνίδιου θανάτου στους Νέους, Αθλούμενους και Αθλητές - Κυπριακή εμπειρία

Εισηγητής Δρ Πέτρος Αγαθαγγέλου, Πρόεδρος Παγκύπριου Ιατρικού Συλλόγου, Πρόεδρος ΑΣΥΑ

10:45-11:05 (20 min) Δελτίο Υγείας από την σκοπιά του Παθολόγου
Εισηγητής: Δρ Γεώργιος Μιλτιάδους, Ειδικός Παθολόγος
Προεδρείο: Δρ Πέτρος Αγαθαγγέλου, Δρ. Λοΐζος Αντωνιάδης

11:10-11:35 (25 min) Δελτίο Υγείας, Αξιολόγηση του Παιδιού και του Παιδικού Ηλεκτροκαρδιογραφήματος στα πλαίσια του ΔΥ
Εισηγητής: Δρ Αθανάσιος Τσιρέλλης, Παιδοκαρδιολόγος

11:40-12:05 (25 min) Αξιολόγηση του Ηλεκτροκαρδιογραφήματος στους Νέους και Αθλητές
Εισηγητής: Δρ Άρης Αναστασάκης, Καρδιολόγος

12:10- 13:00 (50min) Συζήτηση ενδιαφερόντων Δελτίων Υγείας και ΗΚΓ με συμμετοχή των παρευρισκόμενων

Εισηγητής: Λοΐζος Αντωνιάδης, Καρδιολόγος, Πρόεδρος ΚΙΚΕΜΜ

Αναγνώριση των παθολογικών, φυσιολογικών και οριακών ευρημάτων
Έγκριση για άθληση - Συστάσεις για περαιτέρω έλεγχο
Θα γίνει παρουσίαση και συζήτηση περιπτώσεων Νέων και Αθλουμένων με ιδιαίτερη έμφαση στα ΗΚΓράφικά ευρήματα που προβλημάτισαν. Θα παρουσιαστεί η Κυπριακή εμπειρία μέσα από την αξιολόγηση των Δελτίων Υγείας που εκδίδει ο ΚΟΑ

Σχολιαστής: Άρης Αναστασάκης.
Δ/ντής Μονάδας Κληρονομικών Παθήσεων, Καρδίας Ωνάσειο Καρδιοχειρουργικό Κέντρο, Αθήνα
Ενεργός συμμετοχή των παρευρισκόμενων και ευγενική συμμετοχή εκ μέρους των ομιλητών του 11ου IMBMC διεθνούς συνεδρίου:
Γιώργος Ανδρικόπουλος, Διευθυντής της Καρδιολογικής κλινικής ΓΝΑ «Ερρίκος Ντυνάν» Αθήνα.
Σπύρος Παπαϊωάννου, Επεμβατικός Καρδιολόγος Διευθυντής Β Καρδιολογικής Κλινικής Ναυτικού Νοσοκομείου Αθηνών.
Adjunct Assoc. Prof. School of Medicine, European University Cyprus
Josep Brugada. Medical Consultant at SJD Barcelona Children's Hospital

Parallel Session
Workshop II
(Στα Ελληνικά)
«ΚΑΡΚΙΝΟΣ ΜΑΣΤΟΥ»
Παρασκευή 10 Νοεμβρίου 2023
Αμφιθέατρο Δέλτα, 17:00 -19:00
Ευρωπαϊκό Πανεπιστήμιο Κύπρου

"Ο ρόλος του Συνηγόρου του Ασθενούς (Patient Advocate), στον Καρκίνο του Μαστού στην εφαρμογή των κατευθυντήριων οδηγιών, των πολιτικών υγείας, την έρευνας και της βέλτιστης κλινικής πρακτικής."

In Greek (στα Ελληνικά)

EUROPA DONNA CYPRUS

Συντονίστρια: Δρ Φιορίτα Πουλακάκη MD, PhD, FEBS, CEBS
Διευθύντρια Κλινικής Μαστού, Ιατρικό Κέντρο Αθηνών,

Vice President Europa Donna, The European Breast Cancer Coalition,
President Build a Bridge Foundation.

Parallel Session
Workshop III
(Στα Ελληνικά)
«ΚΑΡΚΙΝΟΣ ΠΡΟΣΤΑΤΗ»
Οι ειδικοί συζητούν για τον καρκίνο του προστάτη.
Πέμπτη 9 Νοεμβρίου 2023
Αμφιθέατρο Άλφα, 18:00 το 20:00
Ευρωπαϊκό Πανεπιστήμιο Κύπρου

Συντονισμός:

Δημήτριος Βόμβας, MD, Ph.D
Διευθυντής Ακτινοθεραπευτικής Ογκολογίας και Πυρηνικής

Ιατρικής
Ογκολογικό Κέντρο Τράπεζας Κύπρου

Συμμετοχή:

Δρ Σταύρος Γκράβας

Καθηγητής Ουρολογίας
Ιατρική Σχολή Πανεπιστημίου Κύπρου

Χρυσάνθη Λεωνίδου, PhD

Κλινική Ψυχολόγος, Ογκολογικό Κέντρο Τράπεζας Κύπρου
Ειδική Επιστήμονας Διδασκαλίας, Πανεπιστήμιο Κύπρου

Ανδρέας Μωυσέως
Πρόεδρος Europa Uomo Κύπρου

Parallel Session

Workshop IV

(Στα Ελληνικά)

Οι ειδικοί συζητούν:
«Πνευμονολογικά Κλινικά Περιστατικά Ασθενών Ειδικού Ενδιαφέροντος»
Παρασκευή 10 Νοεμβρίου 2023
Αμφιθέατρο Άλφα, 17:30 το 19:30
Ευρωπαϊκό Πανεπιστήμιο Κύπρου

Συντονιστής:
Δρ Αλέξης Παπαδόπουλος
Ειδικός Πνευμονολόγος
Πρόεδρος Πνευμονολογικής Εταιρείας Κύπρου

Παρουσίαση ενδιαφερόντων περιστατικών από την ειδικότητα της Πνευμονολογίας

Προεδρείο: Δρ Ηλίας Πορφυρίδης, Ειδικός Πνευμονολόγος-Φυματιολόγος

ΠΕΡΙΣΤΑΤΙΚΟ 1:
Δρ Τώνια Αδαμίδη, Δρ Γιάννα Σαρίδου, Δρ Βασίλης Σταύρου

ΠΕΡΙΣΤΑΤΙΚΟ 2:
Δρ Ευφροσύνη Φιλιού, Δρ Φρόσω Χατζηγιάννη,
Δρ Χριστίνα Δημητρίου

ΠΕΡΙΣΤΑΤΙΚΟ 3:
Δρ Τσιπιλής Σταμάτιος, Δρ Ραφαέλλα Παπαριστοδήμου

ΠΕΡΙΣΤΑΤΙΚΟ 4:
Δρ Ειρήνη Ζαρβού, Δρ Στέλλα Πέτρου

ΠΕΡΙΣΤΑΤΙΚΟ 5:
Δρ Ηλίας Πορφυρίδης, Δρ Χαρά Χατζηκώστα,
Δρ Παναγιώτα Καρρά

(10-λεπτη παρουσίαση του περιστατικού και ακολουθεί 5-λεπτη συζήτηση μετά το κάθε περιστατικό την οποία συντονίζει το προεδρείο)

Parallel Session (Auditorium Beta)

Workshop V

(In ENGLISH)

Σάββατο 14:00 – 16:00

"Cultivating Moral Integrity in Medical Education: A students' session on Medical Ethics".
Cyprus Medical Students' Association
"CyMSA"

Dr I. Patrikios
Founder and Chairman, Congress Scientific committee

*LEQVIO® is dosed initially, again at 3 months, and then once every 6 months.[1]
†LDL-C reduction was maintained during each 6-month dosing interval.[1]

1. LEQVIO Summary of Product Characteristics dated March 2022, European Medicines Agency website http://www.ema.europa.eu

LEQVIO® - Important note: Before prescribing, consult full prescribing information. **Presentation:** Solution for injection: Each pre-filled syringe contains contains inclisiran sodium equivalent to 284 mg inclisiran in 1.5 ml solution. **Indications**: Indicated in adults with primary hypercholesterolaemia (heterozygous familial and nonfamilial) or mixed dyslipidaemia, as an adjunct to diet: - in combination with a statin or statin with other lipidlowering therapies in patients unable to reach LDLC goals with the maximum tolerated dose of a statin, or - alone or in combination with other lipidlowering therapies in patients who are statinintolerant, or for whom a statin is contraindicated. **Dosage and administration:** ***Recommended dose:*** 284 mg administered as a single subcutaneous injection: initially, again at 3 months, followed by every 6 months. ***Missed dose:*** - If a planned dose is missed by less than 3 months, inclisiran should be administered and dosing continued according to the patient's original schedule. - If a planned dose is missed by more than 3 months, a new dosing schedule should be started – inclisiran should be administered initially, again at 3 months, followed by every 6 months. ***Treatment Transition from PCSK9 Inhibitor:*** Inclisiran can be administered immediately after the last dose of a monoclonal antibody PCSK9 inhibitor. To maintain LDL-C lowering, it is recommended that Tradename is administered within 2 weeks after the last dose of a monoclonal antibody PCSK9 inhibitor. **Special populations:** ***Renal impairment:*** No dose adjustment is necessary for patients with renal impairment (mild, moderate or severe), or end-stage renal disease. ***Hepatic impairment:*** No dose adjustment is necessary for patients with mild or moderate hepatic impairment. Inclisiran should be used with caution in patients with severe hepatic impairment. ***Pediatric patients (below 18 years):*** The safety and efficacy of Tradename have not been established. ***Geriatric patients (65 years of age or above):*** No dose adjustment is necessary. **Method of administration:** Intended for administration by a healthcare professional. For subcutaneous injection into the abdomen. Leqvio should be inspected visually for particulate matter prior to administration. Each pre-filled syringe is for single use only. **Contraindications:** Hypersensitivity to the active substance or to any of the excipients. **Warnings and precautions:** Hemodialysis: Hemodialysis should not be performed for at least 72 hours after inclisiran dosing. **Pregnancy:** No available human data. Animal reproduction studies have not shown risk of increased fetal abnormalities. **Lactation:** Not known if transferred into human milk. A risk to newborns/infants cannot be excluded. A decision must be made whether to discontinue breastfeeding or to discontinue/ abstain from inclisiran therapy, taking into account the benefit of breastfeeding for the child and the benefit of therapy for the woman. **Fertility:** No human data. No effects on animal fertility. **Adverse drug reactions:** ***Common (≥1/100 to <1/10):*** Adverse events at the injection site (includes injection site reaction, injection site pain, injection site erythema, and injection site rash). **Interactions:** Not a substrate, inhibitor or inducer of CYP450 enzymes or common drug transporters. Not expected to have clinically significant interactions with other medications.Based on the limited data available, clinically meaningful interactions with atorvastatin, rosuvastatin or other statins are not expected. **Packs and prices:** LEQVIO® 284 mg solution for injection in pre-filled syringe: €2466,94.

LEQ01/2021

Reporting of suspected adverse reactions: Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions to: Novartis Pharma Services Inc., Methonis Tower, 73 Makarios Avenue, 1070 Nicosia, Tel: +357 22 690 690 (Pharmacovigilance Department), Fax: +357 22 315032 or to Pharmaceutical Services, Ministry of Health, CY-1475, www.moh.gov.cy/phs, Tel: +357 22 608 632/661, Fax: +357 22 608 649, by completing the Yellow Card which is available to the public pharmacies or electronically in the website www.kitrinikarta.gov.cy.

Please see Prescribing Information for more information.

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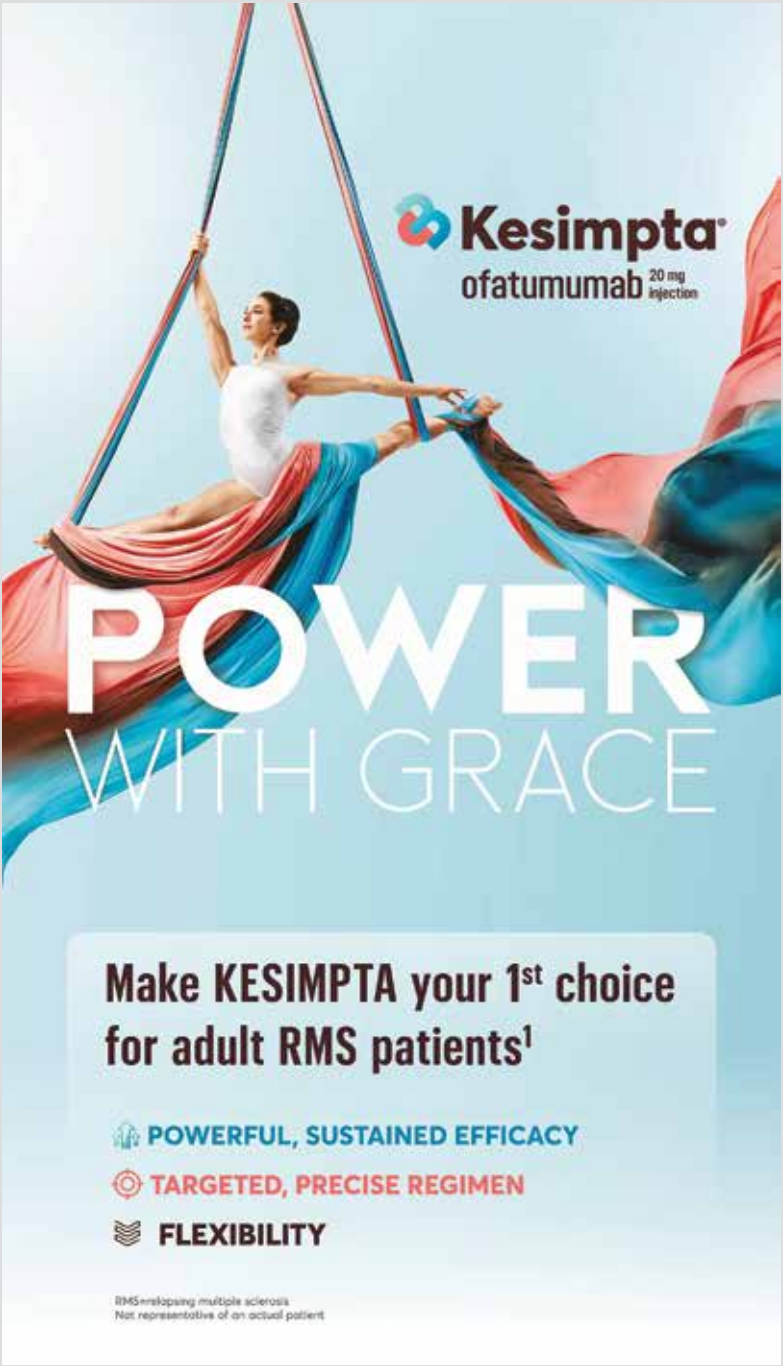
Clinical Faculty Inauguration F2023		
1	George Bazoukis	Clinical Assistant Professor, Cardiology
2	George Shiakos	Clinical Assistant Professor, Cardiac Surgeon/Intensivist
3	Tassos Georgiou	Clinical Professor, Ophthalmology
4	Sakis Lambrianides	Clinical Assistant Professor, Neurology
5	Anastasios Karandreas	Clinical Professor, Surgery
6	Trisevgeni Ntinioti	Clinical Assistant Professor, Ophthalmology
7	Andreas Kousios	Clinical Associate Professor, Nephrology
8	George M. Minas	Clinical Associate Professor, Anesthesiology/Intensive Care
9	Kyriakos Ioannou	Clinical Professor, Nephrology
10	Konstantinos M. Konstantinidis	Clinical Professor, Surgery
11	Stavros Tombris	Clinical Assistant Professor, Maxillo-Facial Surgery
12	Ippokratis Pountos	Clinical Associate Professor, Orthopaedic Surgery
13	Nikolaos Spernovasilis	Clinical Lecturer, Infectious Diseases
14	Hera Heracleous	Clinical Assistant Professor, Cardiology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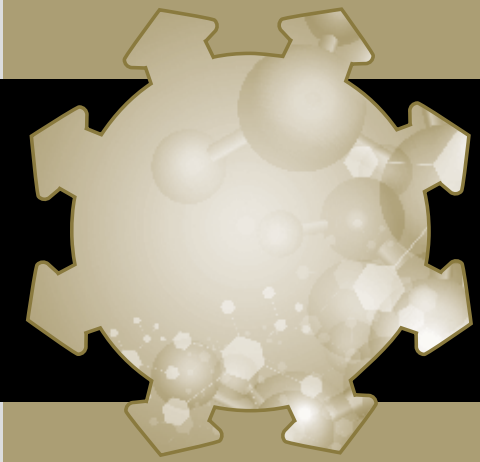

Bio-medical Scientific Cyprus

Speakers' CVs

Speakers' CVs

Professor Dr. Harvey J. Alter, Nobel Prize in Medicine (2020)

Professor of Physiology at National Institute of Health, Bethesda, MD, USA.

Nobel Prize for the discovery of Hepatitis C virus in 2020.

Harvey J Alter has been designated a Distinguished NIH Investigator, only one of 23 NIH scientists to hold that distinction. In his long career in clinical research, Dr. Alter has played a key role in the discovery of two hepatitis viruses, namely hepatitis B virus (HBV) and the non-A, non-B virus, later designated the hepatitis C virus (HCV). In long-term prospective studies, Alter helped define the natural history of NANB/HCV infection and proved its frequent progression to chronic hepatitis and its evolution to cirrhosis and liver related mortality.

Dr. Alter was principal investigator in sequential prospective studies of transfusion-associated hepatitis (TAH) that were instrumental in influencing national blood policy and documented the progressive decline of TAH incidence from 33% in the 1960s to near zero in 1997. Millions of cases of TAH have been prevented through interventions documented in these studies.

For these studies, Dr. Alter has been awarded the PHS Distinguished Service Medal, the AABB Landsteiner Prize, the First International Medal for Science from France's INSERM, the American College of Physicians (ACP) Award for Outstanding Work in Science, and the Distinguished Achievement Award of AASLD.

For his cumulative research accomplishments, Dr. Alter was elected to fellowship in the American Association of Physicians and received the prestigious Clinical Lasker Award and the Canada Gairdner International Award. He was elected to both the National Academy of Sciences and National Academy of Medicine and achieved Master status in the ACP. In 2020, Alter was awarded the Nobel Prize in Physiology and Medicine.

Professor Dr. Josep Brugada Terradellas

Full Professor of Cardiology, University of Barcelona; Senior Consultant in Cardiology, Hospital Clínic de Barcelona; Head of the Arrhythmia Unit, Quiron Palma Planas and Clínica Rotger in Palma de Mallorca; Head of the Arrhythmia Unit, Clínica Girona; Head of the Josep Brugada International Arrhythmia Institute in Porto Alegre, Brazil.

Prof. Josep Brugada Terradellas, MD, PhD, FESC is a Cardiologist, Specialist in Biology and Sport Medicine and MBA Management in Health Services.

He is at present, Senior Consultant in Cardiology at the Hospital Clínic, Barcelona and Head of the Arrhythmia Unit of the Clinica Quiron Palma Planas and Clínica Rotger in Palma de Mallorca and Clínica Girona in Girona. Consultant in Clínica Teknon, Barcelona and Head of the Josep Brugada International Arrhythmia Institute in Porto Alegre, Brazil.

Past President of the European Heart Rhythm Association. Past Vice President of the Spanish Society of Cardiology. Former Chief of Cardiology, Director of the Thorax Institute and Medical Director at the Hospital Clínic, University of Barcelona.

He has published more than 600 original papers in the most relevant international journals, with an H index of 83 and more than 25.000 citations. Prof. Brugada held also the post of Deputy Editor of the European Journal of Cardiology. He is honorary member of several scientific societies and is Professor of Cardiology at the University of Barcelona since 1998. Regarding the field of research, he discovered, treated and found the genetic cause (along with his brothers Pedro and Ramon) of a rare syndrome causing Sudden Death, which is known in the scientific literature as “Brugada Syndrome”.

He is Doctor Honoris Causa by several Universities (Rosario, Universidad del Sur, San Pablo Tucumán, Porto Alegre) and he has received multiple Prices and Awards including the Fritz-Acker Award of the German Society of Cardiology, the Josep Trueta Award of the Catalan Academy of Medical Sciences, and the Rey Jaime I Award in clinical medicine.

Prof. Brugada travels yearly with his own high-tech equipment to Maputo (Mozambic) and Aswan (Egypt) in humanitarian missions to treat children with different types of arrhythmias. Over the past 10 years, more than 1.000 children have been successfully treated in these missions.

I allow the use and processing of my personal data in accordance with L.D. n.196 of 30/06/2003 of the Italian Code concerning the handling and protection of personal data

Speakers' CVs

Professor Dr. Stefano Del Prato

Interdisciplinary Research Center "Health Science", Sant'Anna School of Advanced Studies, Pisa, Italy

Stefano Del Prato is a retired Professor of Endocrinology and Metabolism at the School of Medicine, University of Pisa and Chief of the Section of Diabetes, University Hospital of Pisa, Italy till last November. Currently he is affiliated Professor of Medicine at the Sant' Anna School of Advanced Studies in Pisa. He graduated from the University of Padova, Italy and undertook postgraduate specialization in Endocrinology and Internal Medicine. He has been Professor of Medicine at the University of Texas, San Antonio, TX, USA. Professor Del Prato's main research interests have always been the physiopathology and therapy of type 2 diabetes and insulin resistance. He is a member of many societies and associations including the European Association for the Study of Diabetes (EASD) and the American Diabetes Association. He acts as referee for numerous journals and has served on the Editorial Boards of major scientific journals in the field of diabetes and metabolism. Professor Del Prato is past Vice-President of the EASD, past Chairman of the European Foundation for the Study of Diabetes (EFSD), past President and Honorary President of the Italian Society of Diabetology, and immediate past-President of the EASD. Currently is the President of the European Diabetes Forum. He served as Chairman of the Scientific Committee of the World Diabetes Congress in Dubai, UAE, in 2011. He has published over 500 articles in peer-reviewed international journals and has been awarded several honors including the Prize of the Italian Society of Diabetology for outstanding scientific activity, the Honorary Professorship at the Universidad Peruana Cayetano Heredya in Lima. He has been bestowed the honor of Commander of the Order of the Italian Republic for Scientific Merits.

Professor Dr. Paolo Madeddu

Chair of Experimental Cardiovascular Medicine (Cardiovascular regenerative medicine, Tissue engineering, Therapeutic angiogenesis, and Gene therapy), Bristol Heart Institute, Bristol, UK

Prof. Paolo Madeddu is an Italian – British born in Sassari, Italy. He got the degree in Medicine from the University of Sassari, Italy in 1976 with the title of "Doctor in Medicine and Surgery". He completed his specialty in Cardiology from the University of Sassari in 1980. Currently he has the post of full Professor. From the year 1980 to 2005 he served as a Senior Researcher with clinical appointment of Consultant at Institute of Internal Medicine, University of Sassari, Italy and in 2005 he was qualified as an Associate Professor in the same University. From 1999 to 2005 he was the director of Experimental Medicine and Gene Therapy INBB Interuniversity Consortium, Osilo and Alghero Technological Park, Italy. From 2012 to 2015 he served as the Head of Regenerative Medicine Section in the School of Clinical Sciences, Faculty of Medicine and Dentistry, University of Bristol. For the last 10 years in research, he granted more than 10M Pounds and he is an author of 327 publications in PUBMED with a Citation index of 64. His main Interests are: Cardiovascular regenerative medicine, Tissue engineering, Therapeutic angiogenesis, and Gene therapy.

Speakers' CVs

Professor Dr Vassilios Vassilikos

Director of the 3rd Cardiology University Department at Hippokrateio General Hospital, Thessaloniki, Greece

Vassilios Vassilikos completed his medical education (1983) and obtained his Doctoral Thesis (1989) at the Aristotle University of Thessaloniki, Greece.

He was trained in Cardiology in Thessaloniki and UK, where he further specialized in Invasive Cardiology and Electrophysiology at St Bartholomew's Hospital London. He practiced as consultant Cardiologist for several years at the Onassis Cardiothoracic Centre, Athens. In 2014 he was elected Professor in Cardiology and Director of the 3rd Cardiology University Department, Thessaloniki. Since 2019 he is an Adjunct Professor at the European University of Cyprus.

He is the past President of the Hellenic Working Group on Pacing and Electrophysiology, and Treasurer of the Hellenic Cardiac Society. He is a committee member of the Working Groups for training in undergraduate and post-graduate Medicine, the National Guidelines for training in Cardiology, drug prescription on arrhythmias, Specialty Boards in Cardiology in Greece, and the new English-speaking Undergraduate Program in Medicine at the Aristotle University of Thessaloniki. Recently he was elected President-Elect of ISHNE (International Society for Holter and Non-Invasive Electrocardiology).

He is the founder and the PI of the National Registry of Ablations and CRM Devices in Greece. Has been working on the field of signal processing related to the prediction of atrial fibrillation occurrence and in digital Cardiology (development of smartphone apps for patients with various cardiac problems).

He participated in numerous international trials as Primary Investigator, published extensively, and actively participates in local, regional and international scientific meetings.

He is a Fellow of the American College of Cardiology, the European Society of Cardiology, and member of numerous National and International scientific societies.

Professor Dr Filippos K. Triposkiadis

Director of the Department of Cardiology of the Larissa University Hospital, Larissa, Thessaly, Greece

Filippos Triposkiadis was born in Athens, Greece in 1955. He graduated from the Medical School of the University of Athens in July 1979 and from October 1979 to December 1981 he did his military service in the Hellenic Navy. From October 1983 to October 1984, he did his provincial service in the Division of Cardiology, Cephalonia General Hospital, Cephalonia, Greece and thereafter he trained for one year in Internal Medicine in the Medizinische Klinik, Abteilung III, Universitaet Tuebingen, Germany. From January 1985 to January 1988, he did his Cardiology training in the Division of Cardiology, 251 Hellenic Air force General Hospital. He did postgraduate training in Cardiology for a total of two years in the Division of Cardiology, The Ohio State University, Columbus, Ohio, USA under the guidance of Prof. Harisios Boudoulas MD and Assistant Prof. Randall C. Starling MD. From March 1990 to October 1999, he served as an attending cardiologist in the Department of Cardiovascular Surgery, Hippokration General Hospital, Athens, Greece.

Dr Triposkiadis became Assistant Professor of Cardiology at the Faculty of Health Sciences of the University of Thessaly in September 1997, Associate Professor of Cardiology in May 2003, and Professor of Cardiology in October 2007. He was appointed adjunct Professor of Cardiology of the European University of Cyprus in June 2019. Dr Triposkiadis was the Director of the Department of Cardiology of the Larissa University Hospital for more than 20 years (2000 to 2021). He also served as Director of the Internal Medicine Sector of the Faculty of Health Sciences of the University of Thessaly for three mandates (2006-2007, 2008-2009 and 2009-2010) and as Chief Medical Officer of the Larissa University Hospital for one mandate (2011-2015).

Dr. Triposkiadis is currently a member of several international scientific societies including the European Society of Cardiology (Fellow), the American College of Cardiology (Fellow), and the Heart Failure Association (HFA) of the European Society of Cardiology (Fellow). He is also President-elect of the Hellenic College of Cardiology and Vice President of the Hellenic Society for the Study and Research of Heart Failure.

The clinical activities of Dr Triposkiadis have included invasive cardiology, heart failure, and intensive care. Moreover, he has done extensive research work on the physiology and pathophysiology of the left atrium, the significance of coexisting morbidities in heart failure, the pathophysiology and management of heart failure, the sympathetic nervous system, and the physiology and pathophysiology of the left ventricular ejection fraction.

Dr Triposkiadis has been a member of Steering Committee/National Coordinator and/or Principal Investigator of more than 25 international RCTs, and an author/co-author of about 300 publications in extenso. Additionally, he is the editor of one Textbook of Cardiology (two editions, Athens 2003, and Athens 2016) which has been adopted by several Hellenic Medical Schools and co-editor of one Textbook on Diabetes-Heart-Vessels (Athens 2010).

Dr Triposkiadis has organized several cardiology meetings including the Cardiology Congress of Central Greece (annual international meeting, 1998 to date) and Hellenic-Cypriot Seminar on Cardiovascular Diseases (annual international meeting, 2010 to 2019).

Speakers' CVs

Prof. Dr. Nikolaos Fragakis

Professor of Cardiology in Aristotle University of Thessaloniki Medical School and Director of 2nd Department of Cardiology in Hippokrateion General Hospital of Thessaloniki

Dr Fragakis obtained his medical degree from Aristotle University of Thessaloniki Medical School and completed his Cardiology training at the Onassis Cardiac Surgery Centre in Athens. During his time as a Research Registrar at St Thomas' Hospital, London, he gained extensive training in diagnostic and interventional electrophysiology, cardiac catheterisation, and pacing. In 2002 he was appointed at the General Hospital G. PAPANIKOLAOU in Thessaloniki as Consultant Cardiologist. In 2009 he was elected as Lecturer of Cardiology at the Aristotle University of Thessaloniki Medical School and he moved to the Hippokrateion General Hospital of Thessaloniki. He progressed through all levels of academic development and in 2022 he was elected as full professor while at the same period he was appointed as Director of 2nd Department of Cardiology in Hippokrateion GH Thessaloniki Aristotle University Medical School.

He has a particular interest in cardiac rhythm disorders, clinical cardiac electrophysiology, catheter ablation techniques and implantable devices for rhythm control. In recent years he developed a special interest in Cardiometabolic Medicine and he has organized specific out patient clinics and contributed in several relevant publications in peer-reviewed journals.

Professor Fragakis has published more than 130 papers in English peer reviewed journals and his work has been cited by other scientists more than 2000 times. He was also involved as National reviewer in the recent European Guidelines in Cardiac Pacing. He has authored numerous chapters in official books of Internal Medicine and Cardiology. He has been involved as Principal Investigator in several National and International multicentre research trials. He is a member of several Scientific Societies and past president of the Hellenic Society of Cardiology working group in Pacing and Electrophysiology.

Dr. Kourtellaris Pantelis

American Medical Center

Dr Pantelis Kourtellaris graduated from Athens University Medical school in 2001. Following his research in endothelia function and oxidative stress he specialized in cardiology in the West Midlands when he completed his training in 2010. He subspecialized in electrophysiology and Cardiac devices implantation at the University Hospital of Birmingham “The Queen Elizabeth” where he completed a two-year electrophysiology training program. He has worked as a locum consultant cardiologist in the West Midlands and returned to Cyprus in 2012. He has then taken over the arrhythmia department of the American Medical Center in Nicosia where he practices since. He performs electrophysiology studies and ablations of cardiac arrhythmias and implants and manages cardiac devices (pacemakers and defibrillators) both for conduction system disease and heart failure patients.

Speakers' CVs

Dr George K. Andrikopoulos

Director of the 1st department of Cardiology and the department of Electrophysiology and Pacing, Henry Dunant Hospital, Athens, Greece

Dr George Andrikopoulos obtained his medical diploma from the Medical School of Athens University (1990) and his basic training as a Cardiologist at Hippokration Hospital in Athens (1999). As a research fellow of the European Society of Cardiology he was trained on cardiovascular genetics at the Department of Biological Sciences, University of Warwick, UK (2000) and as a Clinical Research Fellow at Walsgrave Hospital, Coventry, UK (1999). He received his PhD at Cardiovascular genetics from the University of Athens (2004).

He is president of the Hellenic Arrhythmia Institute (2018-2021), past president of the Institute for the Study and Education on Thrombosis and Antithrombotic Therapy (2016-2018), founding member of the Hellenic Cardiovascular Research society (2007) and special scientific advisor of the board of the Hellenic Heart Foundation. Regarding his research activities he has published 132 manuscripts cited at Pubmed and a total of more than 300 papers. He was National coordinator of the EuroHeart project and member of the board for WP5 (2007-2009), National coordinator of the CHOB project of the European Heart Network (2004-2006), Principal investigator of the GEMIG, HELIOS, RHYTHMOS, TARGET, MANAGE-AF, PHAETHON, and other studies and co-principal investigator of the multicenter, international, SPICE study.

He works at Henry Dunant Hospital as a director of the 1st department of Cardiology and the department of Electrophysiology and Pacing.

Associate Professor Dr Grigoris Gerotziafas

Associate Professor of Hematology, Faculty of Medicine Sorbonne University, Paris, Head of the Thrombosis Department, Tenon Hospital, Paris & Director of the cancer and thrombosis research group

Grigoris Gerotziafas is Co-director of the research group “Cancer, Biology and Therapeutics” and leads the research team “Cancer-Haemostasis-Angiogenesis” INSERM UMRS-938. In his clinical activity he leads the Clinical Haemostasis Group at Tenon-Saint Antoine Hospital AP-HP.6 and is Associate Professor of Hematology at the Faculty de Medicine, Sorbonne University in Paris.The Research Group “Cancer-Haemostasis-Angiogenesis” is specialized in the interactions of cancer cells with blood coagulation and vasculature in tumor microenvironment and the development of new therapeutic strategies and risk assessment models.The Clinical Haemostasis Group, using personalized medicine approaches and artificial intelligence methodology, is expertized center on cancer associated thrombosis, thrombophilia, platelet disorders, antithrombotic treatment, vascular complications of pregnancy, subfertility and failure of assisted reproductive techniques related with vascular alterations. Prof Gerotziafas leads the post-graduated Master programme “Thrombosis and Haemostasis in Haematology” at the Faculty de Medicine, Sorbonne University in Paris. He animates an international group of experts which developed the COMPASS-CAT score for the risk evaluation of cancer associated thrombosis in ambulatory patients, the COMPASS-COVID-19 score for the evaluation of the risk of disease worsening in patients with COVID-19 and the COMPASS-COVID-19-ICU score for the risk of intubation of patients with severe COVID-19. He leads the ROADMAP-Thrombosis project which investigates for clinically relevant biomarkers of cellular hypercoagulability in patients with solid cancers, haematological malignancies, COVID-19. And vascular complications of pregnancy and infertility. On behalf of the Borad of the VAS European Foundation on Angiology and Vascular Medicine, Prof. Gerotziafas leads the International Project for Guidance on the management of vascular patients with COVID-19 . He also leads the International Group for Integrated and Equitable Strategy Against COVID-19 Pandemic. Prof. Gerotziafas has leaded or contributed as an expert to the development of several international and national guidelines for the prevention and treatment of venous thromboembolic disease and arterial thrombosis. He is also member of the International Society on Thrombosis and Hemostasis (ISTH) Scientific and Standardization Committee for Haemostasis and Malignancy and for Control of Anticoagulation, the International Conference on Thrombosis and Hemostasis Issues in Cancer (ICTHIC) and the European Thrombosis and Haemostasis Alliance (ETHA).He chairs the Scientific committee of the Vascular Independent Organisation (VAS) and he is member of the Board of Trustees of the European and Mediterranean League against Thromboembolic Disease Foundation and Society. Professor Gerotziafas is Visiting Professor in Loyola Faculty of Medicine (Department of Molecular Pharmacology and Therapeutics), Chicago and at the School of Medicine at Hofstra/Northwell (Department of Medicine, Anticoagulation and Clinical Thrombosis Services) New York USA and Faculty of Medicine at the European University of Cyprus. Professor Gerotziafas has published extensively in peer-reviewed international journals and has authored several book chapters. He sits on the review boards of several international journals and is member of several professional societies.

Speakers' CVs

Professor Dr. Vasso Apostolopoulos

Pro Vice-Chancellor, Research Partnerships at Victoria University, Australia

Expertise with development of drugs and vaccines

Vasso Apostolopoulos was born in Melbourne Australia in 1970. Her parents migrated to Australia from Amaliada Greece in 1966. She received her PhD in 1995 from the University of Melbourne and Advanced certificate in Protein Crystallography University of London. She has undertaken research at the Austin Research Institute Australia, Burnet Institute Australia, Sir William Dunn School of Pathology Oxford University, Scripps Research Institute USA, Mater Medical Research Institute (sabbatical) and was a visiting researcher at numerous Universities around the world. Her expertise is in the areas of immunology, crystallography, cellular biology, translational research and development of drugs and vaccines. Vasso has Led/Directed a number of research programs at the Austin Research Institute, the Burnet Institute, Centre for Chronic Disease at Victoria University, and, at the Institute for Health and Sport. She was the Vice President Research, Deputy Vice-Chancellor Research, Associate Provost (Research Partnerships) and is currently the Pro Vice-Chancellor (Research Partnerships) at Victoria University, Australia. Vasso has received >100 awards, published >500 research papers and books, is an inventor on 20 patents and her current interests are treating chronic diseases with an immunological focus, in particular in the areas of cancer, autoimmune disorders, mental health and infectious diseases.

Professor Dr. Nikolaos Tentolouris

Professor of Medicine, 1st Department of Propaedeutic and Internal Medicine, Medical School, National and Kapodistrian University of Athens, 17 Agiou Thoma street, Laiko General Hospital of Athens, Athens, Greece

Degree in Medicine, Medical School, National and Kapodistrian University of Athens (1986). Specialist medical Title: Internal Medicine (1997). Research and clinical work in the field of diabetes, metabolic and endocrine diseases at the University of Manchester (Manchester Royal Infirmary), UK (1997-1998). Specialization: Diabetes (2000). Consultant physician (1998-2003) at 1st Department of Propaedeutic and Internal Medicine, Laiko General Hospital, Athens, Greece PhD (2001); Assistant Professor (2007), Associate Professor (2013), and Professor of Medicine (2018), University Medical School. Responsible for Diabetes Center of the 1st Department of Propaedeutic and Internal. Medicine, Laiko General Hospital, Athens, Greece (2007). Responsible for the training of dental school program in Internal Medicine (2007-2015). Responsible since 2007 for the organization and operation of the Research. Laboratory of the Diabetes Centre of the 1st Department of Propaedeutic and Internal. Medicine, Laiko General Hospital, Athens, Greece. Participation in the education of students of the 7th and 8th semester of the Medical. School in physical examination-Special Nosology and 12th semester student in Internal Medicine. Participation in the training of doctors in training in Internal Medicine Physicians and doctors who are officially seconded from the Ministry of Health to specialize in diabetes. Clinical work both in the outpatient Diabetes Center and the Department of Medicine as the responsible wards hospitalized patients and call the clinic. Participation in scientific / steering committees eight international conferences and 45 Greek, 7 presentations by invitation abroad and more than 100 in Greece. Member of the Editorial Board 4 medical journals and consultant/reviewer in 72 international journals. Supervised 5 doctoral theses Coordinator of the Postgraduate Program of the Medical School of the University of Athens entitled “Diabetes Mellitus & Obesity” from 2016 (ongoing). The written work includes participation in 7 international and 8 Greek medical books on diabetes. Scientific and research work includes more than 200 publications (Medline) that have more than 4600 references in the international literature and h-index 39 (Google Scholar). Repeatedly Board member the Hellenic Association for the study of the foot, President of the Hellenic Society of Internal Medicine (2017), Scientific Secreatary of Diabetic Foot Study Group (2012-2017), executive committee member of the European Association for the Study of Diabetes (2015-2017), member of the American College of Physicians and a member of the American Diabetes Association In the clinical and research work by Professor Nicholas Tentolouris has contributed to a better understanding of the treatment of diabetes mellitus and its complications as well as metabolism. Moreover, it has significantly contributed to the understanding and treatment of diabetic neuropathy and diabetic foot both in Greece and internationally.

Speakers' CVs

Professor Dr. Konstantinos Makaritsis

Professor of Internal Medicine University of Thessaly Medical School Larissa, Greece

Konstantinos P. Makaritsis, M.D., Ph.D was born in 1961 in Athens, Greece. He graduated in 1985 from the University of Patras Medical School, Patras, Greece. He received his Doctorate Thesis in Cardiovascular Medicine from the University of Athens, School of Medicine, Athens, Greece in 1994. He has been awarded the ECFMG (USMLE) Certificate in 1995 by the USMLE Council. He is also an Instructor in ATLS (Advanced Trauma Life Support) by the American College of Surgeons. He was trained as a Resident in Internal Medicine from 1990-1995 at the Department of Clinical Therapeutics, University of Athens School of Medicine, "Alexandra" Hospital, Athens, Greece. He was also trained as a postdoctoral Clinical & Research Fellow for 2.5 years at the Boston University, Boston Medical Center, Department of Medicine, Section of Hypertension and Atherosclerosis, Boston, MA, USA. He is a Fellow of the European Society of Hypertension (FESH), Fellow of the European Stroke Organization (FESO) and Fellow of the European Federation of Internal Medicine. He is also a member of the Hellenic Society for the Study of Stroke, the American Heart Association, the Hellenic Society of Hypertension, the Hellenic Society of Internal Medicine and the Hellenic Society of Atherosclerosis. He is a Reviewer in several medical journals, including International Journal of Stroke, International Journal of Genomics, BMC Cardiovascular Disorders, BMC Neurology, Frontiers in Pharmacology, Frontiers in Cardiovascular Medicine, Frontiers in Neurology, Open Journal of Surgery.

He has published more than 100 papers with more than 4300 citations and an author h index of 34 (September 2021). He has also participated as a coauthor in 5 chapters in 3 books. He is currently serving as a Professor of Internal Medicine at the Department of Medicine, University of Thessaly Medical School, Larissa, Greece and as Chief of the Hypertension and Lipid Disorders Outpatient Clinic at the Department of Medicine, University of Thessaly Medical School, University Hospital of Larissa, Larissa, Greece.

Professor Dr. Philip Froguel

Professor and chair of Genomic Medicine Imperial College London, and Professor of Endocrinology at Lille University hospital

Philippe Froguel, MD, PhD, works at Imperial College London as Prof and chair of Genomic Medicine, and at Lille University hospital as Prof of Endocrinology, where he is director of the Inserm/CNRS/Pasteur/Lille Univ research group "Functional(epi)genomics and mechanisms of type 2 diabetes and related disorders", Director of the European Genomic Institute for Diabetes research (EGID) and of the French National Center for Precision Medicine in diabetes PreciDIAB.

PF's scientific carrier is focused on the genetics of diabetes and obesity. He is author of 775 publications and his H-index is 184 (with 156K citations). PF has identified in 1992 the first diabetes gene (glucokinase), in 1998 the most prevalent cause of monogenic obesity (MC4R), and the first recessive mutation causing obesity in the leptin receptor gene. He discovered in 2006 the role of the sulfonylurea receptor gene ABCC8 in monogenic diabetes and in 2010-2011 the first evidence that Copy Number Variation causes extreme obesity or leanness depending of the quantity of DNA. He discovered in 2007 the first gene for common obesity (FTO) and has published in 2007 the first Genome Wide Association Study (GWAS) in T2D. Later, he found first gene frequent variants controlling glycemia (in GCPC2) and discovered the role of the melatonin pathway (through frequent and rare variants in MTNR1B) in T2D risk. Recently, he showed that 3% of patients with common T2D carry pathogenic mutations in actionable genes opening a path to precision medicine. PF current interest is in personalized medicine, with the identification of diabetic patients that should benefit from customized treatments controlling diabetes and preventing complications. To progress toward this direction PF have created the unique in France LIGAN Genome Sequencing Center.

Speakers' CVs

Dr. Sotiris Moraitis

Consultant Cardiothoracic Surgeon

Director and Commanding Officer, Naval and Veterans Hospital of Athens

Dr. Moraitis graduated from the Medical School of the Aristotle University of Thessaloniki. He has been trained on Cardiothoracic Surgery at the "Evangelismos" General Hospital of Athens and at Harefield Hospital in Middlesex, UK. He holds an MSc degree on "Thoracic Oncology" from the Medical School of the National and Kapodistrian University of Athens; an MSc degree on "Endovascular Techniques", from the Medical School of the National and Kapodistrian University of Athens and the Department of Surgical Sciences at the University of Milano Bicocca, Monza, Italy; an MBA degree on "Healthcare Management" from the Department of Economic & Political Sciences at the National and Kapodistrian University of Athens; and a PhD from the Medical School of the National and Kapodistrian University of Athens. He is currently lecturing at two MSc programs at the Medical School of the National and Kapodistrian University of Athens. He became Head of the Cardiothoracic Surgery Department at the Naval and Veterans Hospital of Athens in 2007 and then Head of the Joint Corps Armed Forces Cardiac Surgery Department in 2014. Since March 2023, he is the Managing and Medical Director in charge, of the Naval and Veterans Hospital of Athens. He is a Fellow of the American College of Surgeons (FACS) and a Fellow of the European Board of Thoracic Surgery (FEBTS).

Dr. Mathaios Panayiotou

Director of Cardiac Surgery Clinic -Center for Thoracic Aortic Surgery; Athens Medical Center

Mr. Matthew Panagiotou graduated from the Medical School of Athens University in 1984. He has completed his cardiothoracic residency at Evangelismos Hospital of Athens and at Kings College Hospital of London. He has been practicing predominately cardiac surgery since 1993, as a stuff surgeon at Onassis Cardiac Surgery Center of Athens for the first 10 years and as a head of Cardiovascular Departments in Athens Medical Center, Mediterraneo Hospital and Metropolitan Hospital for the last 20 years. He was certified by the European Board of Thoracic and Cardiovascular Surgery (FETCS) in 2000.

He has been a pioneer in his country in specific fields, such as arterial revascularization in bypass surgery, cardiac stabilization for off pump cardiac bypass, stentless valves, sutureless valves, transapical TAVI, surgical ventricular restoration surgery and complex thoracic aorta procedures. He has been a reviewer in the European Journal of Cardio-Thoracic Surgery and Interactive Cardiovascular and Thoracic Surgery Journal for 15 years.

He has published 38 papers in numerous international journals, being invited as a speaker in many round tables and postgraduate courses of university and national health system hospitals. He has had the privilege of being director and mentor of more than 20 younger Greek cardiac surgeons, three of them serving as professors in university hospitals and most of the others as consultant cardiac surgeons in Greece and abroad.

Speakers' CVs

Dr. Antonis Pitsis

Head of Cardiac Surgery at European Intertbalkan Hospital

Medical Center in Thessaloniki, Greece.

Dr. Antonios Pitsis is the Head of Cardiac Surgery at European Intertbalkan Medical Center in Thessaloniki, Greece. His clinical experience involves more than 15,000 cardiac operations as the main operating surgeon. Currently Dr. Antonios Pitsis performs on average 400 to 450 cardiac cases a year, the majority of these cases being Totally Endoscopic (200 - 250 cases a year) and other Minimally Invasive Procedures.

With over thirty years of experience in Adult Cardiovascular Surgery and Valvular Heart Disease, Dr. Antonios Pitsis has a specialized focus in totally endoscopic procedures which include mitral and tricuspid repairs, aortic valve replacements, repair of adult congenital heart defects (such as atrial and ventricular septal defects and valve repairs), other adult congenital heart defects, cardiac tumors, as well as myectomies for obstructive hypertrophic cardiomyopathy.

In addition to his surgical practice, Dr. Antonios Pitsis has dedicated his life to researching and developing innovative techniques to enhance patient outcomes, and these are all reflected in his wide range of publications in various national and international journals. The significant clinical work that his team has accomplished has been supported and promoted by continuous training and active participation in many international conferences as well as workshops and vigorous research.

Dr. Pitsis has established a highly successful endoscopic cardiac surgery training center, with many visitors all over the world attending his practice. He is a founding member and permanent member of the steering group of the Endoscopic Cardiac Surgeons Club (ecsclub.org, est. 2021) which is a worldwide association of minimally invasive cardiac surgeons with a special interest in the use of the endoscope for cardiac surgery.

He is board member of the International Society for Minimally Invasive Cardiothoracic

Surgery (ISMICS). He is also an inventor of endoscopic surgical instruments for totally endoscopic aortic and mitral surgery.

Dr Pitsis has performed live surgeries for demonstration purposes of new innovative techniques in the treatment of heart disease, in many of the most renowned international congresses in cardiac surgery including the European Association for Cardiac Surgery Annual (EACTS Technocollege) Meeting 2022 (Milan) and 2023 (Vienna), Focus Valve 2022 (Innsbruck) and 2023 (Innsbruc), Endoscopic Cardiac Surgeons Club 2022, Master of Valve Therapy 2022 (Berlin).

Professor Dr. Haralambos Milionis

Professor of Internal Medicine at the School of Medicine, University of Ioannina, Greece.
President of the Hellenic Atherosclerosis Society (HAS)

Dr Haralampos Milionis serves as Professor of Internal Medicine at the School of Medicine, University of Ioannina, Greece.

He is the Academic Head and Director of the 1st Division of Internal Medicine and the Infectious Diseases Unit of the University Hospital of Ioannina and the Research Laboratory of the Department of Internal Medicine; he is a Consultant in the Outpatient Lipid Clinic and runs the Outpatient Unit for Cardiovascular Risk Factor Modification for Children and Adolescents of the University Hospital of Ioannina; he is a Faculty Member of the Atherothrombosis Research Centre of the University of Ioannina.

He is President of the Hellenic Atherosclerosis Society (HAS) and member of the European Society of Atherosclerosis (EAS) and a Fellow of the Hellenic (HSO) and the European Stroke Organization (ESO).

His research focuses on the pathophysiology of atherothrombosis, the clinical and epidemiological study of cardiovascular disease risk factors and the secondary prevention of stroke. He has been participating in several observational and randomized clinical trials. He has authored and co-authored >400 peer-reviewed publications (ISI citations >9500; h-index 48) and has been serving as a reviewer and a member of the Editorial Board of national and international journals.

Speakers' CVs

Professor Dr. Dimitris Farmakis

National and Kapodistrian University of Athens Medical School, Athens University Hospital Attikon, Athens, Greece.

Prof. Farmakis' main clinical and research focus is heart failure, cardio-oncology and haemoglobinopathy-associated cardiovascular disease. He has a strong publication record in highly ranked journals (287 PubMed articles, total citations, 23311; h index, 65) and textbooks (72 chapters, 5 complete textbooks). He has received grants for research projects and has served as primary investigator or steering committee member in research programs funded by the European Commission. He also sits on editorial boards of international medical journals and on several scientific or advisory committees, while he serves as a reviewer for many highly rated journals. Among others, he is the Chairman of the European Society of Cardiology (ESC) Heart Failure Association Study Group on Cardio-Oncology, President of the Hellenic Society of Cardiology Working Group on Oncocardiology and member of ESC Guidelines Taskforces on heart failure and cardio-oncology. He is also a medical advisor to Thalassaemia International Federation (TIF) and editor of the recent TIF guidelines for transfusion-dependent thalassaemia. He has received awards and distinctions from the Universities of Athens and Patras, Harvard Medical School, American Heart Association, United Arab Emirates government and others.

Associate Prof. Dr. Grigoris Giamouzis

School of Health Sciences, University of Thessaly, Cardiology Clinic of Larissa University General Hospital, Heart Failure Working Group Chair (2020-2022), Hellenic Cardiology Society

Dr. Giamouzis is currently working as an Associate Professor of Cardiology, Faculty of Medicine, School of Health Sciences, University of Thessaly, Larissa, Greece, and as an interventional cardiologist in the Cath Lad and as an expert heart failure cardiologist in the Heart Failure Unit of the Department of Cardiology, General University Hospital of Larissa, Greece (since June 2010).

He graduated from the Medical School of the Aristotles University of Thessaloniki, Greece in 1998. He completed his 4-year General Cardiology Fellowship in the Onassis Cardiothoracic Center (2003-2006). He was awarded the Alexandros Onassis Foundation annual medical scholarship for an 18-month fellowship in cardiology in the USA. He completed a 3-year fellowship in Heart Failure and Transplantation in the Emory University Hospital, Atlanta, Georgia (2006-2009). He was also trained in experimental Heart Failure Models in the Charite University Hospital, Berlin, Germany (2010). He completed his 3-year PhD thesis entitled: "Acute hemodynamic effects of moderate doses of nebivolol versus metoprolol in patients with systolic heart failure" in 2007 in the Department of medicine, School of Health Sciences, University of Thessaly, Larissa, Greece and his 2-year Master of Science in Thrombosis in the same department in 2023.

He worked as a President (2020-2022) and a Vice-President (2018-2020) of the Heart Failure Working Group of the Hellenic Cardiological Society, Athens, Greece.

He has been an author or co-author in many publications in >120 peer-reviewed international journas (H-index=36, >10,000 citations, as of September 2023), numerous abstracts in important scientific meetings, and several cardiology book chapters. He has given >360 lectures in national and international Cardiology Congresses. He has also served as a reviewer in >15 international journals.

He was the Principal Investigator in many multicentre randomized clinical trials in heart failure, such as DAD-HF, Renewing Health-HF, DAD-HF II, RELAX-AHF, PARAGON-HF, ARIADNE-HF, GALACTIC-HF, PARADISE-HF, ANTHEM-HFrEF, ARENA-AHF, HERMES-HFpEF, ATHENA-HFpEF.

Speakers' CVs

Prof. Dr. Katerina Naka

Professor of Cardiology at Faculty of Medicine, School of Health Sciences,

University of Ioannina

Katerina K. Naka MD, PhD, FESC was born in Ioannina, Greece and graduated with distinction from the University of Ioannina Medical School. She accomplished her PhD thesis in the University of Wales College of Medicine on the role of arterial stiffness in acute physical exercise in healthy subjects and heart failure in 2003. She was fully trained in Cardiology in the University Hospital of Ioannina. She has been working as an academic cardiologist in the Second Department of Cardiology, Faculty of Medicine, School of Health sciences, University of Ioannina since 2006 and is currently a Professor. She has been heavily involved in pre- and post-graduate cardiology education at a local and national level and with the European Society of Cardiology. She has published ca. 160 papers and numerous abstracts with >7,300 citations and an h-index of >40 at present. Her research interests lie within heart failure and cardiomyopathies, atherosclerosis and cardiovascular prevention, non-invasive and invasive cardiovascular imaging, machine-learning and biomedical engineering.

Dr. Dimitrios Kyparissopoulos

Honorary Consultant Thoracic Surgeon at Royal Brompton & Harefield NHS Foundation Trust; Robotic & Minimal Invasive Thoracic Surgeon; Ygia Polyclinic, Limassol, Cyprus. Associate Clin. Professor, University of Nicosia, Medical School

Dimitrios Kyparissopoulos was Born on May 19th 1972 at Chania, Crete, Greece. Raised in Volos city, Greece, where he graduated from primary, secondary and high school having been graduated with countless golden academic medals and scholarships at school. Graduated from Pharmaucetical School, Aristotle University Thessaloniki with scholarship for 2 years, then passed with "Excellent" degree 1st in Medical School, University of Ioannina, Greece.

Graduated from Medical School of University of Thessaly, Larissa, Greece after total 6 years in the Medical School, where he had the honor to study and work under the guidance of famous late Professor Panayotis Spyrou.

Started his fellowship in Cardiothoracic Surgery at the University Hospital of Larissa, Greece, under Prof. Spyrou and then he was Resident of General Surgery for 3 years in total, at General Hospital of Lamia and Volos, Greece. Then 2 more years of Cardiothoracic Surgery at the University Hospital of Larissa, Greece with extra training of Cardiothoracic ITU at Onassis Cardiothoracic Centre, Athens, Greece.

In 2007, after being nominated twice with the Golden Medal in EACTS courses in Bergamo, Italy, he decided to continue his Residency abroad, starting in MST Spectrum Twente, Enscede, Netherlands. In 2008 he applied for a Residency Post in Cardiothoracic Surgery in the UK, and he was successfully interviewed by a panel which was chaired Professor Magdi Yacoob, at notorious Harefield Hospital.

He finished his training as Cardiothoracic Surgeon at St. Thomas's Hospital, London, UK, and successfully passed his specialty exams and becomes Cardiothoracic Surgeon. He was employed as Consultant Thoracic Surgeon at Harefield hospital where he worked for 3 years, where he performed more than 1.000 thoracic procedures, with excellent outcomes. He was trained and established VATS Lobectomies as standard practice for Curative Lung Resections and delivered more Cryotherapy treatment than anyone else in the UK.

In September 2014 he works as a Consultant Thoracic Surgeon at the John Radcliffe University Hospital of Oxford, which is the centre with the highest rate of VATS Lobectomies in the UK. On top of that, he operates on Sarcoma patients, as Oxford University Hospital is the bigest Sarcoma Centre in the UK and on of the biggest in the world. In February 2016 he moves to Cyprus where he has already performed the whole spectrum of Thoracic procedures for first time ever, either thoracoscopic or robotic.

He remains Honorary Consultant Thoracic Surgeon at Harefield Hospital (Royal Brompton and Harefield NHS Foundation Trust, London, UK. The highest honor and worldwide recognition come in February 2020 when the world-renowned medical journal CTSnet publishes an innovative robotic surgery performed last summer and presented for the first time in medical journals.

Speakers' CVs

You can watch the video on CTS net webpage: https://www.ctsnet.org/article/robotic-bilateral-sympathectomy-hyperhidrosis?fbclid=IwAR0hv23g3yex60IE3GW1BLRGHNAizPL-o4m-MNswkqG0Px7sGSeeTS_Y7kkg

And that was only the beginning. Until now, four innovative (three of them are Robotic) and exceptionally difficult procedures have already been published by CTSnet magazine. That is a unique achievement and speaks volumes about his medical experience and surgical efficiency.

Mr Dimitrios Kyparissopoulos is currently a Honorary Consultant Thoracic Surgeon at Harefield Hospital, Royal Brompton and Harefield NHS Foundation Trust, London, UK, the only Robotic and Thoracoscopic Minimal Invasive Consultant Thoracic Surgeon in Cyprus and one of the few around the world. He is an Associate Clinical Professor at University of Nicosia, Medical School

Professor Dr. John Ioannides

Professor of Medicine, of Epidemiology and Population Health, and (by courtesy) of Biomedical Data Science and Statistics at Stanford University, co-director of the Meta-Research Innovation Center at Stanford (METRICS) and Einstein fellow and director of the Meta-Research Innovation Center Berlin

Professor of Medicine, Professor of Epidemiology and Population Heatlh, and Professor (by courtesy) of Biomedical Data Science at the School of Medicine; Professor (by courtesy) of Statistics at the School of Humanities and Sciences; co-Director, Meta-Research Innovation Center at Stanford (METRICS). My work aims to improve research methods and to enhance approaches to integrating information and generating reliable evidence. Science is the best thing that can happen to humans, but doing research is like swimming in an ocean at night. Science thrives in darkness.

Born in New York City in 1965 and raised in Athens, Greece. Valedictorian (1984) at Athens College; National Award of the Greek Mathematical Society (1984); MD (top rank of medical school class) from the National University of Athens in 1990; also received DSc in biopathology from the same institution. Trained at Harvard and Tufts-New England Medical Center (internal medicine, Infectious diseases), then held positions at NIH, Johns Hopkins and Tufts. Chaired the Department of Hygiene and Epidemiology, University of Ioannina Medical School in 1999-2010 while also holding adjunct professor positions at Harvard School of Public Health (epidemiology), Tufts (medicine, also Director of the Center for Genetic Epidemiology and Modeling in 2008-2010), and Imperial College (epidemiology and biostatistics). Moved to Stanford in 2010, initially as Director/C.F. Rehnborg Chair at Stanford Prevention Research Center, then diversified with appointments in 4 departments and membership in 8 centers/institutes at Stanford. Launched the PhD program in Epidemiology & Clinical Research and the MS program in Community Health & Prevention Research. Launched METRICS at Stanford in 2014, a center that has gained wide international recognition and that has become the epicentre of a large international network of researchers interested in studying and improving research practices.

Member of executive board of the Human Genome Epidemiology Network and Senior Advisor on Knowledge Integration at NCI/NIH (2012-6). Served as President, Society for Research Synthesis Methodology, and editorial board member of many leading journals (including PLoS Medicine, PLoS Biology, Lancet, Annals of Internal Medicine, JNCI, Science Translational Medicine, Clinical Chemistry, Molecular and Cellular Proteomics, AIDS, IJE, JCE, Clinical Trials, PLoS ONE, Royal Society Open Science, Research Integrity and Peer Review, Physiological Reviews among others) and as Editor-in-Chief of the European Journal of Clinical Investigation (2010-2019). President Elect the of Association of American Physicians, the most prestigious honorific society for physician-scientists (serving as Vice President for 2022-2023, President for 2023-2024). Delivered over 700 invited and honorary lectures. Recipient of many awards and honorary titles from FORTH (2014) and University of Ioannina (2015) and honorary doctorates from Erasmus University Rotterdam (2015) University of Athens (2017), University of Tilburg (2019), University of Edinburgh (2021). Multiple honorary lectureships/visiting professorships (Caltech, Oxford, LSHTM, Yale, U Utah, U Conn, UC Davis, U Penn, Wash U St. Louis, NIH among others).

Speakers' CVs

Highly Cited Researcher according to Clarivate in both Clinical Medicine and in Social Sciences. Citation indices: h=242, m=8 per Google Scholar (h=180 per WoK and Scopus). Current citation rates: ~6,000 new citations per month per Google Scholar, >3,500 new citations per month per Scopus or Web of Knowledge (among the 6 living scientists worldwide who are currently the most commonly cited, perhaps also the currently most-cited physician).

Professor Dr George M. Spyrou

Cyprus School of Molecular Medicine

Chair of the Bioinformatics European Research Area and the Head of the Bioinformatics Group at the Cyprus Institute of Neurology and Genetics

George M. Spyrou is the Bioinformatics European Research Area Chair Holder and the Head of the Bioinformatics Department at the Cyprus Institute of Neurology and Genetics (CING). He holds a BSc on Physics, an MSc on Medical Physics and an MSc on Bioinformatics. Dr. Spyrou is the Bioinformatics Course Coordinator at the Postgraduate School of CING where he has been elected as full Professor in 2019. He is also a visiting instructor on Systems Bioinformatics and Network Analysis in other postgraduate courses. Dr. Spyrou is a Senior IEEE Member and a Member of the Steering Committee for the creation of the European Bioinformatics Infrastructure ELIXIR-Cyprus Node. Up to now, he has served as Editorial Board Member, Reviewer and Invited Speaker or Chairman in scientific sessions related to Biomedical Informatics topics while he has authored/co-authored a significant number of scientific publications in peer reviewed journals and in international conference proceedings. His work is focusing on Network-based Computational Diagnostics and Therapeutics.

Speakers' CVs

Professor Dr Konstantinos Toutouzas

Director of the cardio-oncology and structural valve disease

outpatient clinic of First Department of Cardiology, Athens School of Medicine.

Dr Konstantinos Toutouzas completed his medical studies at University of Athens Medical School, his residency at the First Department of Cardiology of the University of Athens in Hippokration Hospital and an interventional cardiology fellowship in Centro Cuore Columbus, Milan, Italy. At present he is a Professor of Cardiology, Director Cardio-oncology outpatient clinic, Director of the valvular heart disease outpatient clinic at the First Department of Cardiology, Athens Medical School, Hippokration Hospital, Board member of the Onassis Cardiac Surgery Center and a Board member of the Athens Medical School Faculty

He is a member of several Greek and international scientific societies, including the Hellenic Society of Cardiology, the European Society of Cardiology (FESC), the European Association of Percutaneous Cardiovascular Intervention (EAPCI) and the Society for Cardiac Angiography and Interventions (SCAI). He has also served as Chairman of the Greek Working Group of Interventional Cardiology. His main clinical interest focuses on the area of Interventional Cardiology. He performs the full range of interventions in coronary circulation including coronary angiography, percutaneous angioplasty and intracoronary imaging techniques (intravascular ultrasound and optical coherence tomography). He also successfully deals with the interventional treatment of structural heart diseases.

He has rich scientific work with more than 290 publications in peer-reviewed journals and more than 5700 citations. At present, Prof. Toutouzas is Chairman of the Postgraduate Program 'Interventional Cadiology' at Athens School of Medicine

Dr Dimitri Richter

Head of Cardiac Department, Euroclinic Hospital, Athens, Greece

Dimitris Richter MD, FESC, FAHA is the Head of Cardiac Dept, Euroclinic Hospital, Athens, Greece since 2002. He has a Special interest in Lipids treatment, Coronary Artery Disease Prevention and Treatment and thrombosis management.

He was elected as President of Hellenic Lipidology Society 2013-2017, President of Institute of thrombosis research 2018-20, member of the board of Hellenic Heart Foundation since 2009, President WG epidemiology and Prevention - Hellenic Heart Society 2008-9, President of the Council of Clinical Practice of ESC 2018-20, and Member of Committee of Practice Guidelines of the ESC 2016-2020.

He is Editor in chief of “Heart and Vessels”, the official publication of the Hellenic Heart Foundation since 2010, an ESC Fellow since 2005, AHA Fellow since 2006. He is author of various papers in international peer-reviewed journals with an IF of > 400 and Co-author of various ESC guidelines on: CVD prevention in clinical practice (2016) and revascularization (2014 and 2018), Dyslipidemia (2019).

Speakers' CVs

Associate Professor Dr Andreas Pittaras

Cardiologist, Clinical Hypertension Specialist ESH

George Washington University, Washington DC, USA

Andreas Pittaras was born in Athens, Greece in 1959. He is currently Ass. Professor in the Faculty of medicine at the George Washington University, Washington DC, Director at MEDITON Medical Center Athens Greece, Head Consultant Cardiologist and Hypertension Specialist at Hypertension & Cardiovascular Prevention Clinic, Cardiology Department, Asklepeion Hospital, Athens, Greece, and President of Hellenic Society of Cardiovascular Prevention. He graduated (1984) from Medical School of National and Kapodistrian University, Athens, Greece. He then completed his clinical training in Cardiology (1992) at "Alexandra" Therapeutic University clinic, Athens, Greece. He has worked for 4 years (1993-1997) as cardiology research fellow in Hypertension and Atherosclerosis Institute at Veterans Hospital, Washington DC (Georgetown University educational program), and then currently cardiovascular research associate at the same department (George Washington University educational program). His research focuses on cardiovascular system, hypertension, coronary artery disease, arrhythmias, heart failure, lipids and exercise. He has published 40 papers in peer-reviewed journals (NEJM, Hypertension, Circulation, JACC etc), and 5 book chapters. He has given more than 100 lectures in international meetings, more than 400 lectures in national meetings, with several awards for best and top scoring abstracts in international meetings (AHA, ACC, ESC, ESH, ASH).

Dr Spyridon Papaioannou

Commander Director of Cardiology Department of Athens Naval Hospital, scientific head of the nuclear cardiology department of the hospital, scientific director of the interventional cardiology department of the Central Clinic of Athens, Greece

Spyridon Papaioannou completed his medical studies at the Aristotle University of Thessaloniki in 1990. He graduated from the Military Medical School and then studied at the Mayo Clinic in Jacksonville, Florida, USA. He finalized his specialty at the Onassis Cardiac Surgery Center. After three years of education, he was declared Doctor in Aristotle University of Thessaloniki in hypertension subjects. Then he specialized in interventional cardiology at Walsgrave Hospital in England with a scholarship from the Hellenc heart Society. All these years actively involved in organizational committee's conferences in Greece and abroad and he has over 45 research publications in the field of cardiology.

Currently he is the Commander Director of Cardiology Department of Athens Naval Hospital, scientific head of the nuclear cardiology department of the hospital, scientific director of the interventional cardiology department of the Central Clinic of Athens, member of European and American Heart Association, In parallel is while practices cardiology in private sector. He is also founder of Biomedgene Molecular Genetics Laboratory

Speakers' CVs

Professor Dr Miltiadis (Miltos) Matsagkas

Vascular Surgeon, School of Medicine, University of Thessaly, Greece

Miltiadis Matsagkas was born in Ioannina, Greece in 1963. He is currently a Professor of Vascular Surgery in the Faculty of Medicine at the University of Thessaly, working as a Vascular Surgeon at the Vascular Surgery Department of the University Hospital of Larissa based in Larissa, Greece. He is the Associate Secretary of the European Society for Cardiovascular and Endovascular Surgery (ESCVS), (May 2017-present) and the Greek Councilor of the European Society for Vascular Surgery (ESVS), (September 2018-present). He is a founding member and currently the Secretary General of the Institute for the Study and Education on Thrombosis and Antithrombotic Therapy, Greece (ISETAT), (September 2018-present) and the Director of the M.Sc. Course "Thrombosis and Antithrombotic Treatment" of the Faculty of Medicine of the University of Thessaly, (October 2018-present). Furthermore, he is the founder and current Editor in Chief of the Hellenic Journal of Vascular and Endovascular Surgery (HJVES), (April 2018-present), as well as a founding member and Vice President of the Institute of Vascular Diseases (IVD), (2010-present). He received his M.D. in 1987 and his Ph.D. with distinction in 1998 by the Medical School of Athens University, Greece. He was qualified as a Vascular Surgeon in 1998 after the end of the clinical training in surgery (3 years) and vascular surgery (4 years). Additionally, named member of the European Union of Medical Specialists (UEMS) Division and European Board of Vascular Surgery, in September 2002, and became Fellow of the European Board of Vascular Surgery (FEBVS).

Dr. Constantinides Savvas

Consultant Interventional Cardiologist at American Heart Institute, Nicosia, Cyprus.

Dr Savvas S. Constantinides graduated Leicester University Medical School in 1993 with the degree of Bachelor of Medicine and Bachelor of Surgery (MBChB). Following his training in various UK hospitals in General Medicine, General and Interventional Cardiology he was awarded the Certificate of Completion of Specialist Training (CCST) in 2006. During his training he obtained his Medical Doctorate (MD) for his research and publication of his Thesis on Interventional Treatment of Acute Coronary Syndromes. In 2012 he was elected Fellow of the Royal College of Physicians of London for his contribution in Interventional Cardiology.

Dr Savvas S. Constantinides has a special interest in Coronary Physiology, the treatment of Acute Coronary Syndromes and the Interventional treatment of Valvular Heart Disease. He has been one of the pioneers in the development and teaching of the transradial approach in coronary angiography and intervention, both nationally and internationally. He has been a member of the International Academic Board of 'The Radialist' and one of the main organisers of the Cyprus Transradial Course and the Mediterannean Cardiovascular Intervention Meetings over the previous few years.

Speakers' CVs

Professor Dr Kyriakos E. Kypreos

Chairman of the Pharmacology laboratory of the Department of Medicine at the University of Patras School of Health Sciences, Patra, Greece

Professor Kyriakos E. Kypreos received his Ph.D. in Biochemistry in 1998 from Boston University Medical School Division of Graduate Medical Sciences (Boston, MA. U.S.A). Following his graduation, Prof. Kypreos did his post-doctoral training at the Whitaker Cardiovascular Institute at Boston University Medical Center in the U.S.A (1998-2002) and at Leiden University Medical Center, Department of Human Genetics (2002-2004) in the Netherlands. In 2004 he returned to the USA where he became Instructor and in 2006 Research Assistant Professor in Medicine at Boston University School of Medicine. From 2001 to 2007 Prof. Kypreos served on the scientific advisory board of KOS Pharmaceuticals during which time he was introduced to the world of Pharmacology. In 2008, he was appointed as Associate Professor of Pharmacology at The University of Patras School of Health Sciences, Department of Medicine, in Greece, where in December 2013, he was promoted to the rank of full Professor of Pharmacology. Since September 2014, he is the Chairman of the Pharmacology laboratory of the Department of Medicine at the University of Patras School of Health Sciences. At this capacity, he established the service unit "Center for Clinical Pharmacology and Toxicology" of the laboratory aiming at facilitating precision medicine decisions. In addition to his main appointment, since September 2019 he also holds a secondary academic appointment as Adjunct Professor of Pharmacology and Metabolic Disorders at the European University Cyprus, School of Sciences, Department of Life Sciences.

Prof. Kypreos' research interests focus on the pharmacology of metabolic syndrome. In particular his team research the mechanisms underlying the development of the pathological conditions associated with metabolic syndrome with emphasis placed on the lipoprotein transport system. Ultimate goal of their studies is the identification of novel pharmacological targets and the development of lead compounds for the treatment of these conditions.Prof. Kypreos' previous research works have been featured in high profile international media including ASBMBToday.

Prof. Kypreos has been an EMBO Fellow, a Marie-Curie Fellow , and the winner of "Irvine H. Page" Atherosclerosis Research Award, offered by the ATVB council of the American Heart Association. His research activities have been funded by competitive research grants from the General Secretariat for Research and Technology, the Hellenic Foundation for Research and Innovation, the Hellenic State Scholarship Foundation, the European Community and the industry.

Prof. Kypreos is member of the editorial board of the American Journal of Physiology-Endocrinology and Metabolism, the Journal of Biomedical Research and the journal Androgens. As of Dec 1 2018, Prof. Kypreos is an elected member of the Executive Committee of the Hellenic Atherosclerosis Society (HAS), an affiliate of the European Atherosclerosis Society (EAS).

Since 2016, Prof. Kypreos is the vice chairman of the National Pharmacovigilance Committee (EFAR), the commitee responsible for the safety of medicines and vaccines for human use. Prof. Kypreos also served in the past as member of the Health Technology Assessment (HTA) committe (ΕΑΑΦΑΧ) of the Hellenic Ministry of Health, the committee responsible for evaluating all new drug applications for being reimbursed by the public health system. At present he is aso a vice editor of the high impart peer revewed journal “pharmacology”.

In addition, Prof. Kypreos has extensive teaching duties. Currently, he co-coordinates and teaches various Pharmacology courses for medical and graduate students at the University of Patras Medical School and other Institutions in Greece and abroad.

Speakers' CVs

Professor Dr Maria Konstandi

Professor and Chair in the Department of Pharmacology in the Faculty of Medicine at the University of Ioannina, Greece

Maria Konstandi was born in Thesprotiko -Preveza, Greece 1957. Currently she is a Professor and Chair in the Department of Pharmacology in the Faculty of Medicine at the University of Ioannina, Greece. She studied Pharmacy at the Aristotle University of Thessaloniki and received her PhD in Neuropharmacology at the National and Kapodistrian University of Athens. Her predominant research interests focus on the regulation of drug metabolizing enzyme systems emphasizing on the role of stress. She also investigates the potential anticancer properties of antipsychotics using in vitro and in vivo models. In the framework of her sabbatical leave, she worked as a visiting research scientist in the Department of Enzymology and Toxicology at the International Agency for Research on Cancer (IARC/WHO), Lyon, France for one and a half year (1992-1993 and 1996) and in the Laboratory of Metabolism at NCI/NIH, Bethesda, Maryland, USA for two years (2007-2009). During her 35-year academic career she has established collaborations with prestigious research institutes including the LM/NCI/NIH, Bethesda, USA, the University of Uppsala, School of Pharmacy, Uppsala, Sweden, the Karolinska Institute, School of Medicine, Stockholm, Sweden and the University of Queensland, National Research Centre for Environmental Toxicology (Entox), Australia.

Assistant Prof. Dr. Nikolas Dietis

University of Cyprus Medical School and the Head of the Experimental Pharmacology Laboratory at UCY (dietislab.org).

Dr. Nikolas Dietis is an Assistant Professor of Pharmacology at the University of Cyprus Medical School and the Head of the Experimental Pharmacology Laboratory at UCY (dietislab.org). He completed his education and training in the UK (BSc Univ.of Portsmouth, BSc Univ.of Nottingham Trent, MRes Univ.of Nottingham Trent, PhD Univ. of Leicester) and has a 5-year experience in the pharmaceutical industry sector (Janssen-Cilag, Lavipharm Hellas) and a 10-year experience in academia (University of Tasmania, Australia; University of Cyprus).

His research interests revolve around drug discovery & repurposing using target-based and disease-orientated high-throughput screenings against cellular and behavioural assays for cancer, neurological diseases, and pain. He received four research awards, including a Best Paper Award at the prestigious GLOBECOM 2020 Congress for his contributory work on the role of growing bio-nanomachine networks in glioblastoma evolution and progression. In 2018 he established the first Zebrafish Laboratory in Cyprus with the aim to use zebrafish as a model organism for toxicological, behavioural, and translational assays in drug profiling and phenotyping against human diseases.

Dr Dietis teaches Pharmacology at the MD program and Pharmacogenomics at the Masters in Precision Medicine program at UCY. He has received three Teaching Excellence Awards by the University of Tasmania, he has served as a member of the UCY Center for Teaching & Learning and has been an invited speaker and public advocate for innovation in Medical Education in numerous workshops and education conferences. He is a certified Quality Reviewer of Online Courses by Quality Matters (USA) and is currently a member of the UCY Quality Assurance Committee. He is also a member of the Technology Enhanced Learning Special Interest Group at the Association for the Study of Medical Education.

Dr Dietis is an EU-registered expert in Pharmacology, a certified Research Evaluator for Greece's General Secretariat for Research and Innovation, a registered speaker for the Young Universities for the Future of Europe Alliance (YUFE) and an Independent Evaluator at the Council of Recognition of Higher Qualifications in Cyprus (KYSATS).

Dr Dietis is also a passionate science communicator, with a vigorous public outreach profile through newspaper articles, interviews, and social media posts, that aim to engage the general public with evidence-based drug science.

Speakers' CVs

Professor Dr Christos Savopoulos

Professor of Internal Medicine, Director of 1st Medical Propedeutic Dept of Internal Medicine & Stroke Unit, Aristotle University of Thessaloniki, AHEPA University Hospital, Thessaloniki, Greece

chrisavopoulos@gmail.com; csavvopo@auth.gr

Christos Savopoulos was born in 1965 at Thessaloniki, is married and father of 2 boys. He is Professor of Internal Medicine of Aristotle University of Thessaloniki and operates in the 1st Medical Propedeutic Department of Internal Medicine at AHEPA University Hospital. He has graduated from the Medical School of Aristotle University of Thessaloniki in 1989, specialized in Internal Medicine and he continued to serve the Medical School as an Affiliated Clinical and Research Associate in the 1st Propedeutic Dept of Internal Medicine of AHEPA Hospital until his election as Clinical Lecturer in Internal Medicine in 2002. In 2001 he received the European Hypertension Specialist degree from European Society of Hypertension, and in 2002 he received his PhD, from the Medical School, Aristotle University of Thessaloniki on "Sodium-lithium counter transport activity in healthy, dyslipidemic, and hypertensive individuals'', with distinction. Since October 2010 he was offered a postgraduate appointment as Honorary Visiting Professor in the established and world-famous International Centre for Circulatory Health in Imperial College of London at St Mary's Hospital, actively participating in all Clinical and Research activities (Head: Prof Neil Poulter). During the same period, he was exposed to the Stroke Unit Clinical and Research activities in the Charing Cross Hospital and St Mary's Hospital under the instruction of Dr Diane Ames (for 6 month). In 2011 he was one of the principal establishers of a Stroke Unit in the University Hospital of AHEPA, Thessaloniki Greece and appointed as the Head of this Stroke Unit. During this period the Unit begun to offer thrombolysis treatment for the first time in this hospital. He continues collaborating with the International Centre for Circulatory Health in Imperial College of London as an Honorary Visiting Professor.

At present he is the Director of 1st Propedeutic Medical Dept of Internal Medicine & Stroke Unit and Clinical Director in the Outpatient Clinic of Internal Medicine, Excellence Center of Hypertension (recognized by ESH/ESC), Dyslipidaemia and Obesity-COM (recognized by European Society of Obesity).

He is collaborating with the University of Varna, Bulgaria, and he was awarded HONORARY DIPLOMA from Varna Rector, Prof Aneliya Klissarova. He participated in 37 research programs/projects/protocols/studies -single or multicenter trials. He is a member of 23-member advisory committee for doctoral theses, and he participated in 12 PhD Examination Committees. He is a member of 17 Greek or International Medical Scientific Societies, Associations or Working Groups.

Professor Savopoulos is a co-author in 321 full paper publications, and he has an H- index of 31 and 3.400 citations. He is an author of 31 books or book chapters or editorial support in Greek translated chapters of foreign language publications and he gave 203 lectures or oral presentations or posters in Greek and international conferences. He is a reviewer in more than 29 Greek and/or international journals and Managing Editor of the Official Journal of Internal Medicine

Society of Greece.

Professor Dr. Marios Pantzaris

Senior Consultant Neurologist, Head of Neuroimmunology Department

Cyprus Institute of Neurology and Genetic

Dr Marios Pantzaris has been trained in Neurology in 1995 inThessaloniki, Greece. He has also been trained in Carotid Duplex –Doppler ultrasonography in London, St Mary's Hospital, University College London in 1995 and in 1999 he was a visiting doctor in an acute stroke unit in Massachusetts General Hospital, Harvard University Boston, USA. Since 1995 he is working at the Cyprus Institute of Neurology and Genetics (CING) as a Senior Neurologist in the Neurological Section. He is the Head of the Neuroimmunology Department (Multiple Sclerosis and Demyelinating Disorders Center) and the Neurovascular Laboratory. He is a full acting Professor at the CING Postgraduate School.

He has a huge experience in carotids – transcranial ultrasound and he has participated in many research projects and publications in this area. He is also head of the Multiple Sclerosis (MS) clinic (Under Neuroimmunology Department) with more than 1500 patients where he is running research projects towards the aetiology and therapy of MS.

Through the Cyprus Molecular Medicine School, he is the Mentor and trainee of PhD and Master Degree students. He is also interested in movement disorders and pain. With the collaboration of the Cyprus Functional Neurosurgery team they have started (since 2012) operating patients with Parkinson disease, Dystonia and Tremor (Deep Brain Stimulation) as well as neuropathic pain (Spinal Cord Stimulation) and Intractable Urinary incontinence (Interstim). His department hosts medical students from the University of Cyprus, the European University and St George's University. He is participating in the training of Neurology

Residence (in collaboration with the University of Cyprus). He has given many lectures in the field of MS, Carotid Ultrasound, Stroke and Parkinson's disease in Cyprus and abroad.

Prof. Marios Pantzaris is one of the three scientists that founded and developed the food supplement "Neurosis plp10" for Multiple Sclerosis patients and he is currently one of the directors of PALUPA Medical Ltd, a Research ND DEVELOPMENT company. He has more than 230 published papers in a high impact peer reviewed journals and currently is involved in many research and clinical trials

Speakers' CVs

Associate Clin. Prof. Dr. Savvas Hiridis

General Surgeon in Athens Medical Center and American Heart Institute, Nicosia, Cyprus, and Ass. Clin. Prof. with the Nicosia University Cyprus

Dr Savvas C.Hirides is a General Surgeon and Clinical Assistant Professor of Surgery. He was born in Athens, Greece and has family roots from Kaimakli,Nicosia, Cyprus, as well as CypriotCitizenship. He studied medicine in English at Charles University, Prague, Czech Republic for 6 years. He worked as a surgical resident in Children's Hospital "P.A.Kyriakou", in General StateHospital "G.Gennimatas" and in General State Thoracic Pathology Hospital "Sotiria" and received extensive training in the whole spectrum of classic "Open" General Surgery, Emergency and Trauma Surgery, Thoracic Surgery and Basic Laparoscopic Surgery.

Dr.Hirides is the first Cypriot Robotic Surgeon. He subspecialized in Robotic Surgery and advanced laparoscopy in the General, Laparoscopic, Robotic and Bariatric Surgical Clinic of Athens Medical Center (Director: K.M.Konstantinidis).From January 2007 till August 2017, Dr.Hirides actively participated in the First Greek Robotic Surgical Program in the country, while at the same time he completed his training in Advanced Laparoscopy, Robotic Surgery and Bariatric Surgery in centers of excellence around the world (Strasbourg, Grosseto, Houston, Los Angeles, New York, Buenos Aires). His total surgical experience overcomes the number of 3500 patients. In addition, he attended the postgraduate program on Laparoscopic and Robotic Surgery in Athens Medical School, Kapodistrian University of Athens and received the title "Master of Science" (MSc) in 2010. He received his PhD in 2016 with completion of his research in Metabolic Surgery (surgical correction of diabetes mellitus type II) in the experimental lab with porcine models from the Medical School, Kapodistrian University of Athens (Hippocrateon Clinic, Prof.G.Zografos).

He has published in international as well as local journals and has contributed as an author innumerous medical books. He attends most of the large international surgical meetings andoccasionally participates as a speaker in Europe (Seville, Geneve, Verne, Prague, Stocholm), USA (Quebec, Chicago, San Diego) and Asia (Beijing). He has been lecturing in University of Nicosia since 2018.

He is a fellow of the American College of Surgeons, member of European Association for Endoscopic Surgery, SEERSS (European Robotic Association), International Federation of Obesity and Metabolic Surgery (IFSO), and Hellenic Surgical Society. In December 2009, he was voted General Secretary of Hellenic Scientific Society of Robotic Surgery and he held this position till March 2018. In November 2011 he was elected Executive Secretary of the European Society for Robotic Surgery (SEERSS) and actively participates in the organizing committee of its meetings. In May 2011, he participated in the organization of the 6th International Congress of Robotic Surgery (MIRA) as a Co-Chairman of the Scientific Program with Dr.Ivo Broeders. Today he works as a General Surgeon in Athens Medical Center and Hippocrateon Private Hospital and performs Laparoscopic and Robotic operations from all the spectrum of General Surgery. His interests focus in research on diabetes surgery, future surgical technology, microrobotics, and Intraoperative Navigation Systems (Augmented Reality Robotic Surgery).

Dr. Timoleon F. Terzis

Director of Otorhinolaryngology Department and Head of Athens Rhinology Center, at Athens Medical Center in Greece.

He has graduated from the Aristotle University of Thessaloniki and the Military Medical Academy of Greece in 1982. He is holding a PhD degree from the Kapodistrian University of Athens. His specialty training in Otorhinolaryngology was initiated at the Athens Naval and Veterans Hospital, continued at the University ENT department of Hippokration Hospital, Athens, and concluded in various training posts in the UK, in 1992. Although his major special interest during the late training years was Otology and ear microsurgery, Dr Terzis was one of the first surgeons who initiated, developed and helped in the popularization of Endoscopic Sinus Surgery in Greece. Since 2005, he has contributed as organizer, training coordinator or faculty member in more than 45 Rhinology Courses and Seminars in Greece and abroad and has presented 280 invited lectures in various educational events and conferences. He is regular member of faculty in three Postgraduate Programs in Greece. He is past President of the Hellenic Society of Rhinology & Facial Plastic Surgery and has been honored for his contribution in the development of Rhinology in Poland and Romania. He is currently Director of Otorhinolaryngology Department and Head of Athens Rhinology Center, at Athens Medical Center in Greece.

Speakers' CVs

Dr. Alexis Papadopoulos

Consultant in Respiratory Medicine

Current President of Cyprus Respiratory Society

Dr Alexis Papadopoulos is a Respiratory Consultant with an interest in Interstitial Lung Diseases (ILD), who was born in Nicosia, Cyprus.

He graduated from University of Athens (Greece) in 2004 and followed a medical training in Greece and Cyprus. He holds a Master's degree from the University of Nottingham on Management of Critically Ill patients. Between 2014 and 2017, he was appointed to the position of Respiratory Consultant at Weston General Hospital (North Somerset, UK) and Nicosia General Hospital (Cyprus). He has a particular interest in European Respiratory Society's (ERS) activities, attending several ERS schools and successfully gaining the European Diploma in Respiratory Medicine in 2016. In 2017, he moves back to UK to work at the Oxford University Hospital NHS Trust, where he completes a Clinical Fellowship in Interstitial Lung Disease. Upon completion of this fellowship, he was appointed as a Respiratory Consultant with a special Interest in Interstitial Lung Disease at the University of South Manchester Hospitals NHS Trust (Wythenshawe Hospital) until 2019.

During his medical career, Dr. Papadopoulos has participated in various seminars and workshops, received two abstract awards during European Respiratory Society's annual congresses, performed various presentations on respiratory topics in several hospitals and institutions and participated in numerous audits and quality improvement projects. He has published several articles in local and European medical journals and he is also a member of different medical societies, namely European Respiratory Society (ERS), British Thoracic Society (BTS), American College of Chest Physicians (ACCP) and the World Association of Sarcoidosis and Other Granulomatous diseases (WASOG).

Professor Dr Loizos G. Loizou

Clinical Professor of Pediatrics, Pediatric Oncology – Hematology, Medical School, University of Nicosia Fmr. Director of the Pediatric Oncology - Hematology Clinic, Archbishop Makarios III Hospital, Nicosia President of the ELPIDA Foundation for children and adolescents affected by cancer or leukemia.

Loizos G. Loizou, after his studies in Medicine in Brussels, Belgium and his specialization in Pediatrics, and Pediatric Oncology - Hematology in Strasburg and Nancy in France, was invited by the Minister of Health of Cyprus in 1989 to return to Cyprus and undertake the establishment and operation of the Pediatric Oncology - Hematology Department at the Archbishop Makarios III Hospital, which he runs till today.

He is the founder of Pediatric Oncology-Hematology in Cyprus. He undertook the training of the medical nursing, in order to create the entire necessary infrastructure to provide the best possible care for the cancerous and leukemic children. In November 1996 he was in charge of the team of doctors who carried out the first bone marrow transplantation in Cyprus, writing a new chapter of historical importance for medicine in Cyprus. Additionally, this team created the first modern leukemia diagnostics laboratory and the first cryopreservation facility in the country for storing pluripotent umbilical cord and bone marrow stem cells at the Archbishop Makarios III Hospital in Nicosia. Since 1990 he established the first ever cancer registry in Cyprus, the Pediatric Oncology Registry of Cyprus (PORCY), which was initially and till 1998 a hospital-based registry. After the creation of the Cyprus National Cancer Registry in 1998, the PORCY was further developed and became a population-based childhood and adolescent cancer registry.

In 1990 he created and is the President of the ELPIDA Foundation for Children with Cancer and Leukemia (a nongovernmental charity organization) to strengthen and support the medical and social efforts to create the modern infrastructure for the care of children, adolescents and young adults affected by cancer and offer them the best possible therapies and overall management.

Prof. Loizou, with his unique experience of 37 years of exclusive clinical occupation with childhood cancer and leukemia, continues his clinical and research work in descriptive epidemiology, survivorship issues, cancer predisposition syndromes and trials including new anticancer agents, with innovative and pioneering actions for improving the survival rates and quality of life of children and adolescents with cancer or leukemia, as well as in general, to fight the scourge of cancer

Speakers' CVs

Dr. Dimitris Vomvas

Director of Radiation-Oncology and Nuclear Medicine at the Bank of Cyprus Oncology Centre in Nicosia

Dr Dimitrios Vomvas MD, Ph.D, is Director of Radiation-Oncology and Nuclear Medicine at the Bank of Cyprus Oncology Centre in Nicosia, a post he has held since February 2023. He joined the Bank of Cyprus Oncology Center as a Consultant in Radiation-Oncology in December 2009. He obtained his medical degree from the University of Thessaly Medical School and his Ph.D. thesis from the University of Patras Medical School.

Dr Vomvas completed his training in radiation oncology at the University Hospital of Patras in 2008. He is an active researcher and has participated in a number of studies as well clinical trials. Dr Vomvas's main clinical interests include prostate, head-neck and lung cancer. He has published his work in a number of peer-reviewed international journals. Dr Vomvas is an active supporter of cancer patient's groups, focusing on education, prevention, and early cancer diagnosis. From February 2022 he is a board member and treasurer of the Cyprus Oncology Society

Professor Dr. Konstantinos Dimas

Department of Pharmacology, School of Medicine, University of Thessaly, Greece.

Dr. Konstantinos Dimas is a Professor at the Department of Pharmacology of the Medical School of the University of Thessaly (UTH), of which he currently is also the Director. Prior to his appointment at the University of Thessaly, he was a researcher at the Laboratory of Pharmacology of the Biomedical Research Foundation of the Academy of Athens. He received an STA (Special Training Award) fellowship from the International Agency for Research on Cancer (IARC), a member of the World Health Organization (WHO), which allowed him to join the Molecular Carcinogenesis Unit of the Organization from October 2001 to December 2002. He has collaborated and still collaborates with numerous universities and research institutes, most recently with the National Cancer Institute (NCI, NIH, USA), as well as with biotechnology companies in Greece and abroad. He is actively involved in many undergraduate, postgraduate, and PhD theses. He has also been a member of the scientific/steering committee or as an invited speaker in many Greek and international scientific conferences. He is the author or co-author of >110 original papers published in peer-reviewed international journals in the field of pharmacology and cancer, more than 10 book chapters, and 5 patents with more than 3300 references and h-index 35 (Scopus, accessed September 2023). He has received research funding of more than 600000€, is a member of several scientific societies such as EACR and the Hellenic Society of Pharmacology, a member of the editorial board, and a reviewer of several prestigious international scientific journals (Science Advances, Scientific Reports, Molecular Oncology, Biochem. Pharm., Int. J. of Cancer, JPET, Cancer Research, Carcinogenesis, etc.). He has participated in research project evaluation committees for GET, UICC, and Croatian Science Foundation. His research interests focus on the study and development of new anti-cancer drugs, mainly from natural sources (e.g., plant derivatives), the study of novel inhibitors of p90 ribosomal S6 kinase, the development of novel sigma receptor antagonists as potential targeted cancer therapies and finally the development of novel improved animal models of cancer (mainly human xenografts in immunocompromised mice).

Speakers' CVs

Dr. Florita Poulakaki

Director of the Breast Clinic, Athens Medical Center, Vice President Europa Donna,

The European Breast Cancer Coalition, President Build a Bridge Foundation

Dr.Fiorita Poulakaki graduated from the Medical School of the Aristotle University of Thessaloniki. During her residency as a General Surgeon at the University Hospital "Aretaeion" in Athens she has been working in the breast unit at the same hospital. At that time she completed her PhD thesis at the Medical School of the Kapodistrian University of Athens.

After completing her residency, she continued her training in breast surgery at the breast clinic of St Mary's Hospital, London. There she was trained in the whole range of oncoplastic techniques of breast surgery and especially in immediate reconstruction after mastectomy. She specialized in the detection and biopsy of the sentinel node biopsy by attending the full course of the Royal College of Surgeons of England & University College (UCL) in London. Upon her return to Greece, she started her collaboration with the University Gynecological Clinic of "Attikon" General Hospital, working as Head of the breast unit until 2017, holding the title of Lecturer P.D. 407/80. Since February 2005 she has developed Breast Clinics at various Private Hospitals.

Since November 2021 she has been appointed to establish the breast clinic of Athens Medical Center (Maroussi clinic). She has been BRESO (European Certification in Breast Surgical Oncology) and CEBS (European Board of Surgical qualification on Breast Surgery) certified. In November 2019 she was elected to the board of directors of EUROPA DONNA, The European Breast Cancer Coalition and currently serves as Vice President.

Professor Dr Achilleas Gravanis

Professor of Pharmacology, School of Medicine University of Crete

Researcher IMBB-FORTH; Affiliated Research Professor, Center of Drug Discovery, Northeastern University

Achilleas Gravanis is Professor of Pharmacology Medical School University of Crete and Researcher at the Institute of Molecular Biology & Biotechnology-FORTH. He served a member of the Biomedical Research Program Committee of European Commission, member of the Council of the Higher Education Quality Assurance Authority (ADIP) and President of the Sectional Committee of Life Sciences Hellenic National Research & Technology Council. He was also Member of the Scientific Council of the Hellenic Research & Innovation Foundation (ELIDEK), responsible for Life Sciences. Associate Research Professor at the Center for Drug Development, Northeastern University, Boston. Co-founder and scientific partner of the biotechnology spinoff companies Bionature and ReNeuroCell. Chair of International Scientific Advisory Board Athens LifeTech Park. Venture partner of BigPi Ventures. His research group is developing synthetic compounds, agonists of neurotrophin receptors, with neuroprotective and neurogenic properties and potential applications in therapeutics of neurodegenerative diseases. Additionally, his group is focusing on 3D microscaffold bioengineering and neural stem cell technologies to develop neuroimplants for spinal cord injury and neurobiosensors for drug discovery.

Speakers' CVs

Professor Dr Charalampos Grassos

Director of Cardiology Dept in General Hospital in Athens "KAT"

He serves as Director of Cardiology Department in General Hospital in Athens "KAT". He is a Head of Hypertension unit in the same Hospital –Excellent Center of European Society of Hypertension. After graduating from the Medical Faculty of University of Patras in1986, he continued his postgraduate studies in Bolton University where he completed PhD course in 2011 and in 2014 elected as Visiting Professor in the University of Bolton. In 2006, he completed successfully the European Master in Hypertension in the University of Brescia Italy and the Hellenic Society of Hypertension. He attended the Hypertension Summer Schools in Brescia (2004). Also, he serves as President of Hellenic Society of cardiovascular Protection and elected member of the board of Hellenic society of Cardiology. His main research interest focuses on Hypertension and preventive cardiology and stroke prognosis. He participates in observational studies and randomized controlled trials of hypertension as National coordinator or Principal Investigator. He is author of >100 articles in peer-reviewed journals like Hypertension, BMJ, Blood Pressure, Circulation, Atherosclerosis. He is currently assigned as a member of the examination committee for the diploma of specialty in cardiology in Greece. Dr Charalampos Grassos is an Adjunct Professor of the School of Medicine, European University Cyprus since 2018. Furthermore, he has been assigned as a member of the cardiology specialists selection committee for the national Health system in Greece -ΕΣΥ, for the period 2022-2223.

Professor Dr. George Paxinos

NHMRC Senior Principal Research Fellow at Neuroscience Research Australia and Scientia Professor at The University of New South Wales.

Constantinos Deltas studied Pharmacy at the National Kapodistrian University of Athens. He received his PhD in Biochemistry and Biomedical Sciences at Rutgers University, the State University of New Jersey, USA. In 1991, while at the Duke University Medical Center, NC, USA, he was invited by Dr Lefkos Middleton to return to Cyprus and be amongst the first nucleus of scientists who established and developed the Cyprus Institute of Neurology and Genetics.

He is Professor of Genetics at the University of Cyprus since 2002, first at the Department of Biological Sciences where he was the first faculty and Chairman and then at the Medical School. He is directing a research lab with special interest in inherited disorders, developing molecular genetics, cell biology and animal model projects. With external competitive funding he was the first to establish a Biobank for genetic disorders in Cyprus, in 2011. More recently, with EU and national funding, he is founder and Director of biobank.cy, a Research and Innovation Center of Excellence, focusing on Biobanking and Biomedical Research, at the University of Cyprus. Amongst others he is leading the Cyprus Human Genome project, aimed to 1000 Cypriot genomes, at first phase. He published more than 150 papers and presented his work in multiple international conferences as invited speaker. In 2014 he was honoured with the Cyprus Research Award-Distinguished Researcher 2014, which is awarded to researchers with long standing experience in Cyprus and who have demonstrated outstanding research achievements with local and international impact, honouring Cyprus.

Amongst others, Prof. Deltas is appointed Member of the International Society of Nephrology (ISN) Eastern and Central Europe Regional Board, appointed by the Government Cabinet as member of the Cyprus National Bioethics Committee, elected Vice-Chair of the Cyprus Atherosclerosis Society and a member of the Scientific Committee of the Cyprus Anticancer Society.

Speakers' CVs

Assistant Prof. Dr Zoi Pana

Pediatrics, Epidemiology and Infectious Diseases; School of Medicine, European University Cyprus, Nicosia Cyprus

Zoi is a Specialist in Pediatrics, Faculty Member at the European University and Member of the CERIDES EUC innovation center. Zoi specialized in Epidemiology, Infection Control and Antimicrobial Stewardship at the Johns Hopkins Hospital USA (HEIC Department, JHH). Zoi has worked with the Armstrong Institute at JHH in projects related to patient safety and quality improvement in health. She holds two MSc (Masters), one in Medical Research Methodology (AUTH, GR), and one in Nanotechnology (AUTH, GR) and a PhD in infectious diseases in immunocompromised children with leukemia. She has received the European Infectious Diseases Society Fellowship Award in 2017 and she is currently active member of several European Committees and Expert Guideline Groups in infectious Diseases (ECMM, ECIL8, ESPID, IPFN, ESCMID, C4C). She is reviewer in several peer review international journals, and she has more than 60 publications in international Journals.

Zoi is a Scientific member of the COVID-19 National Committee tant at the Ministry of Health in Cyprus and Scientific Consultant of the Minister of Health. Last year she became Member of the European Confederation of Medical Mycology (ECMM) and Member of the Steering Board of the European Hematology Association. The EUC team together with Greek collaborators will coordinate the advanced module for Infection Control and Stewardship for the period 2022-2024 for ESCMID (European Society of Microbiology and Infectious Diseases). Zoi is representing Cyprus at the EU scientific advice platform on COVID-19 under the auspices of the European Commission. Zoi is participating in several EU COVID-19 projects, and she is the National Coordinator and Work Package Lead for the COVID-19 EU Horizon program VACCELERATE, the pan European Vaccine Trial Network that aims to provide a single-entry point for vaccine clinical research in Europe under the HERA initiative.

Professor Dr Eleni Arnaoutoglou

University Hospital of Larissa and Professor of Anaesthesiology in the Medical Department of School of Sciences, University of Thessaly

Professor Eleni Arnaoutoglou is Director of the Department of Anaesthesiology in University Hospital of Larissa and Professor of Anaesthesiology in the Medical Department of School of Sciences of University of Thessaly. She received her Doctor of Medicine degree at the University of Patras and completed her residency in Anaesthesiology at the University of Ioannina.

Professor Arnaoutoglou's research interests include perioperative antithrombotic management, postoperative cognitive dysfunction, and inflammatory response after procedures and minimal opioid anaesthesia.

She has 82 Publications in PubMed, 1098 citations with an h-index of 15, 77 presentations in International Congresses, 45 abstracts in International Journals and 4 Chapters in International Scientific Books. She also has been an Invited Speaker in 138 Greek Congresses and in 53 International ones, and as a Chair in 75 Scientific Sessions.

She is Secretary for the ISETAT (Institute for the Study and Education on Thrombosis and Antithrombotic Therapy) and a member of the working group of the IVD (Institute of Vascular Diseases).

Speakers CVs

Dr. Alfred Barich

President of Hellenic Society for Integrative Oncology

Chairman Scientific Advisory Board to Hellenic Society for Hyperthermic Oncology; AHEPA University Hospital/Euromedica/Thessaloniki Oncothermia Center

Graduate of Aristotelian University Medical School. Specialty Training in Theagenio Cancer Hospital and Post Graduate MD Anderson Oncology Hosp. Houston,Texas. He is a Doctor of Medicine, Surgeon-Oncologist, President of the Hellenic Society for Integrative Oncology, AHEPA P. Supreme Governor Europe and a Founding Member and Board Member of Hellenic Oncology Research Group(H.O.R.G.); Head of Research Protocols in Northern Greece for H.O.R.G.

Member of the Board of Directors and Comptroller of AHEPA University Hospital(700 bed capacity) representing the Organisation that built the hospital(AHEPA) since 2001. Appointed Chairman of Development Committee (developed the new Oncology Dept. and upgraded the Radiation Dept. Equipment [VARIANT LINACs]etc.). Appointed Liason for Greece for Hellenic Relief Committee, President of Hellenic Society for Integrative Oncology, Vice President of Hellenic Society for Hyperthermic Oncology, Chairman of Scientific Advisory Board to Hellenic Society for Hyperthermic Oncology.

Head of Integrative Oncology Dept. Gen. Clinic /Euromedica (now), Frm. Director Oncology Dept. Galinos Hospital(1999-2009), Frm. President of CRYOMED and CRYODENT(CRYOMED is a State of the Arts Stem Cell Processing , Preservation , R&D laboratory(from 2009- 2013), Chairman of CRYOMED Scientific Advisory Board, Frm President Board of Directors of «Pinewood International Schools»(1990-1999), Member U.S. Consulate Roundtable (Thessaloniki Greece), Chairman of Scientific Advisory Board and Vice President of Hellenic Society of Hyperthermic Oncology (2013-now), Member of New York Academy of Sciences, Member of American Association for Advancement of Sciences, Member of American Association of Clinical Oncology and many others, He is Co-Editor of "JOURNAL OF CANCER PREVENTION AND CURRENT RESEARCH", Organizing Committee for European Convention ESHO 2017, Scientific Committee for European Convention ESHO 2017 and Member of Organizing Committee for Convention of the International Clinical Hyperthermia Society(ICHS) 2019.

Dr. Aristides Anastasakis

Scientific Director in the Unit of Inherited and Rare Cardiovascular Diseases, Onassis Cardiac Surgery Centre

Dr. Aristides Anastasakis, MD, PhD, is a consultant cardiologist specialized in Inherited and Rare Cardiovascular Diseases. He was trained in Athens and London. He holds a Degree in Medicine and his PhD thesis was in the field of cardiomyopathies. Since 1997, is dynamically involved in the area of inherited cardiovascular diseases ("Pheidippides" program 1997 – 2004, EKKAN 2004 – 2017) and now holds the position of Scientific Director in the Unit of Inherited and Rare Cardiovascular Diseases, Onassis Cardiac Surgery Centre. He has been a member of ESC Task Force in Sports Cardiology (2004 – 2008) and an elected nucleus member of ESC Working Group on Myocardial and Pericardial Diseases (2012 – 2016). He represented Greece (2015 – 2017) in EUCERD (European Union Committee of Experts on Rare Diseases) and is an elected President (2018 – 2020) on Cardiomyopathy and Inherited cardiovascular diseases working group of the Hellenic Cardiac Society, as well as the President (2017 – 2020) of the National Council of Rare Diseases in Greece. He has been awarded with several grants and actively involved in international research projects (such as HCM Investigator Outcomes). Dr. Anastasakis has a significant volume of publications in international scientific journals, chapters in medical books and is the editor of the textbook "Heart diseases in adolescence". He is also a Board member for various scientific journals such as Hellenic Cardiac Society Journal, Cardiogenetics and Echo Research. Currently, he is the coordinator of National Network in Precision Medicine in Cardiology.

Speakers' CVs

Associate Prof. Dr Carsten Werner Lederen

Laboratory Scientific Officer, Molecular Genetics Thalassaemia Department

The Cyprus Institute of Neurology and Genetics & The Cyprus School of Molecular Medicine

Dr Lederer received his PhD from the University of East Anglia, Norwich, UK. He now holds the position of Scientist at the Molecular Genetics Thalassaemia Department of the Cyprus Institute of Neurology and Genetics (CING), where he heads the MGTD Gene Editing and Therapy unit. Dr Lederer is Associate Professor and course coordinator at the Cyprus School of Molecular Medicine, associate editor of Frontiers in Genome Editing and MDPI Genes, executive board member of the Global Globin Network, member of the core-development team of the ITHANET Portal, member of the ClinGen-recognised Haemoglobinopathies Variant Curation Expert Panel, board member of the Hellenic Society of Gene Therapy and Regenerative Medicine, and president of the Cyprus Society of Human Genetics. His current research focus is model development for haematopoietic disorders, investigating the role of miRNAs in erythropoiesis, and gene therapy of β-haemoglobinopathies and particularly of β-thalassaemia by three different approaches: (i) mutation-specific RNAi-supplementation of gene addition, (ii) genome editing of disease modifiers, and (iii) homology-independent gene repair.

Assistant Prof. Dr. Annita Acheleos

Assistant Professor of Embryology and Histology, Department of Clinical and Basic Sciences, University of Nicosia Medical School

Dr. Achilleos obtained her BSc with Honors in Biology from the University of Massachusetts in Amherst and completed her MSc as a Fulbright Scholar in Cell Biology at New York University School of Medicine followed by a PhD in Developmental Genetics from New York University School of Medicine. She then completed a postdoctoral fellowship at the Stowers Institute for Biomedical Research in the lab of Dr. Paul Trainor in Kansas City, MO, after which she was a Research Associate at Baylor College of Medicine in Houston, TX, in the lab of Dr. Ross Poché. She is currently an assistant professor of embryology and histology at the University of Nicosia Medical School since 2021.

Dr. Achilleos is a developmental biologist interested in the complex processes that control the intricate development of the craniofacial skeleton. Her work has focused on neural crest cells, a multipotent cell population that gives rise to the majority of the craniofacial skeleton during embryogenesis. As a postdoctoral fellow, she has used mouse and zebrafish models to study the pathophysiology of human craniofacial disorders including Treacher Collins syndrome and she has recently discovered a novel role for the transcription factor Ronin in craniofacial development and ribosome biogenesis.

She is currently in the process of establishing a zebrafish facility, the first animal research and educational facility at the University of Nicosia Medical School. She is planning to use zebrafish as the main model organism of her research program, focusing on neural crest cells and their role in human craniofacial development and disease.

Speakers' CVs

Dr. Kyriakos Yiangou

Consultant Cardiologist

Kyriakos Yiangou graduated from the medical school of the University of Athens – Greece in 2002 and completed his specialty in Cardiology in 2010, having subspecialized in Echocardiography.

In 2018, he completed an MSc in Sports Cardiology from St. George's University of London under Professors Sanjay Sharma and Michael Papadakis.

He holds an MSC in Heart Failure, Cardio-Oncology and Cardiac Rehabilitation from Thessaly University (2022) and completed an executive MSc on Health Economics from the London School of Economics (LSE), after being granted from the European Society of Cardiology.

Dr Yiangou is a fellow of the European Society of Cardiology, the American College of Cardiology and the European Association of Cardiovascular Imaging and served from various national and international leadership positions.

He authored or co-authored various indexed articles and is a reviewer in several cardiology journals.

Professor Dr. Philip Calder

Head of Human Development & Health and Professor of Nutritional Immunology within Medicine at the University of Southampton.

Philip Calder is Professor of Nutritional Immunology and Head of the School of Human Development and Health, Faculty of Medicine, University of Southampton. He is an internationally recognized researcher on a) nutritional immunology; b) the metabolism and functionality of fatty acids with an emphasis on the roles of omega-3 fatty acids. He has received many awards and prizes including the Normann Medal (German Society of Fat Science; 2009), ESPEN's Cuthbertson Lecture (2012), the Ralph Holman Lifetime Achievement Award (American Oil Chemists' Society; 2015), the prestigious Danone International Prize for Nutrition (2016), the DSM Lifetime Achievement Prize in Human Nutrition (2017), the European Lipid Science Award (2021) and the Stephen S. Chang Award (American Oil Chemists' Society; 2023). He was President of the International Society for the Study of Fatty Acids and Lipids (2009-2012), Chair of the Scientific Committee of ESPEN (2012-2016), President of the Nutrition Society (2016-2019) and President of ILSI Europe (2019-2021). He is currently President of the Federation of European Nutrition Societies. He was Editor-in-Chief of the British Journal of Nutrition (2006-2013) and is currently Associate Editor of several journals and Co-editor of the Lipid metabolism and therapy section of Current Opinion in Clinical Nutrition and Metabolism. He has over 800 scientific publications and is listed as a Highly Cited Researcher.

Speakers' CVs

Dr. Christos Eftychiou

Assistant Director of Cardiology

Interventional Cardiologist and Assistant director of Cardiology Department, Nicosia General Hospital. His duties include Percutaneous Coronary Interventions (PCI) including Primary PCI and complex coronary interventions, transcatheter structural heart interventions (TAVI, mitral and tricuspid valve transcatheter edge to edge repair and ASD/PFO closure).

He graduated from the Medical School of National Kapodistrian University of Athens and completed his training in Cardiology in hospitals in Greece and Cyprus. His PhD topic was "Associations of MTHFR mutations and hyperhomocysteinemia in young men with myocardial infarction".

He was a fellow in Interventional Cardiology in Leeds General Infirmary, in 2010-2011, after winning a training grant awarded by the EAPCI of the European Society of Cardiology.

Christos is a Scientific collaborator of the Medical School of University of Cyprus and an instructor and course director of the European Resuscitation Council for the Advance Life Support (ALS) courses.

Professor Dr. Konstantinos Tsioufis

1st Department of Cardiology, University of Athens, Hippokration Hospital, Greece

Konstantinos Tsioufis is Professor of Cardiology and Director of the 1st Department of Cardiology, University of Athens, Hippokration Hospital, Greece. Prof Tsioufis works as an interventional Cardiologist and Hypertension Specialist. He has special interest in cardiorenal disease, heart failure, hypertension, neuromodulation and peripheral arterial disease. He was a post-doctoral fellow at the Veterans Affairs Medical Centre, Georgetown University Washington DC, USA. He has more than 760 publications in peer-reviewed Journals, H-index> 64, more than 16000 citations. Member of the Task Force for the 2018 ESC/ESH hypertension guidelines, 2021 ESC guidelines on CV prevention and for the 2023 ESH hypertension guidelines. He is currently associated Dean of the Medical school of the Athens University and he has served as President of European Society of Hypertension (2017-19) and President of the Hellenic Society of Cardiology (2016-18).

Speakers' CVs

Professor Dr. David Khayat

Former President of the National Cancer Institute, Professor of Medical Oncology, Bizet Clinic, Paris, France

David Khayat is Professor of Medicine, Medical Oncologist at the Clinic Bizet in Paris. He was Head of Medical Oncology at the Hospital Pitié-Salpêtrière for 28 years, Paris, France. Professor Khayat gained a Master of Science in tumour immunology from the University of Paris and went on to complete his PhD in tumour immunology at the University Pierre and Marie Curie, Paris. In addition to his current position, he is also Adjunct Professor of Medicine in the Department of Breast Diseases at the MD Anderson Cancer Center, University of Texas, Houston, United States. He was the President of the French National Cancer Institute from 2004 to 2006. He was member of the ASCO Board Directors (2014-2018).

In 1998, he organised the French Federation of Medical Oncologists (FFOM) and was elected its first President, a post he held until 2001. He set up the Master of Excellence of Medicine in Oncology programme. Professor Khayat was one of the organisers of the World Summit Against Cancer, 2000 and 2001, and the Charter of Paris Against Cancer, 2000, both at UNESCO.

He is Professor Emeritus of several institutions, including the Suzhou Institute for Onco-haematology in China, the Matsumoto University in Japan and the Heraklion University in Greece was elected in 2011 as Full Member of Russian Academy of Sciences. Professor Khayat received the American Association for Cancer Research public service award in 2000. He received the ASCO distinguished Achievement Award in 2011. He is also Commander of British Empire (CBE) and Officier de la Légion d'Honneur in France.

He was a member of several editorial boards and was the associate editor of the Journal of Clinical Oncology.

Dr. Andri Miltiadou

Karaiskakio Idryma

Dr Miltiadou has graduated her BSc in Biology in Aristotle University of Thessaloniki and MSc in Imperial College London on Human Molecular Genetics. Since 2010 she has been working at Karaiskakio Foundation for the diagnosis of rare diseases.

Speakers' CVs

Professor Dr. Antonis Kakas

University of Cyprus, Computer Science and Biomedical Research Center

Antonis C. Kakas is a Professor at the Department of Computer Science of the University of Cyprus. He studied Mathematics at Imperial College, London and then obtained his Ph.D. in Theoretical Physics from the same college in 1984. His interest in Computing and AI started in 1989 under the group of Professor Kowalski. Since then, his research has concentrated on computational logic in AI with particular interest in argumentation, abduction and induction and their application to machine learning and cognitive systems. He has co-developed at the UCY the argumentation system of GORGIAS which has been applied to a wide range of problems in multi-agent systems and cognitive agents. With others he has proposed, Argumentation Logic, as a logic that offers a new perspective for logic-based Explainable AI. Currently, he is working on the development of a new framework of Cognitive Programming that aims to offer an environment for developing Human-centric AI systems that can be naturally used by developers and human users at large. With his students and collaborators, he is developing two new systems, COGNICA and ELMA, for automated cognitive reasoning and explainable machine learning respectively, as support tools for the framework of Cognitive Programming. He has served as the National Contact Point for Cyprus in the flagship EU project on AI, AI4EU. He has recently co-founded a start-up company in Paris, called Argument Theory, which offers solutions to real-life application decision taking problems based on argumentation technology.

Professor Costas Pattichis

University of Cyprus, Computer Science and Biomedical Research Center

Constantinos S. Pattichis is Professor with the Dep. of Computer Science and Director of the Biomedical Engineering Research Centre at the University of Cyprus and Leader of HealthXR Smart, Ubiquitous, and Participatory Technologies for Healthcare Innovation in the CYENS Centre of Excellence. He has 30 years of experience in eHealth, mHealth, medical imaging and health systems. He has been involved in numerous projects in these areas funded by the EU and other bodies with a total funding managed close to 19 million Euros. He has published 148 journal publications, 253 conference papers, and 30 chapters in books in these areas (no. of citations more than 12200, h-score 53). He is technical leader of the implementation of the covid platform, the cross-border eHealth services platform for Cyprus and the FHIR based eHealth4U platform. He is a Fellow of IEEE, IET, International Academy of Medical and Biomedical Engineering (IAMBE) and European Alliance for Medical & Biological Engineering & Science (EAMBES).

Speakers' CVs

Professor Dr. Paul Friedman

Norman Blane & Billie Jean Harty Chair, Mayo Clinic Department of Cardiovascular Medicine

Paul A. Friedman, M.D., is the Norman Blane & Billie Jean Harty Chair, Mayo Clinic Department of Cardiovascular Medicine Honoring Robert L. Frye, M.D. Dr. Friedman is a consultant in the Division of Heart Rhythm Services with a joint appointment in the Department of Physiology and Biomedical Engineering. He previously served as medical director for the Mayo Clinic Center for Connected Care. He joined the staff of Mayo Clinic in 1998 and holds the academic rank of professor of medicine, Mayo Clinic College of Medicine and Science. Dr. Friedman is recognized with the distinction of the Edward W. and Betty Knight Scripps Professorship in Cardiovascular Medicine in Honor of George M. Gura, Jr., M.D.Dr. Friedman earned his B.S. and B.A. at the University of Texas and his M.D. at Stanford University. He completed an internship in internal medicine at the University of Washington, a residency in internal medicine at Stanford University, and fellowships in cardiovascular medicine and cardiovascular electrophysiology at MayoClinic School of Graduate Medical Education. Dr. Friedman's research has focused on nonpharmacologic therapy for the treatment of arrhythmias. He has been energetic in bringing new procedures and techniques into practice, in collaboration with colleagues in cardiovascular medicine and surgery. He has been the recipient of multiple NIH grants and has been the principal investigator on multicenter international studies. Dr. Friedman has contributed to over 40 patents pertaining to medical devices, signal processing, remote monitoring, valvular heart disease, ablation, pacing,defibrillation, epilepsy treatment, and the application of artificial intelligence (AI) to medicine. He has built a team that has brought AI into cardiovascular medicine and completed clinical trials of AI in medicine. Hecontinues to create new AI tools to improve the diagnosis and treatment of cardiovascular diseases. Dr. Friedman has given numerous invited presentations to both national and international audiences and is a prolific author of articles, books, book chapters, editorials, abstracts and letters. He serves on the editorial boards of European Heart Journal – Cardio Plus, Heart Rhythm O2, and Mayo Clinic Proceedings: Digital Health. He has also participated in journal review activities for Circulation, The Lancet, Journal of the American College of Cardiology, and Annals of Internal Medicine, among others. During his training and career, Dr. Friedman has received many awards and honors, which include naming as a Minnesota Top Inventor and being recognized with the Innovation-Bright Idea, Department of Medicine Allied Health Recognition Award at Mayo Clinic. In addition to his clinical and research activities, Dr. Friedman has contributed extensively to education through curriculum and course development and teaching. He holds teaching/examining privileges in Clinical and Translational Science at Mayo Clinic Graduate School of Biomedical Sciences. He is a frequent visiting professor and lecturer at educational meetings. Dr. Friedman has also served in positions for professional organizations, including the American College of Cardiology, American Heart Association, Minnesota Medical Association, and Heart Rhythm Society.

Professor Dr Iordanis Karagiannidis

Chief Scientific Officer of Athos USA company

Dr. Iordanis (Jordan) Karagiannidis joined Athos since its inception and after he accumulated experience in drug development as an executive in the private sector and as faculty in the academia. He has led efforts to evaluate targeted therapies involving the effects of small molecules in cancer and Inflammatory Bowel Disease (IBD). Dr. Karagiannidis has received his Ph.D at Boston University school of medicine where he studied the effects of transcription factor regulation of aging processes in adipose tissue-derived stem cell populations. He completed his post-doctoral training at Beth Israel Deaconess medical center, at Harvard Medical School where he continued to work on adipocyte precursors and their participation in the regulation of inflammatory processes during IBD. During his tenure as a faculty at David Geffen school of medicine, UCLA he led several projects in his capacity as director of the Immune assays core and the associate director of the center for systems biomedicine and participated in the development of drugs that targeted epigenetic mechanisms in IBD.

As the Chief Scientific Officer of Athos, Dr. Karagiannidis organizes and oversees the pre-clinical studies. He is instrumental in the collection of all pre-clinical information generated from the company's departments and ultimately, the formulation of concrete proposals for IND applications to take Athos' programs to the clinic. He also participates in the development and expansion of experimental designs and programs that drive and expedite strategic planning of the company.

Speakers' CVs

Dr. Victor Volovici

Vascular and Skull base Neurosurgeon in Rotterdam, The Netherlands

Dr Victor Volovici is a vascular and skull base neurosurgeon in Rotterdam, The Netherlands. He obtained his PhD in neurosurgery and epidemiology (medical decision science) at the Erasmus University of Rotterdam (The Netherlands). His research focuses on stroke, particularly hemorrhagic stroke (cerebral aneurysms, brain AVMs), and on applying new methodological techniques for causal inference to answer critical research questions arising during clinical practice. While being a firm supporter of the power of randomized controlled trials, in some cases (diseases with low prevalence, or heterogeneity of treatment definitions- e.g. surgical treatment) observational techniques should be employed to inform best practice. He aims to bring advanced statistical techniques closer to clinicians and make them more understandable and feasible to use. He further enjoys a partnership and a collaboration with the "Iuliu Hatieganu" University, Cluj-Napoca, Romania, where he served as a visiting professor of experimental microsurgery, participating and leading microsurgical skill acquisition and skill maintenance research.

Professor Dr. Stavros Gravas

Professor of Urology, University of Cyprus

Department of Urology at the Hospital of Nicosia

Stavros Gravas is a Professor of Urology at the University of Cyprus and works in the Department of Urology at the Hospital of Nicosia since 2021. His main fields of interest include medical and minimally invasive therapies for Benign Prostatic Obstruction (BPO), endourology, stone management and e-Health.

Dr. Gravas is the General Secretary of the Société Internationale d'Urologie (SIU). He was the Chairman of the European Association of Urology (EAU) Guidelines Working Group on Non-neurogenic male LUTS/BPO and contributed to the production of the EAU Patient Information Leaflet on Overactive Bladder, Benign Prostatic Hyperplasia and Nocturia, providing reliable information to patients about urogenital diseases.

He is a founding member of the Council of the Clinical Research Office of the Endourological Society (CROES) representing Europe. Dr. Gravas is a Consulting Editor of Prostate Cancer and Prostatic Diseases and member of the Editorial Board of "European Urology Open Science".

He is author of 146 full-text publications in international, peer-reviewed journals (Pubmed-indexed) with more than 8500 citations and a h-index of 37.

Speakers' CVs

Dr. Chrysanthy Leonidou

Clinical Psychologist working at the Bank of Cyprus Oncology Center

Dr. Chrysanthi Leonidou is a Clinical Psychologist working at the Bank of Cyprus Oncology Center since 2020 and a Special Scientist for Teaching at the University of Cyprus since 2015. She also provides clinical supervision to doctoral level trainee clinical psychologists, and she is involved, as a post-doctoral researcher, in a research project studying allostatic load and emotion regulation in cancer patients. She has completed a PhD in Clinical Psychology and her undergraduate studies in Psychology at the University of Cyprus and an MSc in Health Psychology at the University of Southampton (UK). She has previously worked as a clinical psychologist at the Intensive Care Unit of the General Hospital in Nicosia. She has been employed in several research positions, which enriched her knowledge and skills for all stages of quantitative and qualitative research in health and clinical psychology research areas. Her main research focus is on the mechanisms that have been linked to anxiety about health and psychosomatic symptoms and on strategies used to cope with psychological stress, including attention bias, interoceptive awareness, psychophysiological responses, avoidance, alexithymia, and emotion regulation. Through her roles as a researcher, a clinical psychologist and a university tutor, she aims to enhance her expertise in bridging the gap between science and practice in the field of Clinical Health Psychology.

Konstantinos Papazisis

Director of the Oncology Department of the Euromedica General Clinic, Thessaloniki, Greece

Dr. Papazisis was born in Ioannina in August 1965. He graduated from the School of Medicine of the University of Ioannina in November 1989. After completing his military service and rural medical service, he specialized in Internal Medicine, with a special two-year training in Medical Oncology until March 1999. He completed his doctoral dissertation at the Aristotle University of Thessaloniki and received his Ph.D. in June 2002 on the topic "Interactions between Protein Tyrosine Kinase Inhibitors and Cytostatic Drugs in Cell Culture Systems". During this time, he also worked on his Oncology specialty at Guy's and St Thomas' Hospital in London, UK under the supervision of Prof. Robert Rubens, Ass. Prof. David Miles, and Dr. Peter Harper. His training focused on the treatment of all oncologic diseases, with a primary specialization in breast cancer. In October 2005, he returned to Greece as a Medical Oncology Consultant at the 3rd Oncologic Clinic of the Theagenion Cancer Hospital in Thessaloniki until October 2010, when he resigned to become the Director of the Oncology Department of the Euromedica General Clinic in Thessaloniki. He has published numerous research papers in international and Greek journals, presented at over 100 international and Greek congresses, and is a member of local or scientific

EUROPA UOMO Cyprus

Cyprus Medical Students' Association (CyMSA) is an independent, non-profit, and non- governmental organization. It is the only approved association of medical students by the Institutional bodies of the Republic of Cyprus, and it was founded in 2014. The Association represents the medical students who study in all the medical schools in Cyprus and are recognized by the Ministry of Education of the Republic of Cyprus. The association, as a Pan-Cyprian family of medical students, aims to empower the voice of the medical students, protect their rights, and increase their activity in the community. In addition, the goal of the association is to promote opportunities for medical students through trainings, workshops, conferences, exchanges, educational programs, and activities. The trainers are certified by the International Medical Students' Association and trained in order to acquire the basic skills and be able to deliver trainings based on a peer-to-peer system. The themes of the workshops are inspired by the International and Regional priorities of IFMSA and contemporary issues in the sector of Health. The material of the trainings is provided by WHO and other scientific sources. Regardless of the fact that the association started just nine years ago, since the establishment of CyMSA we have organized many activities that supported the efforts of our Ministry of Health, our Universities, the Cyprus Medical Association, the Oncology Centre of the Bank of Cyprus, the Karaiskakio Foundation and other scientific companies and health institutions to improve the care provided to our citizens. In addition, the Association has recently been awarded by the Karaiskakio Foundation at a ceremony under the auspices of the President of the Republic of Cyprus for the contribution of our Association to the Foundation's work towards the registration of new Bone Marrow Donors. At the same time, the Association gives the opportunity to our students-members to take part in international conferences and trainings such as the UNESCO World Bioethics Conference in which members of CyMSA presented their projects. In August 2017, our Association became a full member of the International Federation of Medical Students' Associations (IFMSA) and it represents now officially Cyprus in the international community.

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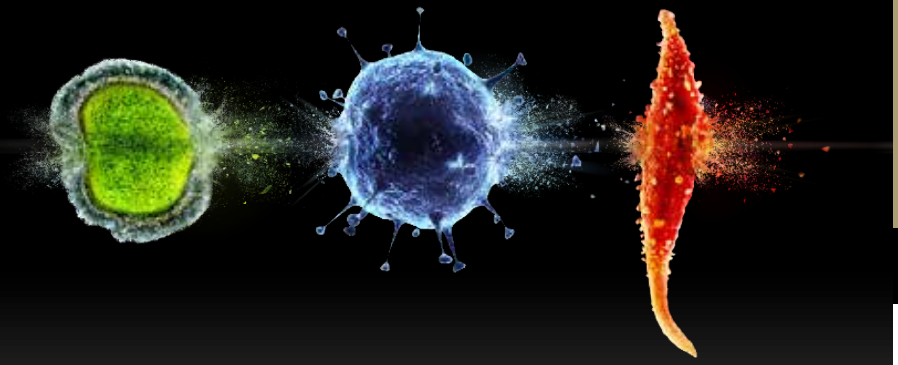

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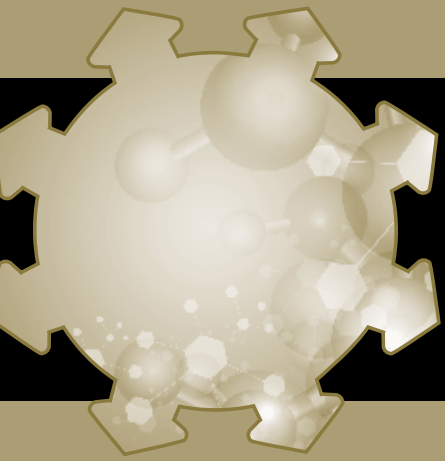


Bio-medical Scientific Cyprus

Abstracts

- Invited Abstracts
- Selected Abstracts
- Poster Abstracts
- Late Abstracts

Invited Abstracts

IA01 Hepatitis C: The End of the Beginning and Possibly the Beginning of the End

Prof. Dr. Harvey J. Alter

Professor of Physiology at National Institutes of Health, Bethesda, MD, USA.

Nobel Prize for the discovery of Hepatitis C virus in 2020.

Prospective studies of transfusion-associated hepatitis (TAH) at the Clinical Center, NIH sequentially demonstrated the following: 1) inordinately high rates of TAH in heavily transfused open-heart surgery patients, exceeding 30% prior to 1970; 2) demonstration that the high risk was directly related to the donor source wherein paid donors represented a 7-fold higher risk than volunteer donors; 3) the combined implementation of an all-volunteer donor system and introduction of first-generation donor screening for hepatitis B surface antigen resulted in a 70% reduction in TAH; 4) the discovery that most cases of TAH were unrelated to the hepatitis A or B viruses, leading to the designation non-A, non-B hepatitis (NANBH); 5) liver biopsy evidence that NANBH could lead to cirrhosis and liver-related death; 6) proof that the agent of NANBH and the cloned hepatitis C virus (HCV) were identical; 7) demonstration that the introduction of donor screening for antibody to HCV combined with less volumes of transfused blood could virtually eradicate TAH as documented from 1997-2010. Additional studies showed that that the common persistence of HCV was predominantly due the hypervariability of the agent (viral quasispecies) and an inadequate T cell immune response. It also became clear that chronic HCV infection and cirrhosis were associated with, and a major cause of, hepatocellular carcinoma. The introduction of HCV-specific direct acting antivirals in 2014 has revealed that 95%-100% of chronic HCV infection is curable with an 8-12 week course of oral therapy with virtually no significant side effects. We are thus at a point where a test-and-treat strategy could eliminate HCV infection on a global scale. That such is possible has already been demonstrated in Egypt where over 60,000,000 were tested and over 2 million cured after being found HCV-infected.

IA02 Brugada syndrome: 30 years later and we keep learning

Prof. Dr. Josep Brugada

Cardiovascular Institute, Hospital Clínic, University of Barcelona

Brugada syndrome was firstly reported in 1992 as a familial entity characterized by ST segment elevation in the right precordial leads in a structurally normal heart, leading to ventricular fibrillation and risk of sudden cardiac death. Currently, clinical diagnosis is based on a characteristic pattern in the electrocardiogram observed either spontaneously or induced during a pharmacological test. The prevalence varies among regions and ethnicities, affecting mostly adult males. The cause of the disease is a genetic alteration being SCN5A the main responsible gene. Several genes have been associated with the disease despite that, after a comprehensive genetic analysis, genetic alteration is identified only in nearly 35% of families. The main challenges are management of patients and risk stratification, especially in asymptomatic individuals. The most effective therapy is an implantable cardiac defibrillator while radiofrequency ablation has been recently reported as a potential new treatment.

IA03 Modern approaches to treatment of Type 2 diabetes

Prof. Dr Stefano Del Prato

Professor of Endocrinology and Metabolism, The University of Pisa School of Medicine, Chief of the Section of Diabetes, University of Pisa, Italy

The first ADA/EASD consensus report for the treatment of hyperglycemia in Type 2 diabetes was published in 2006 and it recommended a proactive approach to achieve and maintain a HbA1c <7.0%, a task not simple given the paucity of pharmacologic options available at that time. The same goals were reiterated 4 years later, when GLP1 receptor agonists (GLP1-RAs) entered the diabetes pharmacopeia for the first time. In the ensuing years, 7 cardiovascular outcome trials (CVOTs) have demonstrated that these agents not only are effective in improving glycemic control and lowering body weight, but they also confer a significant cardiovascular (CV) protection in people with type 2 diabetes with or at high-risk for atherosclerotic CV disease along with benefit on renal outcomes. Along with GLP1-RAs, SGLT2-inhibitors (SGLT2i) also were shown to confer CV protection with an even more apparent renal benefit and a more specific reduction in the risk of hospitalization for heart failure. Of an even greater interest have been the demonstration that these effects occur to a similar extent in people with and without diabetes.

These results may seem to undermine the emphasis so far put on glycemic control in treating people with Type 2 diabetes. Yet, its role should not be overlooked since, even in the most recent CVOTs, an association has been found between overall glycemic exposure and CV risk, an association that becomes even more apparent when microvascular complications are considered.

All this evidence represents the basis for the evolution of the ADA/EASD consensus report with its latest version presented in the occasion of the 58th Annual Meeting of the EASD. The consensus calls for a person-centered approach encompassing multiple elements concurring to generate risk of complications in people with Type 2 diabetes. In particular, a focus on glycemic control, body weight management, CV risk factors, and assessment of existing organ damage with no specific priorities for any of them was highlighted. To ensure personalized glycemic targets the consensus recommends choosing approaches that provides the efficacy to achieve goals. To this purpose, early combination therapies should be considered as well because by simultaneously targeting multiple pathophysiologic processes, it can increase durability of glycemic effects reducing the risk of clinical inertia and treatment adherence and persistence. Moreover, complementary clinical benefits may help addressing the individual needs of a given person with Type 2 diabetes. Much focus was recommended to be put on body weight management. First, most of the diabetic population is overweight if not frankly obese. Secondly, body weight reduction can contribute improving glycemic control along with other CV risk

factors. Moreover, a weight reduction >15-20% can significantly increase the chance to induce diabetes remission, as suggested by a body of literature on metabolic surgery. This becomes of special interest considering that new medications with a powerful effect on body weight are now available and even more efficacious ones are looming at the pharmacologic horizon. Type 2 diabetes is syndromic in nature with hyperglycemia remaining the diagnostic features often associated with multiple CV risk factors. Data derived from large populations have clearly confirmed that many factors can concur increasing CV morbidity and mortality with glycemic control, LDL-cholesterol, blood pressure contributing the most. The same data have also shown how people with Type 2 diabetes with HbA1c, LDL-cholesterol, albuminuria, and blood pressure well controlled who do not smoke have a CV risk almost superimposable of those with no diabetes. Unfortunately, we are still far from achieving these goals in people with type 2 diabetes. According the most recent NHANES survey no more that 22% of the adult diabetic population in America achieve target glucose, non-HDL cholesterol, and blood pressure levels. On top of these, new CV factors are worth considering, such as NASH and impaired kidney function. Lipid accumulation in the liver and concomitant inflammation can be ameliorated with effective body weight reduction. Increased urinary albumin excretion rate and reduced glomerular filtration rate are independent CV risk factors that we can now more effectively tackle using GLP1-RAs and, to an even greater extent, SGLT2i. Finally, for those who already present with an organ damage, the evidence accumulated in the recent years call for specific recommendations. Therefore, a GLP1RA or a SGLT2i with proved CV benefit are recommended in those at high CV risk or with a prior atherosclerotic CV disease, while SGLT2i should be preferentially used in those with heart failure or chronic kidney disease. These agents are highly effective irrespective of the concomitant use of metformin and of prevalent glycemic control, so that they should be used just because of their peculiar cardiorenal protection.

In summary, treatment of Type 2 diabetes has progressively evolved from a gluco-centric to a holistic approach that, in view of its person-centered goal, should also consider social determinants of health, physical activity and heathy diet.

We have now a better understanding of how we could reduce the burden of complication in type 2 diabetes and we also possess more effective pharmacologic options. It really is up to all of us to make it work.

IA04 Multimodal neuroprotective and neurogenic effects of BNN27, a Nerve Growth Factor mimetic, in the 5xFAD humanised mouse model of Alzheimer's Disease.

Prof. Dr. Achilleas Gravanis

Dept of Pharmacology, School of Medicine University of Crete; IMBB-FORTH, Heraklion Greece

Alzheimer's Disease (AD) is characterised neuropathologically by the accumulation of Aβ amyloid plaques in the microenvironment of brain cells and neurovascular walls, combining with tau-containing neurofibrillary tangles and chronic neuroinflammation, resulting in neuronal and synaptic loss, myelin and axonal failure, as well as reduction in adult hippocampal neurogenesis. The hippocampal formation is particularly sensitive to this degenerative process, due to early dysfunction of the cholinergic circuit. Neurotrophic factors consist major regulatory molecules and their decline in AD is considered as an important cause of disease progression. Novel pharmacological approaches are targeting the downstream pathways controlled by neurotrophins, such as nerve growth factor (NGF) receptors, TrkA and p75NTR, which enhance hippocampal neurogenic capacity and neuroprotective mechanisms, and potentially counteract the neurotoxic effects of amyloid depositions. BNN27 is a newly developed, synthetic 17-spiro-steroid analog that have previously shown to mimic the neuroprotective effects of NGF, acting as selective activator of its receptors, both TrkA and p75NTR, promoting neuronal survival. We tested BNN27 on AD-related pathology using the humanised 5xFAD transgenic mouse model of the disease, exploring the cellular, molecular and behavioural effects of this compound. BNN27 administration significantly reduced amyloid-β load in whole brain, enhanced adult hippocampal neurogenesis, restored cholinergic neurons function and synaptogenesis, reducing inflammatory and glia activation and leading to significant restoration of cognitive functions. Proteomic analysis confirmed that Aβ-induced pathology in the 5xFAD humanised mouse model of AD impairs major amyloidogenic and inflammatory pathways, while BNN27 treatment had restorative effects in several of them. In conclusion, BNN27 may represent a new lead molecule to develop non-toxic, BBB-permeable and multimodal anti-AD agents for long-term controlling the symptoms of the disease and increasing the quality of life and survival of AD patients

IA05 Idiopathic Pulmonary Fibrosis: unfolding the present and future

Dr. Alexis Papadopoulos

Consultant in Respiratory Medicine, Fellowship in Interstitial Lung Disease (Oxford, UK), Current President of Cyprus Respiratory Society

The interstitial lung diseases are a heterogeneous group of lung parenchymal diseases characterized by varying degrees of fibrosis and active inflammation. Some of these may occur secondary to a known precipitant such as connective tissue disease, drugs, hypersensitivity to inhaled antigens, whilst others have no recognizable cause, hence called Idiopathic Interstitial Pneumonias (IIP).

Idiopathic Pulmonary Fibrosis (IPF) is a chronic respiratory disease characterized by progressive scarring and architectural distortion of the lung tissue, and is the most well-known and aggressive form of IIP. Globally, incidence of IPF is rising, with associated high morbidity, poor quality of life, and healthcare burden.

Currently, there are only two novel antifibrotic therapies for IPF, pirfenidone and nintedanib. Both drugs may improve quality of life, attenuate symptoms, and slow disease progression and have been linked to reduced mortality according to several studies. However, neither pharmacologic therapy reverses end-stage fibrosis and both medications have a considerable side effect profile.

Undoubtedly, there is an unmet demand for accelerated research into IPF mechanisms and pathways so that progress can be made in new treatment options which will improve current quality of life and increase life expectancy. Precision medicine will have a pivot role in this regard, in selecting treatment based in individual characteristics of patients.

IA06 The role of oncothermia in integrative oncology- exploring unchartered waters

Dr. Alfred J. Barich

President of Hellenic Society for Integrative Oncology, Chairman Scientific Advisory Board to Hellenic Society for Hyperthermic Oncology

AHEPA University Hospital/Euromedica/Thessaloniki Oncothermia Center

Multiple Phase III studies have been published establishing the significance of Hyperthermia, and its indisputable synergy with the Conventional modalities of Cancer treatment (Surgery-HIPEC, Chemotherapy and Radiation therapy). Its autonomous effect on cancer cells has also been established. The appearance of mEHT has created ripples in the pond of the Hyperthermia Community. Its modulated capacitive coupling function is focused on the same target, but delivers results in a different way. This comes to augment the growing Global focus on Integrative Medicine and more so, on Integrative Oncology.

Many questions arise from the growing experience of Institutions that use Hyperthermia in their Therapeutic Strategies against cancer. Clashes are resulted, in the attempt to clarify the best mode of Hyperthermia for treating patients. What the Hyperthermia Community forgets, is that we haven't yet resolved basic questions on the Role of Hyperthermia in the Arsenal against cancer. We have established it synergy with chemotherapy and Radiation therapy. What about Immunotherapy, what about Biologicals, what about Small Molecular Agents (Sunitinib, Imatinib etc.), Monoclonal Antibodies, what about its possible interactions with Dendritic Cell therapy and AntiSense Oligonucleotide therapy? These are emerging strategies that may be potentiated by Hyperthermia. Multicentric studies are urgently needed to clarify the full extent of these potential synergies. We have moved onward and gained experiences that have put us well beyond the 2004 Kadota Consensus, and a great necessity for an updated Consensus is imperative. Integrative Oncology is focused on these synergies, and only through consensus on the essential issues (impact on patients), can we formulate successful Therapeutic Strategies for our patients.

Recent studies have indicated that mEHT may have an impact on cancer microenvironment. Our experience with mEHT and parallel Integrative therapeutic strategies indicate that focusing on increasing Oxygen perfusion to cancer tissues and simultaneously inducing tissue Alkalynization may significantly enhance tumor destruction by not only thermal induced damage and potential Apoptotic induction, but also by disrupting the tumor microenvironment.

These are issues that require urgent consideration for multicentric trials. Each of our Institutions has its own experiences that gives us the incentive to further explore into unchartered waters. This is a necessity. This is a journey we should take together, like Magellan before us. It is up to us to discover a pass into the Pacific. Our focus on researching this area may set a new precedent in the therapy of Cancer.

IA07 Hypertensive patients with comorbidities: the “usual suspect” of HFpEF phenotype. Case report

Adj. Prof. Dr. Andreas Pittaras

Clinical Hypertension Specialist ESH, George Washington University, Washington DC, USA, Adjunct Professor, School of Medicine, European University Cyprus

Hypertension constitutes a major risk factor for heart failure with preserved ejection fraction (HFpEF). HFpEF is a prevalent clinical syndrome with increased cardiovascular morbidity and mortality. Specific guideline-directed medical therapy (GDMT) for HFpEF is not established due to lack of positive outcome data from randomized controlled trials (RCTs) and limitations of available studies. Although available evidence is limited, control of blood pressure (BP) is widely regarded as central to the prevention and clinical care in HFpEF. Thus, in current guidelines of European Society of Cardiology (ESC) and European Society of Hypertension (ESH), blockade of the renin-angiotensin system (RAS) with either angiotensin-converting enzyme inhibitors or angiotensin receptor blockers provides the backbone of BP-lowering therapy in hypertensive patients. Although superiority of RAS blockers has not been clearly shown in dedicated RCTs designed for HFpEF, we propose that this core drug treatment strategy is also applicable for hypertensive patients with HFpEF with the addition of some modifications. The latter apply to the use of spironolactone apart from the treatment of resistant hypertension and the use of the angiotensin receptor neprilysin inhibitor. In addition, novel agents such as sodium-glucose co-transporter-2 inhibitors, currently already indicated for high-risk patients with diabetes to reduce heart failure hospitalizations, are suggested as first line therapy (IA), after the impressive results from recent RCTs proving their safety and efficacy. Effective and practical classification of HFpEF phenotypes and the treatment algorithm is suggested in recent European and American guidelines, fulfilling the unmet needs of hypertensive patients with HFpEF and calls for action.

IA08 The Cyprus Genome Project: a reference of genetic variation

Dr. Andri Miltiadou
Karaiskakio Idryma

Next-generation sequencing advances in the past years have revolutionized genetic analysis, shifting the scientist's work from bench to data analysis. Huge amount of genetic data are generated, for which thorough analysis is required both at the diagnostic and at the research level. Classifying variants and identifying rare pathogenic causes for Mendelian disorders is a great challenge considering the unique genetic characteristics of our population and the poor representation of many populations including the Cypriot one, in Gnomad database.

A Cypriot population reference database that includes our population's common genetic variation is a practical tool that was built to facilitate this analysis. The cohort for this reference is comprised of pooled DNA samples of 10,000 healthy bone marrow volunteer donors that were registered in the Cyprus Bone Marrow Donor registry.

Reference databases especially for populations that are highly heterogeneous with unique genetic characteristics are a powerful tool for interpreting genetic variation. We expect that this database will be of great help for scientists both as a reference tool for clinical diagnosis as well as for research purposes.

IA09 The Molecular Dissection of Rare Disease: Towards the Modeling of Inborn Errors of Metabolism

Dr. Annita Achilleos

Assistant Professor of Embryology and Histology, Department of Clinical and Basic Sciences, University of Nicosia Medical School

Combined methylmalonic acidemia and homocystinuria (cblC), also known as hereditary Vitamin B12 deficiency, is a rare congenital metabolic and multisystemic disorder caused by mutations in the gene MMACHC. Recently, mutations in the transcriptional regulators HCFC1 and RONIN (THAP11) were shown to phenocopy aspects of cblC. In the first part of the talk, the generation of mouse models to better understand the pathophysiology of these cobalamin-deficiency disorders will be discussed. Some key findings in these mouse models include loss of Mmachc, metabolic perturbations, and developmental defects previously observed in cblC, as well as new striking findings such as deregulation of ribosome biogenesis impacting normal translation during development. These findings identify HCFC1/RONIN as transcriptional regulators of ribosome biogenesis during development and mutations in ether results in complex syndromes exhibiting aspects of both cblC and ribosomopathies.

In the second part of the talk expansion of the research program via the establishment of a zebrafish facility at the University of Nicosia will be discussed. Zebrafish (Danio rerio) is a well-established experimental model effectively used worldwide. We hope to use the rapid embryonic development of this model, the transparency of the embryos, and the available genetic resources to screen for the effect of environmental exposures and genetic perturbations on anatomic and metabolic developmental pathways.

Invited Abstracts

IA10 Artificial Intelligence in the Large

Prof. Antonis C. Kakas

University of Cyprus, Computer Science and Biomedical Research Center

Artificial Intelligence is the study of human thought and its realization in technical forms. It aims to create thinking machines that can assist humans in their own thinking. As such, it complements and expands our abilities to solve problems and fulfill our goals. Recent developments give Artificial Intelligence the potential to become the basis or catalyst to bring about significant and radical reforms in most aspects of our individual and social lives. We are already referring to the era of Artificial Intelligence defined by automation in problem solving and decision making. Peer companion AI systems will assist us in first level medical practice, first level conflict resolution and many other aspects of our lives. In the new era of Artificial Intelligence, we expect major transformations in our mental and social existence, analogous to the effect that Science had on the physical existence of humanity in the natural world during the previous era of the scientific and industrial revolution. What changes will Artificial Intelligence bring and what are the main risks of Artificial Intelligence? What skills are required to bring about a healthy change of our society through AI? Can we harness this new technology without social and cultural change in humanity?

IA11 Pleiotropic effects of PUFAs explain their role in cardioprotection

Prof. Dr. Philip C. Calder

Faculty of Medicine, University of Southampton, Southampton, UK

Polyunsaturated fatty acids (PUFAs) are incorporated into cell membranes, modulating membrane structure and function, regulate transcription factors and gene expression, and act as precursors for bioactive lipid mediators termed oxylipins. Through these mechanisms they influence cell and tissue function and response to stimulation. According PUFAs modulate lipid metabolism, thrombosis, inflammation and cardiac physiology and therefore play a role in determining risk and severity of cardiovascular diseases (CVD). There are two main PUFA families, omega-6 and omega-3. The plant omega-3 PUFA linoleic acid regulates SREBP expression and activation to control hepatic cholesterol homeostasis and LDL receptor expression. Hence when linoleic acid replaces saturated fatty acids in the diet there is LDL cholesterol lowering reduced risk of CVD. Arachidonic acid is an omega-6 PUFA mainly derived from animal sources (meat, eggs); it gives rise to oxylipins such as prostaglandins, thromboxanes and leukotrienes involved in thrombosis and inflammation and therefore its levels in the body need to controlled. The fish-derived omega-3 PUFAs EPA and DHA regulate PPAR-a expression and activation to control hepatic de novo lipogenesis and lower circulating triglycerides. They also decrease the oxylipins produced from arachidonic acid lowering risk of thrombosis and reducing inflammation. They also give rise to oxylipins that resolve ("turn off") inflammation. Epidemiological studies demonstrate inverse associations between intake and status of EPA and DHA and risk of CVD outcomes including mortality. Clinical trials show beneficial impact of EPA and DHA on multiple risk factors for CVD. Evidence for a role of EPA and DHA in lowering risk of CVD is strong and is the basis for global recommendations for people to consume EPA and DHA. However, evidence for use of these fatty acids in treating existing advanced CVD is less consistent and the subject of much debate; large trials report different effects. Clinical trials suggest that omega-3s improve atherosclerotic plaque stability, an underexplored action that may relate to their anti-inflammatory and inflammation resolving actions.

IA12 Clinical relevance of adverse remodeling of microcirculation in hypertensive patients, at the level of cerebral circulation

Prof. Dr. Christos Savopoulos

Prof. of Internal Medicine, Aristotle University of Thessaloniki, Director of 1st Medical Propedeutic Dept of Internal Medicine & Stroke Unit, Excellence Center of Hypertension, AHEPA University Hospital

There have been many advancements in the understanding of this pathological phenomenon, since Fisher's early descriptions of lipohyalinosis and lacunar stroke. Herein, we describe all major stroke subtypes according to TOAST classification and we focus on lacunar infarcts reviewing lipohyalinosis as it relates to modern concepts of cerebral small vessel disease. Furthermore, we discuss clinical classifications of lacunar stroke as well as radiologic definitions based on modern neuroimaging techniques. We provide a broad and comprehensive overview of lacunar stroke pathophysiology both at the vessel and parenchymal levels. Enhanced understanding of this highly prevalent disease will allow for the generation of specific molecular targets capable of mitigating disease sequalae. We conclude that the diagnosis of lacunar stroke is based on both personal history and clinical features with charasteristics imaging findings and we provide a relevant algorithm for the accurate diagnosis of lacunar infarct and appropriate therapeutic management.

IA13 Evaluating the lung cancer risk reduction potential of novel tobacco and nicotine containing products – a matter of dose response

Prof. Dr. David Khayat, MD, PhD

Former President of the National Cancer Institute, Professor of Medical Oncology, Bizet Clinic, Paris, France

Smoking is one of the most important risk factors for lung cancer and therefore, for any smoker, quitting is the best approach. However, many smokers do not quit, even in the face of serious disease. Doctors and public health authorities have begun to examine the role novel tobacco products (NTPs) can play in reducing the negative impact of smoking on health.

While the availability of epidemiological data and trends may vary by disease, the impact that these products may have in reducing the incidence of smoking-related cancer will take decades to fully understand. In the absence of long-term disease data, an interim approach is needed to understand the risk reduction potential of these new products relative to cigarettes. For cancer, epidemiology shows us that the lower the exposure to carcinogens, the lower the risk of cancer. Given that both industry and independent studies have confirmed that these NTPs contain fewer toxicants and lower levels of the carcinogens found in cigarette smoke, we need to better understand how this translates to the risk of developing cancer. Because we know that the key mechanisms that drive the development and invasiveness of cancer are: (1) the amount of genetic damage and (2) the level of inflammation, we can qualitatively understand the cancer risk potential of these products relative to cigarettes while the epidemiological data are still being generated.

To reduce the risk of smoking-related cancer, the best option is to stop smoking. But for those who don't we need to look at the data emerging on the risk reduction potential of NTPs. Using data from the HTP recently authorized by the US FDA to illustrate this approach there is a reasonable indication that smokers who don't quit smoking would be able to reduce their risk of smoking-related cancers such as lung cancer if they switch to products such as HTPs with a demonstrated lower carcinogen exposure.

Keywords: Novel Tobacco Products, Heated Tobacco Products, cancer risk reduction potential Tobacco Harm Reduction

Disclosure: Prof. David Khayat, through Health, Nutrition and Wellness Experts provides scientific consulting services to Philip Morris International on the topic of tobacco harm reduction.

IA14 Recent advances in the pharmacological management of chronic heart failure

Ass. Prof. Dr. Dimitris Farmakis

National and Kapodistrian University of Athens Medical School, Athens University Hospital Attikon, Athens, Greece

Over the past decade, significant advances have been accomplished in the pharmacological management of patients with heart failure (HF). By far, the most exciting progress has been the repurposing of the antidiabetic agents sodium glucose co-transporter 2 inhibitors (SGLT2i) from type 2 diabetes to HF. Among these drugs, dapagliflozin and empagliflozin have proved effective in improving the composite endpoint of cardiovascular death or HF hospitalization by a relative risk reduction of 25%, compared to placebo. This effect has been consistent across the spectrum of left ventricular ejection fraction (LVEF), thus improving further the outcomes of patients with HF and reduced LVEF (HFrEF) on top of previously established therapies, while being the first drugs to provide prognostic improvement in HF with preserved LVEF (HFpEF). The combined angiotensin-receptor and neprilysin inhibitor sacubitril/valsartan has been shown to improve the above composite endpoint by a further 20%, compared to classical angiotensin converting enzyme inhibitors, in patients with HFrEF. Another novel drug, the soluble guanyl cyclase stimulator vericiguat, improves the same composite outcome by a 10%, compared to placebo, in patients with HFrEF and a recent decompensation despite having been on optimal classical HF therapy. Finally, the first non-steroidal mineralocorticoid receptor antagonist finerenone has been shown to improve cardiovascular and renal outcomes in patients with chronic kidney disease, which is closely related with HF, and is currently being investigated in HFpEF.

IA15 A novel rare triple negative breast cancer (TNBC) patient-derived xenograft: Development, characterization, and application

Prof. Dr. Konstantinos Dimas

Department of Pharmacology, School of Medicine, University of Thessaly, Greece

Triple-negative (TN) breast cancer (TNBC) characterized by the absence of estrogen and progesterone receptors and low or absent HER2 receptors, accounts for 10-15% of breast cancer cases, has the worst prognosis and is prone to relapse and metastasis. It has limited treatment options due to a lack of clinically useful targets, with neoadjuvant chemotherapy over surgery now considered the standard of care for the treatment of TNBCs tumors ≥ 2 cm. Lipid rich breast cancer (LRBC) is a rare subtype of breast cancer that accounts for 1-2% of all malignant breast cancers. LRBC contains highly proliferative cells. No specific and unique genetic characteristic and/or gene mutation of these tumor cells is yet known, except that they are generally negative for estrogen and progesterone receptors, but HER2 expression tends to be high, with TN cases being even rarer. We report here the establishment of a novel patient-derived xenograft (PDX) from a patient with TN/LRBC. The model was developed in immunocompromised mice after direct transplantation of tumor fragments surgically resected from the patient. The xenograft was further evaluated pharmacologically following the regimen received by the patient to assess its clinical similarity and utility. The results showed that of the drugs tested, the xenograft responded well to cyclophosphamide and docetaxel, as expected, but doxorubicin was found to be highly toxic. As an alternative, Caelyx® (stealth liposomal doxorubicin) was tested for the first time in this type of breast cancer and found to be highly effective with lower toxicity. In addition, karyotyping and NGS analysis were performed for the first time in this cancer. Karyotyping revealed polyploidy, while NGS analysis showed the presence of a pathogenic mutation in the MSH2 gene (c.482T>A, p. Val161Asp) in both the patient and the xenograft. The data suggest that this mutation may be a driver mutation. We further used this PDX to study the development of a novel drug delivery system. This is the first report of the development and characterization of a PDX for TN/LRBC, a model that we anticipate will be an extremely valuable tool for the development of novel therapies and for understanding the biology of this rare form of breast cancer.

IA16 Perivascular adipose tissue and inflammation. Is there a way to avoid it?

Dr. Dimitri Richter

Consultant Cardiologist, Euroclinic Hospital, Athens, Greece

Being overweight or obese is a worldwide epidemic. Adiposity can cause fat mass-related cardiovascular disease. Adiposity may also cause adipocyte and adipose tissue anatomic and functional abnormalities, termed adiposopathy (adipose-opathy) or "sick fat," that result in endocrine and immune derangements. Adiposopathy may directly contribute to CVD through pericardiac and perivascular effects on the myocardium and blood vessels. Adiposopathy may also indirectly contribute to CVD through promoting or worsening major CVD risk factors such as type 2 diabetes mellitus, high blood pressure, and dyslipidemia. Despite CVD being the most common cause of mortality among overweight individuals, the pathophysiologic relationship between adiposity and CVD is often thought mysterious, as evidenced by "obesity paradoxes." Underlying this uncertainty are suggestions that excessive body fat does not always increase the risk of CVD and, in some cases, may actually decrease such risks. These paradoxical findings are made less paradoxical when the pathogenic potential of excessive body fat is assessed based on adipose tissue dysfunction rather than simply on increased fat mass alone.

Epicardial adipose tissue is a source of several inflammatory mediators in high-risk cardiac patients. Plasma inflammatory biomarkers may not adequately reflect local tissue inflammation. Current therapies do not appear to eliminate local inflammatory signals in epicardial adipose tissue.

Adipose depots surrounding the heart, such as epicardial and perivascular adipose tissues may also exert important roles in the pathogenesis of cardiovascular disease beyond the contribution of visceral adipose tissue due to their close anatomic relationships with vascular structures and myocardium.

IA17 SBRT for localized prostate cancer. The future of prostate cancer radiotherapy!

Dr Dimitrios Vomvas MD, PhD

Director of Radiation-Oncology and Nuclear Medicine, The Bank of Cyprus Oncology Centre

Prostate cancer is one of the most diagnosed cancers for male patients. There are approximately 450.000 new prostate cancer cases diagnosed each year in Europe. According to the Cyprus Cancer Registry there were 656 new prostate cancer cases in 2020.

Standard options for the initial management of men with clinically localized prostate cancer include radiation therapy, with or without androgen deprivation therapy, radical prostatectomy, or active surveillance in carefully selected patients. The choice of treatment is determined by a variety of factors, including risk stratification, patient preference, clinician judgment, and resource availability.

SBRT is an advanced form of radiation therapy that shrinks or destroys tumors with fewer, higher doses of radiation delivered in a small number of outpatient sessions. This approach uses advanced imaging and treatment planning techniques to deliver radiation with pinpoint accuracy, minimizing damage to surrounding healthy tissue.

SBRT is an extreme form of hypofractionation in which the entire dose of radiation is administered in five or seven fractions when used as monotherapy. This approach may be particularly useful for patients who benefit logistically from a very shortened, hypofractionated course. Dr. Freddie Hamdy presented in EAU 2023 the updated 15-year oncologic outcomes of the PROstate TEsting for Cancer and Treatment (ProtecT) trial, which were concurrently published in The New England Journal of Medicine on the midnight of this EAU presentation. The PROstate TEsting for Cancer and Treatment (ProtecT) trial evaluated 82,429 men who underwent PSA testing between 1999 and 2009. Of these, 82,429 screened men, 2,965 were diagnosed with prostate cancer, of whom 1,643 were randomly assigned to: Active monitoring, Radical prostatectomy or Radical radiotherapy. In this updated report, the percentage of patients undergoing radical intervention in the active monitoring group continued to increase, with 61% of patients initially randomized to active monitoring undergoing radical treatment within a median of 15 years. Conversely, 90% and 92% of patients in the prostatectomy and radiotherapy received radical therapy within the same time frame. Survival from clinically localized prostate cancer remains very high over a median of 15 years (96-97%), irrespective of treatment allocation.

The available data on the efficacy and toxicity of SBRT for treatment of localized prostate cancer mainly are coming from two randomized trials, the HYPO-RT-PC and the PACE-B. Patient-reported early side effects were more pronounced with hypofractionation, and physician-scored grade 2 or worse urinary toxicity was higher. According to these trials no significant increase

in late toxicity was observed. The PACE-B study found SBRT performed as well as standard treatment with moderately fractionated radiation for people with localized prostate cancer, demonstrating a 5-year 96% disease control rate vs 95% for conventional radiation regimen.

Seems that shorter radiotherapy regimens like SBRT, are the new era in prostate cancer treatment.

IA18 Overcoming challenging thoracic cases using Robotic DaVinci system

Mr Dimitrios Kyparissopoulos

IASO Medical Center; Harefield Hospital, Royal Brompton and Harefield NHS Foundation Trust, London, UK; Head of Thoracic Department, IASO Hospital, Athens, Greece, and Adj. Ass. Prof. in Robotic Surgery, European University Cyprus.

Abstract: "Occasionally in our daily medical practice we come across various challenging cases. This is the moment when your medical experience will guide you to make the right decisions and complete the puzzle. If you are lucky enough to be able to use the state of the art infrastructure provided, then you can have two birds with one stone. Bellow, we will see into two very rare cases which will be presented and together we will assess the safety and efficacy of the use of robot on any troubleshooting appeared, compared to other "conventional" approaches such as thoracotomy/median sternotomy or even VATS.

Case 1. A young healthy female (31yo) who presented with large left pleural effusion. At the end of the investigation and the surgical treatment, an extraordinary rare pathology was revealed (report from Prof Fletcher Harvard University)

Case 2. A young female with significant PMH who presented with three different pathologies in her chest. At the end of the investigation, a specific surgical plan was carried out, with multidisciplinary discussion and joint case when needed.

IA19 The Heart's "Little Brain"

Prof. Dr. Filippos Triposkiadis
Former Director of the Department of Cardiology of the Larissa University Hospital; School of Medicine, Larissa, Greece

The cardiac autonomic nervous system (ANS) can be divided into an extrinsic and an intrinsic part, the heart's "little brain", according to the course of nerve fibers and localization of ganglia and neuron bodies. The cardiac intrinsic ANS consists of a network of ganglionic plexuses and interconnecting ganglions and axons. Each ganglionic plexus contains numerous intracardiac ganglia that operate as local integration centres, modulating the intricate autonomic interactions between the extrinsic and intracardiac nervous systems. Although the role of the extrinsic cardiac ANS has historically gained more attention, the intrinsic cardiac ANS may affect cardiac function independently, influence the effects of the extrinsic nerves, and its derangements may contribute to cardiac pathology. Modulation of the intrinsic cardiac ANS is emerging as a novel treatment modality for the management of patients with diverse cardiovascular disorders.

IA20 Advances in Breast Surgery

Dr.Fiorita Poulakaki

Director of the Breast Clinic, Athens Medical Center, Vice President Europa Donna, The European Breast Cancer Coalition, President Build a Bridge Foundation

Breast surgery has evolved over the years, with a focus on improving patient outcomes by deescalating surgery, tailoring therapy plan and promoting aesthetic outcomes with the use of oncoplastic procedures.

Breast Imaging has made major progress which is fundamental in planning accurately the operation. The use of tomosynthesis, better quality of breast ultrasound has enhanced the precision of breast surgery. This results in more accurate removal of the suspicious lesion, smaller incisions, less scarring, and quicker recovery time for patients. It is very important to mention that under the imaging guidance, in the majority of lesions it is easy and feasible to get a preoperative diagnosis through tissue sampling with a core biopsy or stereotactic biopsy with mammotome. Better planning of the operation or at some cases, skipping the surgical procedure if the lesion is identified benign.

Sentinel Lymph Node Biopsy has even more indications and is practically the gold standard approach for axillary staging at most of the times. This minimally invasive procedure allows the precise evaluation of lymph nodes for cancer spread without the need for a full axillary lymph node dissection. It reduces the risk of complications such as lymphedema which is very important and improves the quality of life for these patients. Since 2010 after the results of Z0011 (Alliance) trial has been published by A.Giuliano and Co authors, where even sentinel node patients could skip axillary dissection and undergo radiotherapy, we have a lot of data with other trials where more and more indications about this procedure have been implemented.

Oncoplastic surgery, is the approach combining oncological safety with the removal of the lesion with adequate clear margins and plastic surgery techniques, enabling surgeons to remove cancerous tissue while preserving the breast's appearance and symmetry. It often involves techniques like breast reduction, breast lift, or fat grafting. Fat Grafting (Autologous fat grafting), where a patient's own fat is harvested from one area of the body and injected into the breast, is used for both breast reconstruction and aesthetic enhancement. It can improve breast volume and shape. In the same group of operations more and more indications for Nipple-Sparing Mastectomy (NSM) are used which is a technique that allows surgeons to remove breast tissue while preserving the nipple and areola. It's an option for selected breast cancer patients, resulting in more natural-looking breasts post-surgery. Also there are many innovative materials for Breast Reconstruction like ADM, a type of surgical mesh, developed from human or animal skin, in which the cells are removed and the support structure is left in

place. Advances in breast reconstruction techniques, including autologous tissue flaps (using a patient's own tissue) and implant-based reconstruction, have improved the aesthetic outcomes for women who have undergone mastectomy.

Finally, Genetic Testing Panels and Risk Assessment Molecular profiling have improved understanding of the genetic basis of breast cancer leading to more targeted surgical interventions and risk-reduction strategies for patients with high-risk genetic mutations. Targeted therapies are now available for neoadjuvant and adjuvant use with the advances in molecular and genetic profiling giving the opportunity for personalized treatment options for breast cancer patients. Targeted therapies and immunotherapies are tailored to an individual's specific cancer subtype, potentially leading to better outcomes with fewer side effects.

These advances in breast surgery have made it possible for patients to increased survival, disease free survival while achieving better cosmetic results, reduced scarring faster recoveries with a better quality of life. However, it's essential for patients to consult with their healthcare providers to determine the most tailored treatment options for their specific needs and circumstances.

IA21 Systematic Approach to Catheter Ablation in a Patient with Electrical Storm Using New Mapping Techniques

Prof. Dr. Nikolaos Fragakis

Professor of Cardiology, Aristotle University of Thessaloniki Medical School, Director of 2nd Department of Cardiology in Hippokrateion General Hospital of Thessaloniki

This is a 70-year-old male with a past medical history of MI, CABG, systolic heart failure with a left ventricular ejection fraction (EF) of 25%, and previous ICD implantation. He was referred due to recurrent episodes of symptomatic slow VT despite antiarrhythmic drug therapy. ICD interrogation showed multiple episodes of VT, which terminated with antitachycardia pacing or ICD shocks. We proceeded with a substrate-based strategy to target the VT using the EnSite Precision cardiac mapping system (Abbott).

Clinical tachycardia was of RBBB configuration, transition in V3 and inferior axis (CL=500ms). Initially, a very high density bipolar endocardial map, during sinus rhythm (SR), using HD Grid, identified an extensive scar area on the entire anterior, apical and anteroseptal wall. Late potentials (LPs) map revealed a zone of LPs within the scar, on the mid antero-septum. Isochronal late activation (LAT)mapping during SR, demonstrated an area of very slow conduction, within the LPs recording area. VT was then induced spontaneously. Mapping during VT delineated mid-diastolic potentials, identifying the isthmus of the re-entry circuit localized with the regions of hidden LPs. LAT mapping, on tachycardia, (using the diastolic window mapping technique) revealed the tachycardia circuit, moving from a high speed lateral entrance area, to a zone of extreme isochronal agglomeration (acting as slow conducting isthmus), to a septal exit, in a figure of 8 mode. The slow conducting isthmus was identical with the deceleration area recorded on SR. Ablation was performed in the region of deceleration zones, abolishing all LPs and on the borderline voltage areas recording abnormal signals. VT was no longer inducible with triple extrastimuli from the right ventricle.

Techniques combining substrate-based ablation with activation mapping have been shown to be the most effective in preventing VT recurrence

IA22 Is Electrophysiology Entering the Era of Selective High Precision Medicine? The case of Pulsed Field Ablation for Atrial Fibrillation

Dr. George K. Andrikopoulos

President of the Hellenic Arrhythmia Institute, Director of Cardiology and the Department of Electrophysiology and Pacing, Henry Dunant Hospital

Given the lack of any significant progress in antiarrhythmic drug therapy during the last decades, the main efforts on advances in the management of common arrhythmias have been focused on invasive treatment. However, the optimism for the treatment of life-threatening arrhythmias (e.g., ventricular tachycardias) and for the suppression of highly prevalent arrhythmias (e.g. atrial fibrillation) has been tempered by the relatively low efficacy and safety of catheter ablation of arrhythmias.

Recently, the development of pulsed field ablation, initially for the treatment of atrial fibrillation, has revolutionized catheter ablation bringing a highly selective treatment that does not affect neighboring tissues and thus, increasing safety of catheter ablation for atrial fibrillation. Most importantly, pulsed field ablation has been shown to induce apoptosis of endothelium cells as the pathophysiological mechanism for achieving isolation of pulmonary veins. In contrast, thermal ablation causes direct necrosis of cells and permanent unfavorable histological changes of cardiac tissues.

Although this new form of energy has been approved only for atrial fibrillation ablation, it is obvious that can be used, and is being used already, to treat other arrhythmias expanding the potentials for a wider use of this new technology. Our limited experience and the apparent unlimited potential of this technology may give us a glimpse of the future of electrophysiology. High precision, individualized, safe interventions to effectively treat arrhythmias.

IA23 The framework of Network Medicine and the space of Bioinformatics within it

Prof. Dr. Giorgos Spyrou

Bioinformatics ERA Chair, Professor and Head of the Bioinformatics Department, The Cyprus Institute of Neurology & Genetics (CING), Nicosia, Cyprus

Network science, together with machine learning and computational modeling, lays out a roadmap for the further development of bioinformatics towards a more efficient exploitation of single-level as well as multi-omics. Network-based inference and integration provide great opportunities to develop innovative methodologies that lead to new insights into candidate biomarkers, repurposed drugs, and disease-related mechanisms, supporting and enhancing the vision of Network Medicine. Network-based methods and tools for mechanism understanding, drug repurposing and biomarker discovery, developed by the Bioinformatics Department at CING will be presented.

IA24 How can we detect Left ventricular Hypertrophy in hypertensive patients

Adj. Prof. Dr. Charalambos Grassos

Director Cardiologist-General Hospital of Attica "KAT" , Adjunct Professor, School of Medicine, European University Cyprus

Left ventricular hypertrophy (LVH) detected by electrocardiography (ECG) and, more recently, by echocardiography has been shown to be an extremely strong predictor of morbidity and mortality in patients with essential hypertension and in members of the general population. Increased left ventricular mass (LVM) is strongly related to both increased blood pressure and overweight. Indexation of LVM by body surface or height has advantages for the detection of LVH related to hypertension or obesity. Indexation of LVM for height to the power 2.7 revealed by analysis of growth (allometric) relations may accomplish both these goals. In validation studies, the sensitivity of echocardiography to detect LVH has been reasonably high (85-100%), whereas that of ECG has ranged from as high as 50% in severely diseased necropsy populations to as low as 6-17% in recent studies in Cornell and Framingham. ECG sensitivity can be improved by using Cornell multivariate regression equations or by consideration of the Cornell voltage-QRS duration product. Obesity dramatically decreases the sensitivity of the ECG for detection of LVH, and recent research suggests a lower specificity and a higher rate of false-positive ECG diagnoses of LVH in black than in white subjects. Standard criteria for ECG LVH are less useful than echocardiographic findings for stratifying populations into high- and low-risk subgroups because of lower sensitivity, but improved ECG criteria need further evaluation in this respect.

IA25 Conventional vs. rapid initiation of HFrEF pharmacological therapy: Tips and tricks

Ass. Prof. Dr. Giamouzis Grigoris

School of Health Sciences, University of Thessaly, Cardiology Clinic of Larissa University General Hospital, Heart Failure Working Group Chair (2020-2022), Hellenic Cardiology Society

Previously, guidelines recommended initiating therapy in patients with heart failure and reduced ejection fraction (HFrEF) in a sequence that follows the chronological order in which trials were conducted, with cautious up-titration of each treatment. This approach dictates that a 52-week period is needed in order to reach the target doses of the 4 pillars of HFrEF medical therapy (i.e. β-blockers, ARNIs, MRAs and SGLT2-inhibitors). It remains unclear whether this historical approach is optimal and alternative approaches may improve patient outcomes.

The potential reductions in events that might result from i) rapid in-hospital initiation, and ii) accelerated up-titration of the 4 bigs in different orders, is an alternative approach that gains more attention. Using a rapid up-titration schedule may lead to fewer patients experiencing the composite of heart failure hospitalization or cardiovascular death and even fewer deaths from any cause.

This presentation focuses on the “tips and tricks” of in-hospital simultaneous initiation and out-of-hospital rapid up-titration in the follow-up visits of the 4 pillars of HFrEF medical therapy, with special attention to side effects like i) hypotension, ii) worsening of renal function, and iii) hyperkalemia.

In conclusion, the old-fashioned conventional standard treatment guidance may not lead to the best patient outcomes in HFrEF; however, this rapid-initiation/up-titration approach should be tested in future clinical trials.

IA26 ATH-063: AI-based target identification for the development of novel compounds against IBD

Prof. Dr Iordanis Karagiannidis

Chief Scientific Officer of Athos USA Company

Ulcerative colitis (UC) and Crohn's disease (CD) are complex diseases characterized by heterogeneous manifestations regulated by immune, microbial, genomic, and environmental factors. The identification of UC/CD patient molecular subtypes (signatures) may contribute to the development of IBD precision therapeutics and biomarkers of response. Using proprietary biobank generated and publicly available omic data we identified G9A as the central hub and novel therapeutic target of a gene network enriched in a subset of UC and CD patients resistant to TNFA inhibitors with colonic disease localization. Computational evaluation of chemical compounds for histone methyltransferase G9a inhibition was performed using SeeSAR molecular docking, a novel, potent, highly specific, small molecule inhibitor (ATH-063) against G9a enzymatic activity was identified by our computational platform and synthesized. ATH-63 treatment showed a dose-dependent effect in suppressing clinical and histological symptoms of TNBS colitis (with Treg enrichment in mouse colons) as well as T-cell transfer colitis. ATH-063 did not have any significant cardiotoxic, respiratory, neurological, or genotoxic side effects when evaluated in GLP safety pharmacology & toxicology studies in rats and beagle dogs.

Conclusions: ATH-063 targeting of G9a enzymatic activity results in suppression of the pro-inflammatory responses, via activation of Tregs and induction of mucosal healing in IBD animal models. Clinical trials testing of ATH-063 for the treatment of IBD patients integrating a companion diagnostic microbiome/transcriptomic signature are in progress.

IA27 Revisiting COVID-19 epidemiology after the pandemic

Prof. Dr. John Ioannides

Professor of Medicine, of Epidemiology and Population Health, and (by courtesy) of Biomedical Data Science and Statistics at Stanford University, Co-director of the Meta-Research Innovation Center at Stanford (METRICS) and Einstein fellow and Director of the Meta-Research Innovation Center, Berlin

The lecture will discuss where we stand currently in our (re)appraisal of the COVID-19 pandemic as it evolved since 2019. Issues of epidemiology, modeling, risk stratification, effective and ineffective interventions, policies, benefits and harms of different approaches, and remaining controversies will be re-evaluated now that we have some modest distance from the height of the crisis.

IA28 A novel rare triple negative breast cancer (TNBC) patient-derived xenograft: Development, characterization, and application

Prof. Dr. Konstantinos Dimas

Department of Pharmacology, School of Medicine, University of Thessaly, Greece

Triple-negative (TN) breast cancer (TNBC) characterized by the absence of estrogen and progesterone receptors and low or absent HER2 receptors, accounts for 10-15% of breast cancer cases, has the worst prognosis and is prone to relapse and metastasis. It has limited treatment options due to a lack of clinically useful targets, with neoadjuvant chemotherapy over surgery now considered the standard of care for the treatment of TNBCs tumors ≥ 2 cm. Lipid rich breast cancer (LRBC) is a rare subtype of breast cancer that accounts for 1-2% of all malignant breast cancers. LRBC contains highly proliferative cells. No specific and unique genetic characteristic and/or gene mutation of these tumor cells is yet known, except that they are generally negative for estrogen and progesterone receptors, but HER2 expression tends to be high, with TN cases being even rarer. We report here the establishment of a novel patient-derived xenograft (PDX) from a patient with TN/LRBC. The model was developed in immunocompromised mice after direct transplantation of tumor fragments surgically resected from the patient. The xenograft was further evaluated pharmacologically following the regimen received by the patient to assess its clinical similarity and utility. The results showed that of the drugs tested, the xenograft responded well to cyclophosphamide and docetaxel, as expected, but doxorubicin was found to be highly toxic. As an alternative, Caelyx® (stealth liposomal doxorubicin) was tested for the first time in this type of breast cancer and found to be highly effective with lower toxicity. In addition, karyotyping and NGS analysis were performed for the first time in this cancer. Karyotyping revealed polyploidy, while NGS analysis showed the presence of a pathogenic mutation in the MSH2 gene (c.482T>A, p. Val161Asp) in both the patient and the xenograft. The data suggest that this mutation may be a driver mutation. We further used this PDX to study the development of a novel drug delivery system. This is the first report of the development and characterization of a PDX for TN/LRBC, a model that we anticipate will be an extremely valuable tool for the development of novel therapies and for understanding the biology of this rare form of breast cancer.

IA29 Calculation the risk in Hypertrophic Cardiomyopathy- clinic case

Dr Pantelis Kourtellaris
American Medical Centre

Hypertrophic cardiomyopathy is an inherited cardiac disease with increased risk for malicious arrhythmias. Implanting a cardiac defibrillator is proven to be effective on preventing sudden arrhythmic death. Implanting a device in all cardiomyopathy patients is not the current practice as this is not without a long-term risk especially in the young. Risk stratifying patients with hypertrophic cardiomyopathy depends on clinical parameters and measurements that one can apply in available risk calculators. These gives an annual estimation of the risk of sudden death. Novel risk factors such as genetic testing and cardiac MRI are available and are occasionally used for risk stratification without being stated in the current guidelines. Shared decision making between the physician and the patient is always advisable in patients at moderate risk and this should be applied with caution in order to avoid over or under treatment. In this case study the aim is to discuss a patient with hypertrophic cardiomyopathy and his risk according to current and novel risk factors.

IA30 Interconnection between obesity and lipoproteins: mechanisms beyond intuition

Prof. Dr. Kyriakos E. Kypreos

University of Patras, Department of Medicine, Rio Achaias, TK.26500, Greece; European University Cyprus, Department of Life Sciences, School of Sciences, Nicosia, Cyprus

Adipose organ is made of white adipose tissue (WAT) that is mainly responsible for lipid storage, and brown adipose tissue (BAT) that is mainly responsible for energy production (heat and ATP). Changes in WAT and BAT mitochondrial metabolic activity and in particular reduced mitochondrial metabolic activity and mainly reduced uncoupling protein 1 (Ucp1) function that mediates the metabolic conversion of free fatty acids to heat through non-shivering thermogenesis, impact lipid accumulation in WAT.

The lipoprotein transport system is responsible for the management of dietary as well as endogenously synthesized lipids. Recent data indicate that atherogenic lipoproteins (such as chylomicron remnants, VLDL, LDL) may promote mitochondrial WAT and BAT metabolic dysfunction while the functional HDL may have a protective effect. Even though this relation appears intuitive, the latest findings support a major “paradigm shift” from the existing perception.

Specifically, peripherally expressed apolipoprotein E, (the main apolipoprotein found on chylomicron remnants, VLDL and LDL) was thought to promote obesity via receptor-mediated postprandial lipid delivery to WAT. However, the latest findings clearly show that brain APOE3 expression is associated with a potent inhibition of visceral WAT mitochondrial oxidative phosphorylation leading to significantly reduced substrate oxidation, increased fat accumulation and obesity. In contrast, peripherally expressed APOE3 is associated with a notable shift of substrate oxidation towards non-shivering thermogenesis in visceral WAT mitochondria, leading to resistance to obesity. Along the same lines, most recent data indicate that HDL particles with different apolipoprotein scaffold may have a different effect on WAT and BAT mitochondrial metabolic activity.

These exciting findings extend the role of lipoproteins in WAT and BAT energy metabolism and suggest additional modes of obesity management.

IA31 Hyper-exercise and the cardiovascular system. Beneficial or detrimental relationship?

Dr. Kyriakos Yiangou

Consultant Cardiologist

It is well known over a long time ago that regular physical training produces beneficial effect to the body since it reduces, beyond the favorable effects to various other systems, a number of cardiovascular risk factors that are related with cardiovascular morbidity and mortality.

Recently, some studies raised the concern on whether extreme exercise could possibly cause deleterious effects on the cardiovascular system through various mechanisms of accelerated atherosclerosis, myocardial fibrosis, myocardial damage and consequent increase of the arrhythmic burden. Deep knowledge of the pathophysiological pathways via which all of the aforementioned adverse situations take place and the identification of the point where the amount and intensity of exercise meets the most of the cardiovascular benefit, both still create a huge challenge and a field of research that has plenty of parts that need to be enlightened.

IA32 Genome editing of hematopoietic cells for translational research

Assoc. Prof. Dr. Carsten Werner Lederer

The Cyprus Institute of Neurology & Genetics, Head of Department | Senior Scientist - Molecular Genetics of Thalassaemia Department

A growing molecular tool kit comprising classical genome editors based on DNA double-strand breaks and DSB-independent DNA editors is revolutionising therapy development and functional dissection of gene function. This is particularly true for research of readily accessible and therapeutically relevant hematopoietic stem cells and related cell lines, which often serve as the showcase for new technologies. The present talk touches on corresponding translational research results of our department in hematopoietic cells, toward mechanistic and therapeutic insights for β-hemoglobinopathies and other rare blood disorders in health and disease. Our findings cover high-efficiency homology-independent DNA editing for mutation-specific gene repair and for reverse genetics, optimisation strategies for on-target precision, homology-independent editing for activation of disease modifiers, and precision editing for disease model development.

IA33 The search for causes and prevention of childhood cancer and the Cyprus enigma

Prof. Loizos G. Loizou, MD, PhD

Clinical Professor of Pediatrics, Pediatric Oncology – Hematology, Medical School, University of Nicosia, Fmr. Director of the Pediatric Oncology - Hematology Clinic, Archbishop Makarios III Hospital, Nicosia. President of the ELPIDA Foundation for children and adolescents affected by cancer or leukemia.

Childhood and adolescence cancer (CAC) is not one disease entity. It is a spectrum of different malignancies. The International Classification of Childhood Cancer 3 distinguishes 12 major categories and over 100 subtypes in the 0-19-years old. It is a rare disease representing <2% of all cancers diagnosed yearly. As the leading non-communicable disease killer of children, cancer kills more children (ages: >1-19year) than any other disease. Major treatment progress has allowed more than 80% of children to survive 5 years or more, in developed countries. Prevention is very limited because for most CAC causes are unknown. Genetic and environmental factors play a role. Up to 10% of all cancers in children are caused by a heritable (germline) mutation such as retinoblastoma (RB1), Li-Fraumeni syndrome (TP53), Beckwith-Wiedemann syndrome (CDKN1C, H19, IGF2, KCNQ1OT1), Fanconi anaemia syndrome (FANCA, FANCC, FANCG), Noonan syndrome (PTPN11, SOS1, RAF1, RIT1), von Hippel-Lindau syndrome (VHL). Cancer causing genetic alterations may also happen de novo during embryonal life. In Down syndrome (trisomy of chromosome 21) there is a higher risk to develop leukaemia (10-20 X). There are environmental causes such as a) atomic bombs' ionizing radiation (2nd WW - Japan, Chernobyl), b) exposure to X-rays in utero, c) CT scan imaging, d) prior chemotherapy or radiotherapy, e) exposure to infections (Epstein-Barr and hepatitis B virus, HPV). Limited knowledge of the aetiology of CAC induces limited prevention. Therefore, the search of the causes of CAC is very important, especially in populations never studied before. Recently, the first ever population-based cancer epidemiology study in Cypriot 0-19-year-olds showed that cancer incidence rates (1998-2017) in Cypriot 0-19-year-olds is among world's highest. Only Italy and Belgium have higher rates. There were also differences of the most frequent types compared to worldwide patterns. Although leukemias were the most frequent group, lymphomas and thyroid cancer were more frequent than brain tumours. No significant temporal variation for all cancer groups was found except for thyroid cancer. Thyroid cancer incidence was among the highest globally, with significantly increasing temporal trends. These particular patterns of incidence and rates warrant the search for causes. The main hypothesis we are exploring to answer these questions are a) obesity and overweight of child and mother, b) ionising radiation, c) arsenic and d) cancer predisposition syndromes.

IA34 The pleiotropic benefits of oleuropein

Prof. Dr. Maria Konstandi

Department of Pharmacology, Faculty of Medicine, University of Ioannina, Greece

Oleaceae is a family of several species of trees including Olea europaea L., whose products, olive oil and olives, are integral ingredients of the traditional Mediterranean diet, the healthy benefits of which are largely attributed to olive's unique characteristics. The olive leaves, oil and unprocessed unripe olive drupes, contain several polyphenolic substances of increasing pharmacological interest including oleuropein (OLE) and hydroxytyrosol (OLE hydrolysis product). Accumulating data from preclinical and clinical studies provide strong evidence that there is a direct link between OLE and the prevention of several diseases, which are responsible for the morbidity and mortality worldwide. It is attributed to the fact that OLE displays anti-oxidant, anti-inflammatory, hypolipidaemic, anti-atherogenic, anti-platelet, cardioprotective, anti-microbial, anti-viral, anti-diabetic, chemoprotective, neuroprotective and renoprotective properties, which are based on the ability of OLE to reduce oxidative stress, modulate autophagy, induce apoptosis and inhibit the production and release of pro-inflammatory cytokines, enzymes and mediators. In addition, OLE protects myocardium during ischemia-reperfusion, lowers cholesterol and triglycerides, increases insulin sensitivity and promotes glucose uptake in cells, disrupts the integrity of microbial cell membranes, inhibits microbial growth and replication, and increases neural plasticity, among others. These properties of OLE collectively are also of pharmaceutical potential against various diseases including diabetes, obesity, hypertension, inflammation, cancer, microbial infections, as well as cardiovascular and neurodegenerative disorders, such as Alzheimer's disease.

IA35 New guidelines for the treatment of Thoracic Aortic Aneurysms

Matthew Panagiotou MD FETCS

Director of Cardiac Surgery Clinic - Center for Thoracic Aortic Surgery, Athens Medical Center

During the last two decades the medical knowledge concerning the thoracic aorta aneurysms (TAA) has been greatly increased. This lethal disease has been characterized as a 'silent Killer' since the great majority of patients are completely asymptomatic minutes before a catastrophic complication happens. So, the cornerstone in management of this disease is the prophylactic surgical correction, guided mainly by the aortic size criterion.

The recently released 2022 American Heart Association Guidelines for the management of aortic diseases have downsized the aortic size criterion from 5,5 to 5,0 cm and even lower in specific patients. Specialized Aortic Centers with new imaging modalities and aortic teams with other specialties joining cardiac surgery are being organized in many health systems. Multiple genes related to TAA and Aortic Dissection have been identified, so with the genetic testing, the aortic care can be personalized and patients carrying aggressive genes variants can be monitored and triaged for earlier intervention. Over the years aortic surgery has become safer even in the management of complex aortic arch and thoracoabdominal pathologies. In the recent days the surgical benefit outweighs the risk of conservative approach justifying the prophylactic intervention in asymptomatic patients.

The management of the Aortic pathologies has entered the era of maturity awaiting for the definitely faster future progress.

IA36 The Emerging Interest in Lp(a) as a Risk Factor and Potential Treatment Target

Prof. Dr. Haralampos Milionis

Professor of Internal Medicine, School of Medicine, University of Ioannina, Greece, President of the Hellenic Atherosclerosis Society (HAS)

Lipoprotein (a) (Lp(a)) has re-emerged as a significant risk factor for Atherosclerotic Cardiovascular Disease (ASCVD). This talk aims to provide a comprehensive overview of Lp(a) as an ASCVD risk factor and explores its relevance in the context of both traditional and novel therapeutic strategies.

Lp(a) is a unique lipoprotein particle structurally akin to low-density lipoprotein (LDL) but distinguished by an apolipoprotein(a) component. Unlike other lipid parameters, such as cholesterol or triglycerides, which can be influenced by dietary and lifestyle factors, Lp(a) levels are predominantly determined by genetic factors.

Elevated Lp(a) levels are mostly have consistently demonstrated an independent association with an increased risk of ASCVD. Lp(a) contributes to atherosclerosis through mechanisms including endothelial dysfunction, inflammation, and atherogenic plaque formation.

Traditional lipid-lowering therapies, such as statins, have limitations in effectively reducing Lp(a) levels. However, Proprotein Convertase Subtilisin/Kexin type 9 (PCSK9) inhibitors (like evolocumab and alirocumab) enhance the clearance of LDL cholesterol, produce a significant lowering of Lp(a) levels and further reduce ASCVD risk.

In recent years, novel therapies have emerged as exciting avenues for Lp(a) management. These currently involve antisense oligonucleotides (ASOs) and RNA interference (siRNA) agents which target Lp(a) synthesis and have demonstrated efficacy in lowering Lp(a) levels significantly. Indeed, clinical trials have shown that these therapies can lead to substantial reductions in Lp(a) concentrations, potentially reshaping the landscape of ASCVD prevention.

However, further research is essential to validate their efficacy, safety, and long-term benefits, advancing our capacity to prevent and manage cardiovascular disease.

IA37 Real Case presentations:

1. “Antithrombotic treatment in the PAD patient post revascularization”

2. “Optimal anticoagulation in Cancer Associated Thrombosis”

Prof. Dr. Miltiadis (Miltos) Matsagkas

Vascular Surgery

School of Medicine, University of Thessaly

1st Case scenario: Antithrombotic treatment in the PAD patient post revascularization. Discussion on what is the best management of such a patient according to the current literature and guidelines.

2nd Case scenario: Optimal anticoagulation in Cancer Associated Thrombosis. Identifying the best treatment of such a patient based on the most recent data on CAT.

IA38 Case scenarios - Perioperative management of DOAC therapy in a patient with AF that undergo a hip replacement and Optimal perioperative management of aspirin in a patient that needs bilateral inguinal hernia repair

Prof. Dr. Arnaoutoglou Eleni

Anesthesiology, School of Medicine, University of Thessaly

1st Case scenario: Perioperative management of DOAC therapy in a patient with AF that undergo a hip replacement. Discussion on what is the best perioperative management of such a patient according to the current literature and guidelines.

2nd Case scenario: Optimal perioperative management of aspirin in a patient that needs bilateral inguinal hernia repair. Identifying the best treatment of such a patient based on the most recent data on perioperative management of antiplatelet therapy.

IA39 Zebrafish: a Translational Splash in Drug Discovery and Repurposing

Assist. Prof. Dr. Nikolas Dietis

Assistant Professor of Pharmacology at the University of Cyprus Medical School, Head of the Experimental Pharmacology Laboratory at UCY (dietislab.org)

The zebrafish (Danio rerio) has gathered global appreciation as a potent model in translational research, playing a pivotal role in drug discovery and repurposing during the last decade. Today it is recognized as one of the most-cited, most-funded and fastest-growing animal models available. Its cost-effectiveness, amenability to genetic manipulations, transparency of its embryos, human-similar drug response, and diversity of available human-disease models, make it a favored choice for high-throughput in vivo drug screenings. This presentation will outline the zebrafish›s growing significance in pharmacology, drug discovery and drug repurposing studies. It will also delve into some key examples where zebrafish has been instrumental as a translational bridge between preclinical findings and clinical trials.

IA40 Drug repurposing for treatment of cardiac steatosis and ischemia

Prof. Dr. Paolo Madeddu

Chair of Experimental Cardiovascular Medicine, Bristol Heart Institute, Bristol, UK

Drug repurposing is the use of a drug for indications different from that for which it was initially aimed. The concept is attractive because of reducing development costs and timelines needed to produce a new drug (Abdelsayed et al, 2022). Cardiovascular drug repurposing has been opportunistic and guided by knowledge of pathogenic mechanisms or casual observation rather than by systematic methodologies. Recently, tyrosine kinase inhibitors (TKIs), initially studied in cancer research, have been repurposed for treating diabetes. Similarly, MEK1/2 inhibitors, promising drugs to treat cancers, can increase the elastin synthesis both in vitro (in vascular smooth muscle cells) and in vivo (in rat aorta), thereby highlighting ERK-1 and -2 inhibition as a potential treatment for vascular pathologies characterized by reduced arterial elastin content (Steijns et al., 2020 and Lannoy et al., 2014). Furthermore, MEK-inhibition also has antiatherogenic properties as MEK-inhibition combined with activation of liver X receptor (LXR) significantly inhibited the development of atherosclerosis in ApoE deficient (ApoE-/-) mice through reverse cholesterol transport and by blocking the formation of foam cells (Chen et al., 2015; Li X. J. et al., 2016; Zhang et al., 2016). We will report new data showing that TKIs and ERK1/2 inhibitors have the potential to treat cardiac steatosis and myocardial ischemia (Yue et al., 2023 and Avolio et al., 2023). We will also report new strategies for systematic screening of drugs for cardiovascular indications.

IA41 The role of the artificial intelligence ECG in cardiovascular medicine today: real world experience

Prof. Dr. Paul Friedman

Norman Blane & Billie Jean Harty Chair, Mayo Clinic Department of Cardiovascular Medicine

Artificial intelligence is dramatically changing cardiovascular medicine. However, like any tool, it's use needs to be carefully studied, vetted, and validated. Early clinical trials have demonstrated its unique capabilities to detect occult disease and predict impending disease. Understanding how we use these trials in practice requires ongoing thoughtful evaluation but stands poised to dramatically impact the work we do.

IA42 Is the Brain in the Goldilocks Zone?

Prof. Dr. George Paxinos

NHMRC Senior Principal Research Fellow, Neuroscience Research Australia, Scientia Professor at The University of New South Wales

Atlases are like theories. Like theories, they assist in finding our way in an unknown domain. Paxinos will report on how he used chemoarchitecture as a criterion in identifying nuclei and as a Rosetta Stone for establishing homologies between experimental animals and humans. The maps of the bird brain assisted in producing more accurate maps of the mammalian brain. Comparisons of the brain of humans with that of non-human primates (chimpanzee, rhesus macaque and marmoset) revealed the same nuclei to exist in all primates. Current work involves construction of an MRI/DTI atlas of the living human brain, designed to provide scientists and clinicians similar images to those they view from their subjects/patients. The speaker will reflect on the place of the human brain on the evolutionary tree of brains. Finally, Paxinos will speak of the neuroscience principles behind the formation of heroes of his novel A River Divided, a novel in the environmental genre that may have broken a record in the time it took him to complete – 21 years.

IA43 Robotic Hiatal Hernia Repairs. True benefits in comparison to conventional laparoscopy

Assoc. Clin. Prof. Dr. Savvas Hiridis

General Surgeon, Athens Medical Center and American Heart Institute, Nicosia, Cyprus, Ass. Clin. Prof., Nicosia University Cyprus

Robotics have revolutionized surgery early from their global introduction after year 2000. Their benefits are quite clear innl various fields such as radical prostatectomy, while in others, existing evidence cannot justify their costly use. Hiatal hernia repair is a challenging group of procedures, aiming towards restoring normal anatomy as well as efficient antireflux valvular mechanisms. Meanwhile it is performed in the vicinity of vital structures. Our 16 year experience presented in this session has showed that robotics succesfully enhance surgical team potential and may facilitate maneuvering during challenging phases of the procedure, especially during redo cases.

IA44 Selection of Thoracoscopic Thymectomy for Thymic Epithelial Tumors, based on PET/CT scan findings

Dr. Sotirios D. Moraitis

Director/Commanding Officer, Naval Hospital, Athens

Aim: There seems to be a correlation between the Standard Uptake Value (SUVmax) of thymic epithelial tumors and the histological type and the stage. This study aims to use the ratio of the SUVmax of the lesion to the SUVmax of the adjacent mediastinal tissues to guide the choice of the surgical access.

Method: A ratio inferior to 1 could, predict a benign nature and less aggressive behavior and a minimally invasive approach was performed. A ratio superior to 1, suggested a malignant and aggressive behavior and a median sternotomy (or a thoracotomy) was performed.

Results: There were 15 male (mean age 44.6 years, range 25-73) and 15 female patients (mean age 50.1 years, range 25-76). In 10 patients the ratio SUVmax of the lesion/SUVmax of the mediastinal tissues was inferior to 1 (Group 1) and in 20 patients the ratio was superior to 1 (Group 2). When the ratio is inferior to 1, it predicts benign disease in 80% of cases. When it is superior to 1, it predicts in half of cases advanced histological types (high risk thymomas and thymic carcinomas), while it can quite accurately predict advanced Masaoka-Koga stages. In Group 2, the capsular invasion was significantly higher (p=0.02). The Chi-square test revealed association between “capsular invasion” and “presence of malignancy”, (p=0.001) and among “presence of malignancy” and “type of operation” (p=0.025). There is no relationship between “capsular invasion” and “type of operation” (p=0.080). To estimate the relationship between “SUV ratio” and “presence of malignancy”, the technique of logistic regression was used. The variable “presence of malignancy” appears to be statistically significant (p=0.009). The related odds ratio is 12. The conversion of odds ratio to probability reveals that the probability of presence of malignancy with SUV ratio > 1, is 92,31%. In addition, the logistic regression model revealed that if the diameter of the tumor is increased per one centimeter, then the odds of presence in the group 2 (SUVmax ratio>1) is 1.719 higher.

Conclusions: The protocol of this study is in accordance with the current literature showing the utility of 18-fluorodeoxyglucose positron emission tomography scan in the treatment of thymic epithelial tumors. This study goes one step further since the choice of surgical access is based on the SUVmax values. The ratio SUVmax of the lesion/SUVmax of the mediastinal tissues could be a new marker, more pertinent than absolute SUVmax values.

IA45 Contemporary management of Nasal Polyps: A new role for Surgery in the era of biologic treatment

Dr. Timoleon F. Terzis

Director of Otorhinolaryngology Department, Head of Athens Rhinology Center, Athens Medical Center, Greece

Chronic Rhinosinusitis with Nasal Polyps is a common inflammatory condition, affecting approximately 5 % of the adult population. This multifactorial disease of unknown cause has a significant impact on quality of life, with bothersome symptoms and comorbidities and significant burden on health costs. Traditional management is based on systematic or intranasal use of corticosteroids. Contemporary role of surgery is complementary to medical treatment, by removing the inflammatory load and improving access of topical treatment into the sinuses. Despite the development of new surgical techniques, the disease is often difficult to control, presenting frequent exacerbations or recurrences. Recently, a predominant Th2 mechanism has been recognized in the pathophysiological process of this disease, which led to development of monoclonal antibodies targeting at Interleukins secreted at different stages of the inflammatory cascade. Phase 3 clinical studies and accumulating real-life data show promising results in disease control. These new tools pose new challenges in disease management decisions, with possible alterations in the role of both surgery and traditional medical treatment.

IA46 The Heart's "Little Brain"

Prof. Dr. Filippos Triposkiadis

Form. Director, Department of Cardiology, Larissa University Hospital; School of Medicine, Larissa, Greece

The cardiac autonomic nervous system (ANS) can be divided into an extrinsic and an intrinsic part, the heart's "little brain", according to the course of nerve fibers and localization of ganglia and neuron bodies. The cardiac intrinsic ANS consists of a network of ganglionic plexuses and interconnecting ganglions and axons. Each ganglionic plexus contains numerous intracardiac ganglia that operate as local integration centres, modulating the intricate autonomic interactions between the extrinsic and intracardiac nervous systems. Although the role of the extrinsic cardiac ANS has historically gained more attention, the intrinsic cardiac ANS may affect cardiac function independently, influence the effects of the extrinsic nerves, and its derangements may contribute to cardiac pathology. Modulation of the intrinsic cardiac ANS is emerging as a novel treatment modality for the management of patients with diverse cardiovascular disorders.

IA47 Identification of cancer pathways and markers in mouse models of spontaneous chronic colitis: From inflammation to cancer

Ramya Ephraim, Sarah Fraser, Jeannie Devereaux, Rhian Stavely, Jack Feehan, Rajaraman Eri, Kulmira Nurgali and Vasso Apostolopoulos

Presenting Author: Prof. Dr. Vasso Apostolopoulos

Pro Vice-Chancellor, Research Partnerships at Victoria University, Australia

Chronic inflammation is a key driver of oncogenesis, and inflammatory bowel disease is strongly associated with the development of cancer. In this study, the Winnie mouse model of inflammatory bowel disease is used to show that the severity of inflammation leads to the expression of a wide range of cancer genes. This study provides important insights into the genetic basis for malignancy in inflammatory bowel disease, as well as identifying markers that could be used to screen for the development of cancer in patients.

The presence of checkpoint markers in cancer cells aids in immune escape. The identification of checkpoint markers and early cancer markers is of utmost importance to gain clarity regarding the relationship between colitis and progressive inflammation leading to cancer. Herein, the gene expression levels of checkpoint makers, cancer-related pathways, and cancer genes in colon tissues of mouse models of chronic colitis (Winnie and Winnie-Prolapse mice) using next-generation sequencing are determined. Winnie mice are a result of a Muc2 missense mutation. The identification of such genes and their subsequent expression and role at the protein level would enable novel markers for the early diagnosis of cancer in IBD patients. The differentially expressed genes in the colonic transcriptome were analysed based on the Kyoto Encyclopedia of Genes and Genomes pathway. The expression of several oncogenes is associated with the severity of IBD, with Winnie-Prolapse mice expressing a large number of key genes associated with development of cancer. This research presents a number of new targets to evaluate for the development of biomarkers and therapeutics.

IA48 The hype and pitfalls of AI

Dr Victor Volovici
Vascular and skull base Neurosurgeon, Rotterdam, The Netherlands.

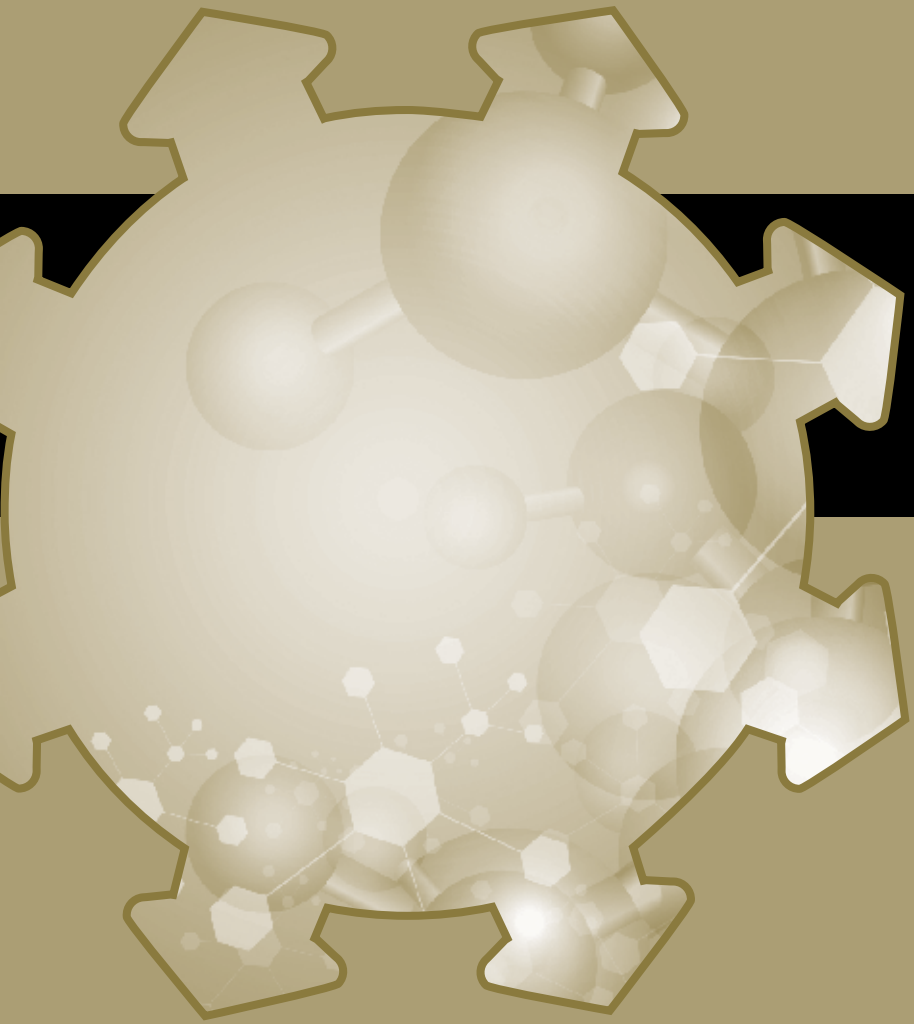
Artificial intelligence and machine learning techniques are poised to change both data science and medicine. While they represent powerful tools that will undoubtedly change the evolution of science and data analysis, their complexity also poses numerous pitfalls. Researchers need to understand and be aware of the issues that arise through the over-reliance and misplaced reliance on these techniques. In this overview, the major pitfalls and drawbacks of techniques are discussed, together with ways to prevent misuse and overuse.

IA49 Epidemic/Pandemic Preparedness after COVID-19 pandemic. The role of ONE HEALTH

Asst. Prof. Dr. Zoi Dorothea Pana

Specialist in Pediatrics, Faculty Member (European University, EUC Cyprus), Specialized in Hospital Epidemiology/ Infection Control/Stewardship (Johns Hopkins Hospital, USA); COVID-19 Advisory Committee/ Consultant (Ministry of Health, Cyprus).

The COVID-19 pandemic has brought to the forefront the risk of major disease outbreaks (epidemics). Prevention, preparedness, and response planning are essential elements for effective monitoring and combatting any forthcoming serious cross-border threats. In the Post COVID-19 epoch, Member States are tasked to liaise with each other to coordinate with the European Commission to seek coherence with the Union and National preparedness plan to the largest extent possible. The pandemic is a strong reminder that to be prepared for the future, a fundamental change in our capacity building but also in our mindset, commitments, and values is necessary. The outbreak of COVID-19 provides strong evidence that urbanization and globalization have changed the way people live in communities. Preparedness is crucial to reduce the health, economic, and social impacts of a future epidemic, it is also the only way to avoid the spread of other diseases. Pandemics are not aleatory events but are the consequence of human interactions with the environment and could be avoided or reduced through science and investments in health, education and community engagement. Rather than rebuilding and reinforcing the pre-existing silo's, a real step forward would be to take the lessons learned and bring in novel essential partnerships in a "One Health" approach to preparedness.



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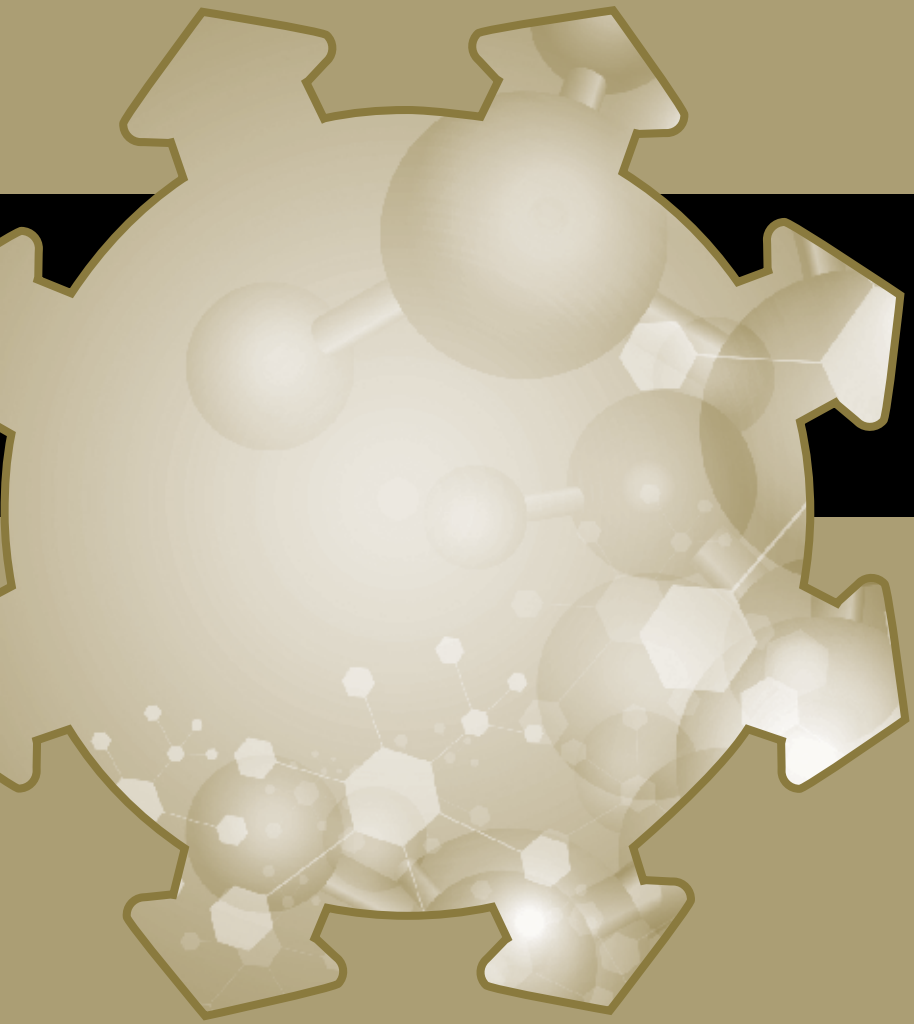

Selected Abstracts

SA01 Effectiveness of COVID-19 vaccine mandates in raising vaccination rates among the elderly and general population in Europe: controlled interrupted time series analysis

Theodore Lytras[1], Abba Adema Alumasa Di Gregorio[1], Dimitrios Apostolopoulos[1], Demetris Naziris[1], Christina Zingerle[1], Alexandros Heraclides[2]

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Background: During the COVID-19 pandemic, three European countries (Austria, Greece, Italy) announced and/or implemented mandatory COVID-19 vaccination for high-risk groups in the general population. Besides the ethical justification for this policy, it is important to assess and quantify the effectiveness of the mandate in raising vaccination rates.

Methods: Controlled interrupted time series analysis of first-dose vaccination rates in the targeted age groups (Greece: ≥60 years; Italy: ≥50 years) relative to a control group (Greece: 50-59 years; Italy: 25-49 years) between week 35/2021 and week 50/2022. For Austria an uncontrolled analysis was performed, as the vaccine mandate targeted all adults ≥18 years.

Results: Announcement of mandatory vaccination substantially increased vaccination rates in the targeted age groups compared to control in both Greece (RR=4.36, 95% CI: 3.57–5.32) and Italy (RR=2.90, 95% CI: 2.37–3.56), an effect which persisted throughout the study period. There were 176,428 (95% CI: 164,097–187,226) mandate-attributable first-dose vaccinations in Greece and 316,192 (95% CI: 282,467–346,678) in Italy, most of which occurred before the mandate came into effect. In Austria no discernible increase in vaccination rates was observed after the announcement of mandatory vaccination. At the end of the study period, 9.5% of ≥60 year-olds in Greece, 4.9% of ≥50 year-olds in Italy and 13.8% of ≥18 year-olds in Austria remained unvaccinated.

Conclusions: In Greece and Italy – though not in Austria – simple announcement of a vaccine mandate rapidly increased COVID-19 vaccination rates in the targeted age groups, without fully closing the vaccination gap. Mandatory vaccination appears to effectively target complacency but not vaccine hesitancy, and its public health benefits need to be weighted against possible detrimental effects on confidence and trust.

SA02 The influence of environmental risk factors in the development of ALS in the Mediterranean island of Cyprus

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Introduction: Amyotrophic lateral sclerosis (ALS) is a devastating, uniformly lethal degenerative disease of motor neurons, presenting with relentlessly progressive muscle atrophy and weakness. The etiology of ALS remains unexplained for over 85% of all cases, suggesting that besides the genetic basis of the disease, various environmental factors are implicated in the pathogenesis of ALS. This study aimed to investigate the contribution of known environmental risk factors of ALS in the Cypriot population.

Methods: We conducted a case-control study with a total of 56 ALS patients and 56 healthy gender/age-matched controls of Cypriot nationality. Demographic, lifestyle characteristics, medical conditions, and environmental exposures were collected through the use of a detailed questionnaire. Statistical analyses using the R programming language, examined the association between the above environmental factors and ALS.

Results: Chi-square test analysis revealed a statistically significant (p=0.000461) difference of smoking status between the two groups. In addition, univariate logistic regression analysis showed a statistically significant association of ALS cases and head trauma/injury (p=0.035), electric injury (p=0.0066) and exposure to chemicals (p=0.0015).

Conclusion: This case-control investigation has shed some light on the epidemiological data of ALS in Cyprus, by identifying environmental determinants of ALS, such as smoking, head trauma, electric injury, chemical exposure, in the Cypriot population.

SA03 Multi-omics factor analysis to detect temporal patterns associated with disease progression in Parkinson's patients

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Parkinson's Disease (PD) patients exhibit significant heterogeneity in the progression of the disease. The disease progresses at different rates and scales of motor and non-motor (cognitive, autonomic dysfunction, psychological) symptoms. Uncovering the molecular heterogeneity of PD could provide an explanation for the failure of clinical trials, and enable a more targeted recruitment of patients. Multi-omics factor analysis has been shown to enable the discovery of molecular markers that are responsible for the various patient trajectories. In this project, we investigate associations of molecular markers and factors to these clinical scales related to specific symptoms.

We utilise the Parkinson's Progression Marker Initiative (PPMI) dataset, which is a longitudinal multi-omics dataset for PD patients across 4 time points within 3 years. We integrated omics (blood mRNA, miRNA and plasma proteomics) from patients and controls, to obtain molecular factors that are highly variable within the cohort and across the different time points. The expressions of the obtained molecular markers between two time points (years 0, 3) are examined to detect temporal patterns that are associated with the progression of the disease. Enrichment analysis of the temporal multi-omics signatures helps to associate molecular mechanisms that are involved with the different clinical scales.

The temporal patterns of the molecular factors discovered from the blood of PD patients reveal dysregulation related to neuronal cells including neuron death, oxidative stress and autophagy, and progressive increase of inflammatory mechanisms. These results show that the detection of these processes in the blood is associated with worsening symptoms of the disease. The discovered multi-omics factors as well as their temporal changes are associated with the disease and could enable the tracking and prediction of the disease progression.

SA04 Quantification of complement proteins in Multiple Sclerosis patients to assess their role in the neuroinflammatory response

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Objectives: Multiple Sclerosis (MS) is characterized by demyelination within the central nervous system (CNS), which is thought to be caused by an underlying immune-mediated, inflammatory disruption. Growing evidence suggests the complement system, key component of innate immunity, has a physiological role but also aberrant complement component activation in the brain may lead into marked neuroinflammatory response and development of neurodegenerative diseases. Studies have shown complement protein disposition in and around demyelinating plaques highlighting the involvement of complement in MS. Our study aims to evaluate the role of the complement system in MS through quantification of complement proteins in serum of patients.

Methods: Complement proteins C1q, C2, C3, C3a, C3b/C3i, C4, C4b, C5, C5a, SC5b9, C9, mannose-binding, factors D, B, H, and I were quantified in serum samples of 48 MS patients, 11 SPMS, 37 RRMS, and 30 healthy controls (HC). Commercially available ELISA and Luminex kits were followed.

Results: Higher concentrations of C2, C5, C9, Factor D and I ($p<0.05$) were detected in MS compared to HCs while no difference was observed with mannose-binding, C5a, C1q, C3, C3a, C4, Factor B and H. In the cases of C4b, C3b/C3i and SC5b9 significant difference was found with HCs having higher concentrations than MS patients. No correlation was found between EDSS or type of MS and the complement proteins. Despite the small sample size, higher mean concentration in 10/16 proteins studied was observed in SPMS.

Conclusion: Our findings have shown an increase in some complement proteins in MS patients in comparison to HC. Further evaluation with a larger sample size is required to support that complement activation is involved in progressive forms of MS, with inclusion of PPMS. With the current data suggesting a role of the complement system in MS, development of complement modulating therapies for MS may be appealing.

SA05 Bilateral pneumothorax accompanied by temporary blindness and hemiplegia due to decompression sickness

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Aim: Decompression sickness (DCS) is a medical condition caused by dissolved gases emerging as bubbles in body tissues. Most commonly occurs during or soon after a decompression ascent. Since bubbles can be formed or migrate to any part of the body, DCS can produce several symptoms, and its effects vary from joint pain to paralysis and death. The aim of this study is to present a case with DCS affected by multiple complications.

Case Presentation: A 19 year old male was performing freestyle diving in about ten meters depth. He used a commercial product that oxygenated him. When he started ascending, oxygen in his lungs turned into bubbles in the blood circulation causing barotrauma. This resulted in bilateral pneumothorax and shortness of breath. When he was transferred to the hospital, he became completely blind and his right side was paralyzed.

Results: The patient was transferred emergently to the Naval Hospital for treatment in the diving chamber. Bilateral chest tubes were inserted for management of apex lung pneumothorax. After two days, both blindness and paralysis subsided. Pneumothorax completely resolved in five days. The patient was discharged fully mobilized in one week.

Conclusion: DCS may have serious complications and everyone who deals with diving must have essential training to understand respiratory physiology. Divers should be accredited in specialized centers and commercial oxygenators need to be questioned for their appropriateness. In depth interpretation of DCS from healthcare professionals, allows effective and aimed therapy.

SA06 Investigation of SLIT3 sequence variants as genetic contributors to congenital heart disease

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Abstract: Tetralogy of Fallot (TOF) is the most common cyanotic congenital heart disease (CHD) in newborns. Genetic variations contribute to the majority of CHD cases, yet specific genes associated with TOF risk remain largely unknown. Combinatorial analysis of whole exome sequencing (WES) data generated in-house, together with meta-analysis of available published and database sources involving copy number variants (CNVs) associated with non-syndromic CHD cases, identified SLIT3 as a CHD candidate gene. The Slit:Robo pathway is primarily recognized for its role in nervous system development, but was recently shown to have a role in cardiac development. Mutations in the SLIT3 gene have been found to result in structural abnormalities in the heart, specifically affecting the formation of the ventricular and atrial septa. Our two Slit3 mouse lines, the Slit3 global knockout and Slit3A1180S mutant mouse model, exhibit cardiac malformations recapitulating phenotypes of patients, including septal defects. Preliminary analysis and characterization of heart development in Slit3A1180S embryos in comparison to wild-type control embryos revealed differences in the expression and distribution of neural crest cell markers such as Sox10, Twist1 and Dlx5. Additionally, we identified 7 SLIT3 missense deleterious variants from patients with CHD that likely affect protein structure and cause disease. Investigating the biochemical impacts of these 7 SLIT3 CHD patient variants will improve our understanding of how alterations in SLIT3 sequence can impact protein function and the activation of the Slit:Robo pathway. Overall, this project has provided some evidence into the developmental requirements for Slit3 and the malformations that arise when Slit3 function is disrupted. However, further experimentation is required to confirm that Slit3 is causative gene for CHD.

Sources of Funding:

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Disclosures: None.

SA07 Investigating the Effects of Long-term Leucine and Isoleucine Treatment on Cognition and Behaviour in Male BALB/c Mice

Alexandra Raftopoulou, Dimitrios Sergetzis, Panagiotis Bouzios, Markos Ioannidis[1], Saahith Pathmanatha[2], Inès Bardaji[2], Simon McArthur[3], Patrick N. Pallier[4]

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Abstract:

This study aimed to explore the relationship between metabolic disorders, such as type 2 diabetes mellitus (T2D), and preclinical Alzheimer's disease (AD), a condition that is accompanied by subtle cognitive and behavioural alterations. T2D affects 500 million people and constitutes a significant risk factor for the development of AD. Yet, the exact mechanism of the link between both is not fully understood. A compromised blood-brain barrier (BBB) may play a role since vascular damage is not only a consequence of T2D but also an early sign of AD. Branched-chain amino acids (BCAAs), such as valine, leucine, and isoleucine, may also be involved since their excessive plasma levels can increase the risk for metabolic diseases in humans. We induced increased leucine or isoleucine plasma levels in male BALB/c mice to mimic high BCAA levels seen in T2D. The mice were divided into three groups; control, leucine-, and isoleucine-treated, and the treatment was administered in drinking water (1.5% w/v) for 9.5 weeks. To assess cognitive and behavioural alterations equivalent to those seen in preclinical AD, behavioural tests for motor coordination and balance (rotarod), exploratory behaviour and anxiety (open field test and elevated zero maze), and building nest ability (nesting test, a murine equivalent to human activities of daily living) started after 7 weeks of treatment. Neither group of BCAA-treated mice showed altered nesting abilities and motor function on accelerating rotarod, but they showed increased anxiety compared to untreated mice, and significant deficit on fixed-speed rotarod that we attribute to likely attentional dysfunction. These findings contribute to our understanding of the link between metabolic factors and early signs of cognitive and behavioural alterations in T2D and preclinical AD, prompting further mechanistic investigation.

SA08 A combination of epigenetic deregulation of stem cell differentiation, mitosis and DNA replication stress predispose for Drosophila midgut tumorigenesis.

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Intestinal stem cells (ISCs), a shared feature of mammalian and insect intestine, are the tumor-initiating cells for most sporadic colorectal cancer cases. Apart from abnormal proliferation of ISCs, tumorigenic phenotype in Drosophila midgut consists of mis-differentiated stem cells. Interestingly, dysplastic phenotype in flies of both sexes, appears in young and old adult flies. This raises the questions whether deregulation of stem cell differentiation is associated to age-related tumorigenesis. Accordingly, we find that chromatin accessibility of genomic regions and expression of genes that regulate the main stem cell differentiation pathway- Notch signaling pathway- are differential between regions and sexes. Besides, our results show increased levels of DNA replication stress upon dysplasia progression into tumor formation due to loss of Notch signaling in progenitors. Simultaneous increase in DNA stress and tumor area indicate the existence of a positive feedback loop between dysplasia and DNA stress. Our results provide insights into how normal stem cells are predisposed to dysplasia early in life, except of genetic predisposition, when others are resistant and how they transition into tumor phenotypes later in life.

SA09 Evaluating the differences in polygenic risk scores in European ancestry populations: implications for breast cancer risk prediction

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Background: Polygenic risk scores (PRSs), could provide a promising tool for personalized cancer risk prediction and inform targeted preventative strategies, by identifying individuals at different levels of cancer risk. Recently, a 313-variants PRS (PRS313) has been constructed for the prediction of breast cancer risk in European ancestry populations. However, the distribution of the PRS313 across the different European countries has not been extensively evaluated. Differences in the PRS313 distribution if not accounted for, could lead to misclassification of some individuals and thus influence their clinical management.

Methods: We calculated the PRS in 94,072 female controls of European ancestry from 21 countries participating in the Breast Cancer Association Consortium (BCAC) and in additional 225,349 female controls participating in the UK Biobank. Mean and standard deviation of PRS313 was calculated by country. We investigated the implications of PRS313 distribution differences across the countries in breast cancer risk prediction. Then, we explored for different approaches to account for the observed variability in the distribution of the PRS313 across the countries.

Results: The mean PRS313 differed significantly across the European countries in both BCAC and the UK Biobank studies, and was highest in southeast Europe and lowest in western Europe. When the overall estimates of the distribution of all the controls participating in BCAC used for the classification of individuals, we observed an overestimation of risk in some individuals from southeast countries (i.e. Greece) and an underestimation of risk in some individuals from western countries (i.e. Ireland). Adjusting for the leading ancestry informative principal components eliminated the heterogeneity in the mean PRS313 across the countries.

Conclusions: The distribution of the mean PRS313 differs among the European countries. Therefore, country-specific calibration of PRS313 will be required before its widespread utility in risk-stratified prevention and in risk prediction models in European countries.

Conflicts of interest: The authors declare no conflicts of interest.

SA10 Cross-talks between RKIP and YY1 through a multilevel bio-informatics pan-cancer analysis

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Abstract

Recent studies suggest that PEBP1 (RKIP) and YY1, despite having distinct molecular functions, may interact and mutually influence one another's activity. They exhibit reciprocal control over each other's expression through regulatory loops, prompting the hypothesis that their interplay could be pivotal in cancer advancement and resistance to drugs. To delve into this interplay's functional characteristics, we conducted a comprehensive analysis using bioinformatics tools across a range of cancers. We extracted mRNA expression data from the TCGA, as well as copy number variations (CNV) and methylation data from UCSC Xena. The mRNA data (RSEM normalized) were normalized to remove batch effects. The TCGA single nucleotide variants (SNV) data were obtained from the Synapse project. Calculation of the methylation levels of the two genes was based on their beta values. We evaluated the differential expression of the two genes and associated it with patient survival, molecular subtype, cancer stage, pathway activity, in pan-cancer. We also evaluated the association between immune infiltration and the mRNA expression, mutations and methylation of YY1 and RKIP. In addition, we collected the half maximal inhibitory concentration (IC50) of 265 small molecules across 860 cell lines and the corresponding mRNA gene expression from GDSC and CTRP to explore associations between YY1 (or PEBP1) expression levels and drug sensitivity, across all major cancer cell line pharmacogenomic data sources from NCI-DTP NCI-60, Sanger GDSC, and Broad CCLE/CTRP. Our results confirm the association between elevated YY1 mRNA levels and varying survival outcomes in diverse tumors. Furthermore, we observed differing degrees of inhibitory or activating effects of these two genes in apoptosis, cell cycle, DNA damage, and other cancer pathways, along with correlations between their mRNA expression and immune infiltration. Additionally, YY1/PEBP1 expression and methylation displayed connections with genomic alterations across different cancer types. Notably, we un-covered links between the two genes and different indicators of immunosuppression, such as immune checkpoint blockade response, and T-cell dysfunction/exclusion levels, across different patient groups. Overall, our findings underscore the significant role of the interplay between YY1 and PEBP1 in cancer progression, influencing genomic changes, tumor immunity or the tumor microenvironment. Additionally, these two gene products appear to impact the sensitivity of anticancer drugs, opening new avenues for cancer therapy.

SA11 Sympathetic inferior laryngeal anastomosing branch

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Background

Knowledge of the sympathetic inferior laryngeal anastomosing branch (SILAB) is limited in modern literature. The SILAB is a nerve originating from the cervical sympathetic chain and the recurrent laryngeal nerve (RLN) and its reported incidence in literature ranges from 0.74% to 1.5%. Failure to distinguish the SILAB from the non-recurrent laryngeal nerve (NRLN), which follows a more direct path than the RLN, can lead to unintended ligation of the RLN resulting in vocal cord palsy. Differentiating the SILAB from the NRLN/RLN is usually based on the branch's smaller diameter relative to the NRLN/RLN and its branching position, which is thought to occur up to 2cm from the level of the larynx or even more caudally up to the clavicle.

Methods & results

Our research investigated the incidence of SILAB in 133 patients (100 females, 33 males) over a two-year period. These patients underwent therapeutic or prophylactic central compartment lymphadenectomy following total thyroidectomy. SILABs were observed in 9.4% (19/202) of cases, with 14 being on the right side (14/99; 14.14%) and 5 on the left side (5/103; 4.83%). Notably, 6 cases (6/19; 31.5%) showed a larger SILAB diameter that resembled the RLN or NRLN. Furthermore, SILABs were observed to branch even more inferiorly than 2 cm from the level of the larynx, contrary to information in literature.

Conclusion

In conclusion, our research highlights a higher incidence of SILAB compared to what is documented in the literature making it prone to misinterpretation by inexperienced surgeons. Recognizing the diameter and branching position of the SILAB to distinguish it from the NRLN/RLN, is crucial for safe surgical interventions. Intraoperative nerve monitoring is an effective measure to minimize complications and surgical errors.

SA12 Scabies update: even in the modern XXIst century - a challenging issue

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Scabies is a common infectious skin disease caused by the ectoparasite Sarcoptes scabiei var. hominis which prevalence remains unacceptably high and affects 150-200 million people worldwide yearly. The most vulnerable groups are children and elderly in low-resource regions, where overcrowding and poverty are more common, especially with hot climates in warm and tropical countries. For a long time, scabies has been perceived as a non-dangerous condition that just causes itching. However, recent studies have shown scabies to be a strong risk factor for secondary superficial bacterial skin infection - impetigo, which can progress further to severe bacterial infections, poststreptococcal glomerulonephritis, and possibly acute rheumatic fever and chronic kidney disease. Itching may also cause severe sleep disturbance in affected individuals, and the exposed excoriated skin may make social stigma an important concern which affects patients' quality of life. Another problem of the modern approach to the disease is insensitive diagnostic tests, controversies regarding therapeutic options and last but not least, vaccination challenges. In recognition and classification of these issues, WHO added scabies to the list of neglected tropical diseases (NTD) in 2017. Increased awareness of the long-term health consequences of scabies and scientific advances from the past few years, suggest that scabies is amenable to population-level control, particularly through mass drug administration. Also, scabies has recently been included as part of the WHO roadmap for neglected tropical diseases 2021–2030, aimed at ending the neglect to attain the Sustainable Development Goals. Scabies global control is now within reach, but further controlled research on scabies is recommended with a view to improving control efforts.

SA13 Effective bedside prognostic tools for septic and septic shock patients – a necessity

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Background: Proper management of sepsis poses a challenge even today, with early diagnosis and targeted treatment being the most important steps. Easy, cost-effective bedside tools are needed in order to pinpoint towards the outcome of sepsis or septic shock.

This study aims to find a correlation between Sequential Organ Failure Assessment (SOFA), Acute Physiology and Chronic Health Evaluation II (APACHE II) and Simplified Acute Physiology Score II (SAPS II) severity scores, the Neutrophil-Lymphocytes Ratio (NLR) and carboxyhemoglobin (COHb) levels in septic or septic shock patients with the scope of establishing a bed side cost effective prognostic tool.

Materials and methods: A pilot, prospective, observational, and ongoing study was conducted on 61 patients admitted with sepsis or septic shock according to the SEPSIS 3 Consensus defintion. We followed clinical and paraclinical parameters on day 1 (D1) and day 5 (D5) after meeting the inclusion criteria.

Results: On D1 we found a statistically significant positive correlation between each severity score ($p < 0.0001$), $r = 0.7287$ for SOFA vs. APACHE II with CI: 0.5841-0.8285, $r = 0.6862$ for SOFA vs. SAPS II with CI: 0.5251-0.7998 and $r = 0.8534$ for APACHE II vs. SAPS II with CI: 0.7663 to 0.9097. On D5 we observed similar results to D1: a significant positive correlation was found between each severity score ($p < 0.0001$), with $r = 0.7877$ for SOFA vs. APACHE II with CI: 0.6283 to 0.8836, $r = 0.8210$ for SOFA vs. SAPS II with CI: 0.6822 to 0.9027 and $r = 0.8880$ for APACHE II vs. SAPS II., CI: 0.7952 to 0.9401. Nil correlation was found between the severity scores, NLR and COHb on D1 and D5.

Conclusion: Cost-effective bedside tools to pinpoint towards the outcome of sepsis are yet to be found, however the positive correlation between the severity scores point out to a combination of such tools for prognosis prediction of septic or septic shock patients.

Conflicts of Interest: The authors declare no conflict of interest.

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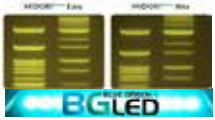

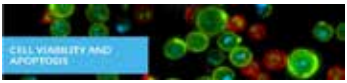

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SA14 A rare FIP1L1: PDGFRA fusion gene observed in a Hypereosynophilic syndrome case

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Introduction: Hypereosinophilic syndromes (HESs) are a heterogeneous group of disorders characterized by the sustained overproduction of eosinophils, with eosinophilic infiltration to multiple organs causing life-threatening damage.

FIP1L1::PDGFRA fusion gene transcript is the molecular defect that is responsible for approximately 50% of HES/CEL cases. Other fusions involve genes PDGFRA, PDGFRB, FGFR1, JAK2, FLT3, BCR and ABL1.

Materials and Methods: We herein describe a case of a 34 year-old male patient with suspected Hypereosinophilic syndrome. Molecular investigation was conducted on peripheral blood and results were confirmed also on bone marrow. Flow cytometry on bone marrow reported slightly distorted myeloid maturation pattern with increased granulocytic compartment, reaching 83.4% of total cells, out of which 38.5% were eosinophils. Findings were also confirmed by FISH.

Molecular investigation employed the Archer® FusionPlex® Pan-Heme Kit for Illumina platform according to manufacturer's recommendations. FusionPlex panels generate target-enriched cDNA libraries from RNA to characterize gene fusions, SNVs, indels and detect expression levels by RNA Next Generation Sequencing.

Results: RNA NGS investigation revealed the FIP1L1::PDGFRA del(4)(q12q12) fusion. The identified fusion partners were PDGFRA exon 12 and FIP1L1 exon 13 with an unidentified region of 18bp between them. Upon investigation the 18bp were identified to be segment of FIP1L1 intron 14.

Conclusion: RNA sequencing used for diagnosis of HES revealed the FIP1L1::PDGFRA del(4)(q12q12) fusion gene transcript. Fusion of FIP1L1 to PDGFRA is the consequence of the interstitial deletion on chromosome 4, del(4)(q12q12), with the centromeric breakpoint in FIP1L1 and the telomeric breakpoint in PDGFRA. While PDGFRA exon 12 (encoding the juxtamembrane region) is the usual partner in FIP1L1::PDGFRA fusions, FIP1L1 breakpoint region is diverse ranging from FIP1L1 introns 9 to 13. This rare fusion gene transcript, however, included a 18bp FIP1L1 intron 14 sequence that was flanked by FIP1L1 exon 13 and PDGFRA exon 12, an event that was not previously identified by our lab. The accurate detection of gene fusions is critical for accurate diagnosis and identification of potential therapeutic targets.

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PA01 Evaluation of the Diagnostic performance of [18F]-PSMA-1007 PET scan in patients with biochemical failure

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Background:

It is widely accepted that the earlier an accurate staging is established, the longer the patient's survival, which also applies to prostate cancer (PCa). PET/CT imaging of PCa is feasible with a plethora of radiopharmaceuticals. Due to superior imaging properties and production economics, the German Oncology Center's radiopharmaceutical of choice is [18F]-PSMA-1007. Other radiopharmaca like [68Ga]-PSMA have well-established PSA limits for their use in the biochemical failure (BF) setting (0.2 ng/ml), however, this information is not available for [18F]-PSMA-1007. This study aims to investigate the probability of a pathological [18F]-PSMA-1007 scan, depending on PSA levels in BF.

Methodology:

This is a retrospective analysis of 288 [18F]-PSMA-1007 PET/CT scans of patients with BF after definite treatment. To assess the probability of pathological [18F]-PSMA-1007 PET/CT scans depending on PSA level, the patients were divided into four groups depending on their PSA value at the time of imaging. SPSS was used to calculate the aforementioned probability using descriptive statistics.

Results:

Out of 288 analysed patients, 249 had a positive result and 39 negative. For the four selected PSA ranges; PSA value <0.2, 0.2-0.5, 0.5-2 and >2 ng/ml, the possibilities of positive (pathological) PSMA scan are 56.25, 62.50, 94.00 and 95.18% respectively.

Conclusion:

The results demonstrate a superiority in BF detection especially at the lower PSA value ranges compared to other radiopharmaca like the [68Ga]-PSMA-11, which has been evaluated with a probability of a pathological PET/CT scan of 46 and 50% at the PSA ranges of <0.2 and 0.21-≤0.5 ng/ml respectively (Afshar-Oromieh et al. 2017). The results of this analysis will aid with better patient selection, who are suitable for a PSMA PET scan while optimizing and further justifying their exposure to ionizing radiation.

PA02 Decitabine treatment induces a viral-mimicry response in cervical cancer and increases response to chemotherapy

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The development of effective therapeutic approaches for patients with cervical cancer (CC), the fourth most common cancer in females worldwide, comprise an urgent medical need. Chemoresistance to existing chemotherapeutic drugs is a significant unmet clinical obstacle. In addition, use of immune checkpoint therapy has proved to hold an exceptional promising anti-cancer potential, but only a minority of patients benefit. Epigenetic therapy using DNA methyltransferase (DNMT) inhibitors as anti-cancer agents in solid tumours has attracted great attention in the recent years, with particular interest in the potential of these drugs to modulate tumour immunogenicity and/or increase chemosensitivity in cancer. However, whether DNMT inhibitors could enhance cancer immunogenicity and/or induce chemosensitivity in CC is unknown. Herein, testing the anti-cancer, immunomodulatory and chemosensitizing potential of a DNMT inhibitor, 5-aza-2'-deoxycytidine (decitabine, DAC) in human papillomavirus (HPV)-associated CC or HPV-CC cells in vitro. To assess the anti-cancer potential of DAC treatment in CC cells, in vitro end-point assays were developed, and biomarkers of response were used. We have shown that low doses of DAC treatment activate an anti-viral pathway characterized by long-term activation of double-stranded RNA (dsRNA), upregulation of the interferon-related gene 7 (IRF7) and the dsRNA-sensing molecule MDA5 whilst reducing cell viability and promoting robust G2/M phase cell cycle arrest. In addition, DAC treatment stimulated prolonged time-dependent induction of immune-associated molecules in CC cells in vitro and increased the levels of apoptotic cancer cells as indicated by flow cytometry analysis. Nanomolar doses of DAC treatment resulted in a greater response of CC cells to low doses of the chemotherapeutic drug, cisplatin, as indicated by the significantly reduced cell number in response to combination treatment compared to each agent alone. Increased response to cisplatin was associated with significantly higher gene expression levels of pluripotency-related factors suggesting a role of these factors in the response of CC cells to treatment. Our results showed that low doses of DAC treatment can exhibit both immunomodulating and chemosensitizing effects in CC, offering a variety of opportunities for novel therapeutic interventions in cancer management, providing solutions to current therapeutic challenges for the treatment of CC.

PA03 Investigation of SLIT3 sequence variants as genetic contributors to congenital heart disease

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Tetralogy of Fallot (TOF) is the most common cyanotic congenital heart disease (CHD) in newborns. Genetic variations contribute to the majority of CHD cases, yet specific genes associated with TOF risk remain largely unknown. Combinatorial analysis of whole exome sequencing (WES) data generated in-house, together with meta-analysis of available published and database sources involving copy number variants (CNVs) associated with non-syndromic CHD cases, identified SLIT3 as a CHD candidate gene. The Slit:Robo pathway is primarily recognized for its role in nervous system development, but was recently shown to have a role in cardiac development. Mutations in the SLIT3 gene have been found to result in structural abnormalities in the heart, specifically affecting the formation of the ventricular and atrial septa. Our two Slit3 mouse lines, the Slit3 global knockout and Slit3A1180S mutant mouse model, exhibit cardiac malformations recapitulating phenotypes of patients, including septal defects. Preliminary analysis and characterization of heart development in Slit3A1180S embryos in comparison to wild-type control embryos revealed differences in the expression and distribution of neural crest cell markers such as Sox10, Twist1 and Dlx5. Additionally, we identified 7 SLIT3 missense deleterious variants from patients with CHD that likely affect protein structure and cause disease. Investigating the biochemical impacts of these 7 SLIT3 CHD patient variants will improve our understanding of how alterations in SLIT3 sequence can impact protein function and the activation of the Slit:Robo pathway. Overall, this project has provided some evidence into the developmental requirements for Slit3 and the malformations that arise when Slit3 function is disrupted. However, further experimentation is required to confirm that Slit3 is causative gene for CHD.

Sources of Funding:

This study was supported by the Biotechnology and Biological Sciences Research Council (BBSRC) and British Heart Foundation (BHF). Prof Keavney holds a British Heart Foundation Personal Chair.

Disclosures:

None.

PA04 Vitamin D – Hormone of the modern age as adjuvant therapy in skin diseases

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Background: During the last few years, investigations of the role of vitamin D in certain skin conditions have significantly increased. Numerous laboratory studies have demonstrated the dose-dependent molecular effects of vitamin D and its analogs on cell proliferation, differentiation, and apoptosis. Vitamin D administration was also associated with immunomodulatory, antioxidative, and cytoprotective effects why is considered as a new hormone.

Objective: We provide an overview of the pivotal information about the effect of systemic treatment with vitamin D along with other therapy in patients with skin diseases.

Results: A clinical amelioration, after systemic administration of vitamin D, was observed in patients with psoriasis, vitiligo, and congenital ichthyosis. Some studies proved that combination treatment with oral vitamin D and topical tacrolimus is more effective in reaching repigmentation than topical tacrolimus alone in patients with vitiligo. Currently, there is insufficient evidence of treatment outcome in patients with scleroderma and alopecia areata. Vitamin D may reduce clinical features in atopic dermatitis, especially in pediatric population with a severe AD in combination with topical corticosteroid. Vitamin D deficiency is correlated with the severity of acne vulgaris, as well as hidradenitis suppurativa, so the use of peroral D3 vitamin as an adjuvant therapy is considered useful in forms with inflammatory lesions. Oral administration of vitamin D may improve the clinical presentation of skin tumors, but does not affect the survival rate. Finally, chronic use of systemic corticosteroids in many skin diseases increases risk for osteoporosis which additionally confirms the value of treatment with vitamin D, regardless of the direct impact on the skin disease.

Conclusion: An increasing number of studies demonstrate positive effects of vitamin D or its analogues in a variety of skin diseases, but further clinical studies are needed to determine the efficacy, optimal dosing, and adverse effects of vitamin D in combination with the baseline therapy.

PA05 Topographic Keratoconus Incidence Diagnosed In Routine Consecutive Cataract Procedures In Greece: A Consecutive Case Series In 1250 Cases Over 5 Years

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Purpose: Scheimp lug tomography has been for many years an integral part of our pre-operative assessment and measurement in cataract extraction. We retrospectively reviewed the incidence of topographic keratoconus and also keratoconus suspicion in our routine cataract surgery population over 5 years.

Setting: The LaserVision Ambulatory Eye Surgery Unit, Athens, Greece

Methods: in 1250 consecutive cataract surgery cases by one surgeon (AJK) in otherwise naïve eyes, accounting for years 2017 to 2021 we retrospectively evaluated by 5 different experienced evaluators (2 ophthalmic surgeons and 3 optometrists) the topographic incidence of keratoconus as classified by the Pentcam HR (stages 1 to 4) as well as keratoconus suspicion based on irregular pachymetry distribution, astigmatism truncation and/or irregularity. We formed 4 groups: A: keratoconus, B: suspicious for keratoconus, C: regular corneas and D: irregular corneas not keratoonus-related.

Results: Based on corneal topographic data the cases were classified as: 138 or 11% were included in group A, 314 or 26% in group B, 725 0r 58% in group C and final 6 or 5% in group D respectively. There was no disagreement between the 5 evaluators for any of the cases in group A, C and D, and little variance among them for cases included in group B (less than 5%).

PA06 Drosophila chitin lectins control intestinal homeostasis and tumorigenesis

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The fruit fly, Drosophila melanogaster, has emerged as an exceptional model to study intestinal inflammation and tumorigenesis, due to the extensive conservation in the signals that control pathophysiology and regeneration between flies and humans. Through comparative transcriptomics of fly intestines carrying tumors induced by Ras1* oncogene expression or by inactivation of the Notch tumor suppressor (NotchDN), we identified 55 differentially-expressed genes. Each gene was individually silenced in Ras* tumorous midguts and intestinal mitosis was monitored as a tumor growth proxy. We selected CG13309, CG7298 and CG10154, which encode chitin-binding domain (CBD) proteins, and significantly reduced Ras tumorigenesis when silenced, for further analysis. We found that, in non-tumorous midguts, intestinal stem cell (ISC)-specific silencing of CG13309 and CG10154 compromised damage-induced ISC-mediated midgut regeneration, whereas CG13309 and CG10154 ISC-specific overexpression was sufficient to drive midgut mitosis in the absence of damage. CG7298 was shown to have only a tumor-specific role. To further understand CBD gene function, we raised an antibody against CG13309. We found that in wild-type midguts, the CG13309 protein was closely associated with intestinal progenitors and its punctate localization was extracellular. Through mosaic clonal analysis and marker co-expression upon CG13309 silencing, we showed that CG13309 was necessary for ISC mitosis but not maintenance or differentiation. We also tested gut physiology in CG13309-silenced midguts. We found no effect on fly survival upon infection, but contradictory results regarding intestinal barrier permeability that need further investigation. Moreover, to identify possible interactions of CG13309 with conserved regeneration and tumorigenesis signals, we performed time-course RT-qPCR analysis (at 12, 24, 48 and 72 hours) of CG13309-silenced tumorous and non-tumorous intestines. We found changes in expression of ISC mitosis regulators including ligands of the Notch, EGFR, Toll, and Jak-Stat pathways. Last, to identify novel effectors of CBD genes, we performed mRNA-Seq transcriptomics of control vs. ISC-specific CG13309- and CG10154-silenced midguts in baseline and infection conditions. Gene expression enrichment analysis identified a common signature of genes with lysozyme activity and transmembrane domains upon CBD silencing, that require further experimentation. Since the fly CBD genes encode small secreted peptides associating with tumors with sequence similarity to human chitin lectins, our future research can provide mechanistic insights into the action of human chitin lectins, which are upregulated in colon cancer and inflammation.

PA07 Prioritization of disease-specific cell types in single-cell RNA-sequencing (scRNA-Seq) data

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Prioritization or ranking of different cell types in a scRNA-Seq framework can be performed in a variety of ways, some of these include: i) obtaining an indication of the proportion of cell types between the different conditions under study, ii) counting the number of differentially expressed genes (DEGs) between cell types and conditions in the experiment or, iii) prioritizing cell types based on prior knowledge about the conditions under study (i.e., a specific disease). These methods have drawbacks and limitations thus novel methods for improving cell ranking are required. Here we present a novel methodology that exploits prior knowledge in combination with expert-user information to accentuate cell types from a scRNA-seq analysis that yield the most biologically meaningful results. Prior knowledge is incorporated in a standardized, structured manner, whereby a checklist is attained by querying MalaCards human disease database with a disease of interest. The checklist is comprised of pathways and drugs and, optionally, drug mode of actions (MOAs), associated with the disease. The user is prompted to "edit" this checklist by removing or adding terms (in the form of keywords) from the list of predefined terms. Our methodology has substantial advantages to more traditional cell ranking techniques and provides an informative complementary methodology that utilizes prior knowledge in a rapid and automated manner, that has previously not been attempted by other studies. The current methodology is also implemented as an R package entitled Single Cell Ranking Analysis Toolkit (scRANK) and is available for download and installation via GitHub (https://#hub.com/aoulas/scRANK)

PA08 Multiple huge mediastinal cysts causing shortness of breath

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Aim: Mediastinal cysts are lesions of various nature determined by embryonic origin. They are generally benign and understanding of their embryology as well as awareness of the anatomic relations are necessary for the determination of the exact nature of a lesion or a cyst. They cause symptoms such as fatigue, chest pain, shortness of breath or become infected because of local compression and subsequent obstruction. The most effective treatment is surgical resection. We present a case of multiple huge mediastinal cysts causing shortness of breath.

Case Presentation: A 52-year-old female suffered from chest pain and heaviness in the anterior part of the thorax. In light fatigue, she also showed shortness of breath with a decrease in her oxygen saturation. Both X-ray and Chest CT scan indicated cystic formations in the anterior, middle and part of the posterior mediastinum.

Results: The operation was performed with a median sternotomy and involved the excision of the cysts. The postoperative course was excellent, the symptoms subsided immediately, and the patient recovered completely. She was discharged after four days.

Conclusion: Mediastinal cysts are rare and can be successfully treated with median sternotomy or thoracotomy. Video Assisted Thoracic Surgery and Robotic Assisted Thoracic Surgery can also be performed. Minimally invasive cases should be converted to open surgery if needed. In our case the decision was to perform an open operation due to the size of the cysts that involved the entire mediastinal space.

PA09 Context base editing for splice correction of HBBIVSI-110(G>A) thalassemia

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Beta-thalassemia is brought about by defective β-globin (HBB) formation and in severe cases requires regular blood transfusion and iron chelation for survival. Genome editing of hematopoietic stem cells allows correction of underlying mutations as curative therapy. As potentially safer alternatives to double-strand-break–based editors, base editors (BEs) catalyze base transitions for precision editing of DNA target sites, prompting us to reclone and evaluate two recently published adenine BEs (ABE SpRY and SpG) with relaxed protospacer adjacent motif (PAM) requirements for their ability to correct the common HBBIVSI-110(G>A) splice mutation. Based on nucleofection of ABE components as RNA into patient-derived CD34+ cells, we achieved up to 90% editing of upstream sequence elements critical for aberrant splicing. This allowed full characterization of the on-target base editing profile of each ABE and the detection of potentially context-dependent differences in on-target insertions and deletions. In addition, it identifies opposing effects on splice correction for two neighboring context bases, establishes the frequency distribution of multiple BE editing events in the editing window, and shows high-efficiency functional correction of HBBIVSI-110(G>A) for our ABEs, including at the levels of RNA, protein and erythroid differentiation.

PA10 Estimation of the founder effect haplotype and the age of the mutation among Cypriot individuals with Huntington's disease

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Abstract

Huntington Disease (HD) is a dominantly inherited neurodegenerative disorder characterized by several neuropsychiatric symptoms, uncontrolled movements, most commonly choreiform, and progressive cognitive impairment. HD is caused by a trinucleotide CAG expansion in the huntingtin (HTT) gene on chromosome 4 resulting in the production of a mutant huntingtin protein (mHtt). Affected individuals have greater than 36 repeats of the triplet in contrast with non-affected people who carry less than 27 repeats. The prevalence of HD in the European population is significantly higher compared to African or Asian populations since haplogroup A occurs predominantly in European ancestry individuals.

The aim of this research was firstly to determine the haplotypes of Cypriot affected individuals and secondly to estimate the age of the mutation, more specifically when the mutation was introduced to the Cypriot population by a possible common ancestor. To accomplish this, 36 markers were investigated, among them 32 Single Nucleotide Polymorphisms (SNPs) and 4 Sequence Tagged Sites (STSs) from 7 different genes in close proximity with the HTT gene, genotyping the DNA of 111 patients and 94 controls. Haplotype analysis revealed one main haplotype in the Cypriot patients, that was absent from control chromosomes and correspond to the A2 haplogroup of HTT haplotypes from previous published reports. In addition, the age of the founder haplotype was estimated using the DMLE software to be approximately 375 years old.

In conclusion, there is a founder haplotype associated with HD in the Cypriot population and it has most probably been introduced to the population during the Venetian (1489-1570 AD) or early Ottoman (1570-1878 AD) occupancy.

PA11 Chest wall reconstruction with rudakov technique using a thermal memory bar in a patient with pectus excavatum. The first operation in Greece.

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Introduction: Pectus Excavatum is the most common abnormality of the chest wall. It occurs as an abnormal development of chondrosternal joints during adolescence and youth. Restoration is required in cases where it causes concomitant issues of cardiac and respiratory etiology or for aesthetic reasons.

Case discussion: A 37-year-old male patient presented after diagnostic investigation due to the scaphoid chest and the presence of chest heaviness and palpitations in the left lateral chest wall. In this context, it was diagnosed that the presence of the disease had shifted the heart completely left in contact with the rib cage. The patient underwent reconstruction of the anterior thoracic wall following the Rudakov technique with mini bilateral thoracotomies under the usage of a thermal memory bar. This operation was performed for the first time in Greece.

Results: The patient had an excellent and uneventful course and was discharged from the clinic on the 4th postoperative day. The patient's clinical improvement was immediate with remission of symptoms and the heart position has been restored in approximately 4 years, as expected.

Conclusions: Minimally invasive surgical treatment is possible in selected patients as the one introduced in this case. The operation is perfectly tolerated with moderate postoperative pain.

PA12 Non-hodgkin lymphoma presented as a huge extrathoracic mass: a case report

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Introduction: Non-Hodgkin lymphoma is a type of malignant tumor that begins to spread from the lymphatic system which is part of the immune. On this specific tumor, the white blood cells are called lymphocytes and they develop abnormally forming tumors all over the body. There are several different subtypes included in this division with most common the diffuse large B-cell lymphoma and the nodular lymphoma.

Case discussion: A 66-year-old male patient had a past history of a right lateral chest distention. Chest CT scan showed a large extrathoracic mass in his right anterior wall. He underwent anterolateral thoracotomy and excision of the tumour. The histological examination showed that it was a non-Hodgkin lymphoma.

Results: The postoperative course of the patient was excellent without any complications. The patient was discharged after 4 days. Hematological consultation was followed and a proper regimen was started for the patient.

Conclusions: Surgical intervention exclusively is not usually followed in order to treat non-Hodgkin lymphomas. Although non-Hodgkin lymphoma is considered to be one of the most common hematologic malignancies, knowledge of the genetic prognosis and combination of advanced treatment methods such as chemotherapy, immunotherapy and targeted proton therapy have the competence to prevent or treat every specific case of this disease. Surgery is usually reserved for diagnosis and in selected cases radical resection.

PA13 Generating an integrated network of the a-priori knowledge in the molecular/omics landscape for Multiple Myeloma

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Multiple Myeloma (MM) is a multistage process characterized by the accumulation of malignant Plasma Cells (PCs) originating from the Bone Marrow (BM). PCs are the antibody-producing machines that originate from the maturation and activation of B-cells in secondary lymphoid organs. This process goes through different mechanisms, first the recombination of IgH and light chain genes of antibodies, then somatic hypermutations and lastly class switch recombinations that eventually will transform B-cells into antibody-producing cells. Different known IgH translocations that are born from this process can contribute to the activation of the proliferative and anti-apoptotic pathways to the genome of PCs and lead to malignancies. In the case of MM, there are two asymptomatic stages, the Monoclonal Gammopathy of Undetermined Significance (MGUS) and Smoldering Multiple Myeloma (sMM) but as the disease progresses those malignancies can escape the BM. Plasma Cell Leukaemia (PCL) can be developed when BM survival signals are lost and the malignant cells circulate in the bloodstream and ExtraMedullary Disease (EMD) when those cells penetrate other organs.

Due to the minimum prior knowledge about this disease, the classification of patients into the different stages is done with specific criteria like the levels of serum M-protein, the percentage of proliferative PCs and the appearance of specific features of end-organ damage. To our knowledge, there is no prior work that collects all the pieces of molecular/omics information that are publicly available about MM. This triggered our attempt to collect all the available data that was also validated for MM and its prion stages. During our investigation, it turned out that there was no validated data about the prior stages of MM so the available MM-related FDA-approved drugs, miRNAs, variants and genes were collected. This data was then properly harmonized and integrated into a multi-source information network (synthetic gene-to-gene network) carrying the collected and processed information as an edge and nodal score. Network analysis, gene prioritization and pathway analytics will be provided based on the integrated network for Multiple Myeloma.

PA14 Analysis of the neutralizing activity of sera from vaccinated versus naturally infected persons against SARS-CoV-2 Wuhan-Hu-1 strain and variants of concern using a virus-like particle based neutralization assay

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The global spread of SARS-CoV-2 is devastating health systems and economies worldwide. In an effort to combat the COVID-19 pandemic several different vaccines have been developed and received approval with the aim to elicit protective neutralizing antibodies in vaccinated persons. However, the subsequently emerging SARS-CoV-2 variants of concern possess mutations in the viral spike protein that can alter virus-host cell interactions and promote immune escape, which compromises vaccine efficacy and increase the risk of reinfection.

Neutralization efficacy has so far mostly been assessed using vesicular stomatis virus (VSV)-derived or lentivirus-derived pseudovirus assays, or with infectious SARS-CoV-2 carrying point mutations in S protein. Recently, a new hybrid alphavirus-SARS-CoV-2 particle (Ha-CoV-2) was described for rapid screening and quantification of neutralization antibodies and antiviral drugs. In contrast to lentivirus-based systems, the Ha-CoV-2 has the advantage of expressing all SARS-CoV-2 structural proteins (S, M, N, and E) and is modified to robustly express reporter genes in target cells within 3-5 hours following viral entry allowing for fast assessment of viral mutations with regard to their effect on neutralizing capability.

We have applied the Ha-CoV-2 system for investigating sera of patients (vaccinated vs. natural immunity) with regard to their neutralisation capacity against the Wuhan reference strain, the initially in Cyprus dominating B.1.258Δ variant, the Alpha Variant and the Delta variant. Our findings show that sera derived from vaccinated individuals show reduced protection against more recent SARS-CoV-2 variants of concern as compared to the Wuhan strain.

The method established is a reliable tool for assessing the neutralizing capacity of anti-SARS-CoV-2 nAbs. The information obtained is crucial for assessing the efficiency of currently used vaccines as well as the capacity of naturally obtained antibodies against newly emerging variants and guide thereby vaccine design and strategy.

PA15 The Computational Drug Repurposing Landscape against Multiple Myeloma (only for poster presentation)

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Multiple Myeloma (MM) is a challenging, B-cell malignancy characterised by the uncontrolled proliferation of plasma cells within the bone marrow. Due to the failure of the bone marrow that is caused, anaemia, bone pain and fractures, high calcium levels and renal failure are triggered. Despite significant advances in treatment options nowadays, MM remains an incurable malignancy, with the majority of patients dying since the disease becomes refractory to treatment. MM develops from a pre-malignant state known as monoclonal gammopathy of unknown significance (MGUS), which then has the potential to evolve into smouldering (asymptomatic) multiple myeloma (SMM), which then progresses into MM. De novo drug discovery, which concerns the discovery of novel drugs for a disease of interest, has grown to be time-consuming and increasingly costly. Because of that, drug repurposing, which concerns the detection of existing drugs for a novel disease can be applied. To address this critical unmet medical need of MM, we present a comprehensive analysis of computational drug repurposing strategies leveraging MM gene expression data. Specifically, microarray and RNA-seq data are analysed to generate lists of over- and under-expressed genes for all three stages of MM. We perform computational drug repurposing to generate lists of candidate drugs for the different stages and to detect commonalities across the stages. Moreover, targets and associated molecular pathways will be detected to try and elucidate the complexity of the underlying mechanisms of the disease. By harnessing MM gene expression data and cutting-edge computational techniques, we can potentially offer insights into the progression of the disease, and propose candidate drugs for further testing. This work represents a significant step towards the understanding of the progression of MM and possibly suggesting more effective therapeutic strategies for MM patients.

PA16 Immediate-Early Genes: Key Players in Genetic Networks and their connection in Alzheimer's Disease

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Immediate-early genes (IEGs) are a class of activity-regulated genes (ARGs) that are transiently and rapidly activated in the absence of de novo protein synthesis in cells in response to a variety of cellular stimuli, including neuronal activity. In neurons, IEGs are involved in regulating key processes such as synapse formation, transmission, and plasticity. Deregulation of neuronal IEGs is associated with various brain disorders, including neuropsychiatric and neurodegenerative disorders. Although much is known about the mode activation of certain IEGs, their behaviour as part of a genetic network ensemble has not been thoroughly explored. Here, we set out to study their characteristic topological properties within genetic networks and explore their role in Alzheimer's disease (AD) using a combination of network theory approach and genome-wide association study (GWAS) summary statistics to pinpoint disease-associated SNPs within ARG regions. Furthermore, we used variant annotation methods to identify the functional consequence of both risk and protective variants.

We found that (1) IEGs have key topological properties that separate them from other ARGs and exert greater influence across different types of networks (2) ARGs have a sparse involvement in diseases and significantly higher resistance to loss of function mutations than non-ARGs (3) With AD as a case study, using GWAS summary statistics, we found several SNPs significantly associated with AD ($p \leq 1x10\text{-}5$) in ten unique genes nearby a well-known IEG, FOSB, (4) Focusing on the network neighborhood of IEGs revealed a tightly coregulated network with key neighboring targets amenable to pharmacological intervention in AD, with the spotlight on MARK4.

Overall, we found that there is added value in studying IEGs in the network context, both for a better understanding of their communication and for pinpointing genes of clinical interest.

PA17 Fine-mapping of breast cancer susceptibility regions in East Asian ancestry

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Introduction: To date, more than 200 breast cancer susceptibility regions have been identified through genome-wide association studies (GWAS). Almost all studies have been in European-ancestry populations as case-control collections in other ethnicities have been limited. There are now 14 studies of East Asian ancestry within the Breast Cancer Association Consortium (BCAC), providing the statistical power to draw meaningful conclusions in this ethnic group.

Aims: Herein we aimed to fine map the known breast cancer risk regions, identified to date, using genotype data from 19,769 breast cancer cases and 17,629 population matched controls of East Asian ancestry.

Methods: Genotyped data were generated using the iCOGS or OncoArray platforms. We then estimated per-allele odds ratios and standard errors for each variant using logistic regression, for overall, ER-positive and ER-negative breast cancer. We used multinomial stepwise regression analyses for common, well-imputed variants (minor allele frequency, MAF > 0.005 and imputation info score ≥ 0.3 in all datasets) to identify independent risk signals and their sets of credible causal variants (CCVs). Furthermore, using a case-only analysis we detected differences in the effect size between ER-positive and ER-negative disease.

Results: We detected 61 breast cancer risk signals across 47 genomic regions, of which 19 were significantly associated in East Asians but not Europeans. We also report a consistent correlation between effect estimates in East Asian and European ancestry populations.

Discussion: Taken together, this analysis showed that the majority of signals identified in Europeans show some evidence of association in East Asians, and detected 19 Asian-specific risk-associated signals.

PA18 A diagnostically challenging pathological case of a third mandibular molar

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Introduction: Fusion and gemination are both rare morphological dental anomalies. They appear more frequently in primary dentition, in anterior maxillary teeth. In gemination, a dental follicle is incompletely divided, in its attempt to form two teeth, consequently the number of teeth in the dental arch remains normal. Fusion concerns the merging of two separate dental follicles, creating one tooth instead of two. The mechanism of action includes environmental and genetic factors, while there is a limited number of reported cases in the area of mandibular molars about fusion.

Aim: Presentation of a rare case, involving a mandibular molar with morphology similar to that of fusion and gemination and relative literature research.

Case report: A 69-year-old male patient presented to a dental clinic for oral treatment. During clinical examination, an unusual molar was identified. The primary distinguishing feature observed was a morphology suggestive of molar fusion. Radiographically, utilizing both panoramic and intraoral X-rays, a dual crown and a root pulp chamber was evident, separated by a septum and featuring distinct roots. Possible diagnoses, based on clinical and radiographic examination, include fusion and gemination, as the molar exhibits features of both anomalies.

Discussion-conclusion: Identification of the morphology of this abnormal third molar is very important, as it would give a tool to identify such types of teeth for future clinical management, concerning abnormalities of teeth morphology during their extractions as well as for directions regarding their endodontic treatment.

PA19 Virtual screening of antimicrobial peptides against SARS-CoV-2 targets using molecular docking pipelines

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Peptides consist a virtually infinite pool of candidate therapeutics against arbitrary protein targets of viral or other origin. The rapid identification of such peptide-based therapeutics is a promising avenue for responding to global healthcare emergencies such as the SARS-CoV-2 outbreak. While peptides-therapeutics have been overlooked due to their poor ADME properties and relatively higher production cost compared to small-molecules, recent progress in chemical modifications (such as macrocyclization pegylation, lipid conjugation etc.) have largely overcome these limitations. The remaining challenge is how one can rapidly screen the space of existing bioactive peptides or the even broader space of de novo sequences, since high throughput in vitro and in vivo screening of candidate molecules is neither economically nor timely feasible. The computational methods for virtual screening powered by high performance computing (HPC) can address this challenge in order to prioritise experimental testing.

In this work, we have utilized the advancements in structural bioinformatics for in silico docking and virtual screening of macromolecules against targets of interest. To this end, we have screened a pool of ~2.5K known antimicrobial peptide sequences against three globular SARS-CoV-2 targets namely, 3-CL Protease, Papain-like Protease and Helicase which all have critical roles in the viral replication mechanism. The screening was performed using a coarse-grained docking approach followed by filtering, selection and finally high-resolution local refinement and energy minimization using the Rosetta framework. Through our analysis, we have proposed a ranked set of peptides, predicted to dock stably on the active sites or interface of interest (IOI) of the target proteins, hence having a potential inhibitory effect. The approach is generalisable for nearly any globular receptor with a known structure.

PA20 Prenuvo: the new lifesaving machine

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The healthcare system today can be reactive and slow to detect and diagnose disease, leading to poor health outcomes. The Prenuvo full body scan is a lifesaving machine that can detect cancer and diseases such as aneurysms in its earliest stages, before symptoms arise. Prenuvo is considered the most precise, comprehensive whole body MRI scan that exists today. It is fully diagnostic, non-invasive and meticulous, placing itself number one in the pyramid of screening methods. In contrast with most MRI scans that rely on anatomical imaging, which just shows organ structures, Prenuvo uses new clinically proven techniques such as functional imaging that make it possible to identify the exact mechanism of how the organ works. At Prenuvo, they have expanded the 3D diffusion weighted imaging (DWI) for whole body scans, beyond brain and spinal scans, making it able to identify masses less than 1cm in size, as well as masses that are located in parts of the body that cannot be detected through manual screening. Furthermore, Prenuvo invests heavily in AI, allowing it to make imaging more quantitative and accurate, which in turn could lead to earlier diagnoses and more successful interventions. The main goal of Prenuvo is to transform the medical paradigm from reactive to proactive, as early detection is not just a key to a better outcome and as a result greater life expectancy, but it's a pathway to overall peace of mind. Knowledge is power and as a result the more information provided, the more people are empowered to change and advocate for their own health. In this way, Prenuvo helps people live longer, better, and healthier lives.

PA21 Cannabinoid Receptors

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Introduction

The endocannabinoid system consisting of cannabinoid receptors (CB1 and CB2), endogenous cannabinoids, and associated signalling pathways may impact skeletal remodelling. However, the precise relationship between cannabinoid receptor modulation and skeletal remodelling remains unclear. This systematic review aims to evaluate the existing literature to elucidate this association.

Methods

A systematic search of three databases; Medline, Web of Science and Embase, was conducted to identify relevant studies investigating the effects of cannabinoid receptor modulation on skeletal remodelling. Studies meeting inclusion criteria were assessed for quality, and data were extracted for meta-analysis when applicable. Outcomes of interest included bone mineral density, bone turnover markers, osteoclast and osteoblast activity, and histological parameters.

Results

The systematic review identified 38 in vitro, 34 in vivo, and 9 human relevant studies. In vitro studies showed that cannabinoid receptor ligands such AM251, AM630, and CBD were found to decrease osteoclast activity and bone resorption, whereas the CB2 agonist HU308 was stimulatory and increased osteoblast differentiation/activity. Furthermore, in vivo investigations revealed that, in male mice, CB1/2 deficit, AM251 or CBD treatments increased bone volume, however CB1/CB2 deficiency increased peak bone volume but decreased bone development in female mice. Additionally, in arthritic animals, the CB2-selective agonists JWH133 and 4Q3C increased bone volume. In humans, CB2 polymorphisms have been linked to lower bone mineral density.

Conclusion

This systematic review and meta-analysis provide compelling evidence for an association between cannabinoid receptor modulation and skeletal remodelling. The findings suggest that cannabinoid receptors play a pivotal role in regulating bone metabolism, potentially influencing the pathogenesis of skeletal disorders. Further research is warranted to elucidate the underlying mechanisms and explore the therapeutic potential of cannabinoid receptor modulation in skeletal health and disease.

PA22 Investigating the global burden of hemoglobinopathies: a data-driven approach

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Hemoglobinopathies are a group of inherited diseases arising from genetic mutations within globin gene clusters, thereby influencing the synthesis and structure of hemoglobin. They encompass sickle-cell disease, thalassemia syndromes, and other rare blood diseases. Historically, hemoglobinopathies have been subjected to positive natural selection in regions experiencing high malaria transmission rates due to conferring protection against this infectious disease. However, human migration and interbreeding have rendered hemoglobinopathies a global health burden.

The primary objective of this study was to assess the global spatial distribution of the health burden caused by hemoglobinopathies. To accomplish this goal, demographic and epidemiological data from registries, digital repositories and published literature were assimilated into a comprehensive, up-to-date, and systematically curated database that will be incorporated into the publicly available ITHANET community portal. The database encompasses national and regional statistics on the prevalence and incidence rates of hemoglobinopathies, as well as the genetic diversity observed among affected individuals and carriers. Moreover, the database offers insights into the availability and nature of interventions for the management and prevention of hemoglobinopathies.

To demonstrate the practical utility of this database, a Bayesian geostatistical modeling framework was employed to generate continuous high-resolution maps depicting the predicted frequency of α- and β-thalassemia genes and estimates of patients and affected live births in China.

By leveraging the database and estimation maps, healthcare practitioners and policymakers can gain access to an invaluable tool. This tool can facilitate the evaluation of current prevention and management strategies, enable the monitoring of trends over time, identify regions with a high burden of hemoglobinopathies, and inform data-driven policy decisions on the implementation of targeted interventions in these regions. In summary, the database and estimation maps offer a comprehensive and evidence-based approach to tackle and mitigate the global hemoglobinopathy burden, ultimately aiming to reduce its impact on affected populations.

PA23 BeatAML with Machine Learning

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The standard of care for patients with Acute Myeloid Leukemia (AML) has remained unchanged for nearly four decades. The complexity of mutational patterns within and between individuals, coupled with the absence of targeted therapies for most of these mutations, has made it challenging to implement personalized treatments for AML. In our study, we reanalyzed the BeatAML dataset using Machine Learning (ML) algorithms. The BeatAML project involves comprehensive molecular and clinical profiling of patients, linked to their responses to various drugs. Our approach leveraged the wealth of molecular and clinical information in the BeatAML dataset to predict how sensitive AML patients would be to 122 different drugs when tested in a laboratory setting.

We employed ElasticNet to train our models. We automatically select relevant genes for our analysis using two metrics, and we explored various combinations of data (Clinical, RNA and Whole Exome sequencing) to determine the optimal training settings for each drug.

Our findings show that, clinical and RNA sequencing data combination produced the best models. When we trained our models using only the individual datasets, we observed that RNA sequencing data exhibited three times the predictive power compared of whole exome sequencing data, with clinical data falling somewhere in between.

Finally, we introduced a concept of clinical significance by using the predictions from our models to generate a health management score. This score allowed us to rank an individual's expected response to treatment. We identified patients for whom the suggested drug was more effective than the one they were actually administered, based on their ex vivo drug sensitivity data.

PA24 Multifunctional Liposomes against Alzheimer's Disease; applications according to the functional groups of the liposomes

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It has been reported that Alzheimer's disease, the most known neurodegenerative disease, has affected more than 60 million people; a number which is estimated to double up to 2050. Alzheimer's disease is characterized by progressive memory loss, impairment of behavior, mood changes as well as disturbed daily routine of the patient. Although there are some active molecules which can be beneficial in halting the progression of the disease, the existence of Blood Brain Barrier and other obstacles seem to harden the delivery of those and consequently, the appropriate management. Therefore, many researchers propose that the drug delivery systems should effectively target and overcome blood brain barrier to reach the targeted brain area. Suitable drug delivery systems as liposomes seem to have this property; liposomes are lipophilic carriers consist by a phospholipid bilayer structure simulating the physiological lipidic layer of blood brain barrier, enabling the drug to easier enter the brain. Given that, pure liposomes might have less targeting affinity than functionalized, current advancements on modification with groups such as lactoferrin, poly (ethylene glycol), transferrin etc. show great targeting. In the present review, a literature search for the liposomes targeting Alzheimer's disease is performed focusing on the functionalization moieties of liposomes. In addition, preparation methods and characterization techniques are also being discussed.

PA25 Validation of candidate biomarkers for Systemic Sclerosis at RNA level

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Systemic Sclerosis (SSc) is an autoimmune rheumatic disease which is characterised by vasculopathy, inflammation, and fibrosis. The aetiopathogenesis of the disease is currently unclear, thus diagnosis, disease prognosis and treatment are challenging. There is an urgent need of reliable SSc biomarkers that can be used for disease classification, monitoring, and prognosis.

In our previous study through the PRECISESADs-IMI European consortium grant, we used paired skin biopsy samples from affected and unaffected areas of the same patients with SSc and compared their proteomes. Discovery phase proteomic analysis led to the identification and quantification of approximately 2000 dysregulated proteins. Statistical analysis showed that 169 of these proteins were significantly differentially expressed in affected versus unaffected tissues.

Further validation of these biomarkers in an easily accessible tissue will be useful for the clinicians and alleviate painful procedures for the patients with SSc. Therefore, in the next step, sixteen (LAMB2, ICAM1, UCHL1, APCS, COX6B1, DDX55, PPID, CFI, PSMC4, SKP1, SERPINB3, AGT, HP, TPI1, TPM4 and AHSG) out of the identified proteins were selected for validation at the RNA level based on specific criteria. RNA was extracted from blood samples of 40 patients and 40 controls. The expression of the molecules was determined using a q-PCR approach. An initial validation showed that three out of sixteen proteins were confirmed to be significantly dysregulated in patients with SSc compared to healthy controls. Further validation studies are needed in order to confirm that these proteins could be used as biomarkers.

This study may contribute to the development of biomarkers in order to facilitate accurate diagnosis of SSc, as well as to classify the patients based on their clinical phenotype. In addition, assessment in an easily accessible tissue such as blood will poses minimal risks to patients with SSc.

PA26 A novel approach to the treatment of jaundice

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We describe a 56-year-old male with idiopathic retroperitoneal fibrosis and bilateral nephrostomies diagnosed with Uncinate Pancreatic Adenocarcinoma in 2022. This was complicated by Gastro-duodenal obstruction in Aug 2022 necessitating a pyloro-duodenal stent. He was receiving chemotherapy. Unfortunately he developed obstructive jaundice (Bilirubin 290umol/l, ALKP 725U/L, ALT 84IU/L). The chemotherapy was discontinued until resolution of jaundice (<50umol/l). Due to the duodenal stent the ampulla was not accessible for conventional ERCP, and the patient underwent a consultation for a Percutaneous Transhepatic Biliary Drainage (PTC). He was informed that there was a significant risk of a permanent external drain from failure to internalise this due to the duodenal stent. He refused this as he was distressed with the external percutaneous nephrostomies.

An alternative novel approach to attempt to establish biliary drainage internally avoiding the risk of an external drain was discussed. This was an Endoscopic Ultrasound Guided Hepatico-Gastrostomy (EUS-HGS) performed under sedation which would drain the entire liver into the stomach.

The below demonstrates the procedure.

Figure 1. EUS guided puncture of the left intrahepatic duct

Figure 2. Cholangiogram and wire passage – bile ducts

Figure 3. Stent deployment - left hepatic duct into the stomach

Figure 4. Endoscopic view of stent draining into the stomach

Conclusion:

Following an uncomplicated EUS-HGS the jaundice resolved and the patient recommenced chemotherapy 2 weeks later.

This is a procedure which can offer drainage in a one-step fashion which has been described in the literature and is associated with low complication rate in expert hands. The value of EUS-HGS has yet to be fully determined in the algorithm of the treatment of jaundice when ERCP is not possible.

Fig 1

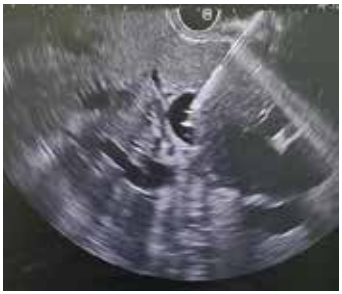
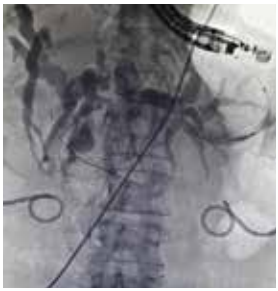


Fig 2



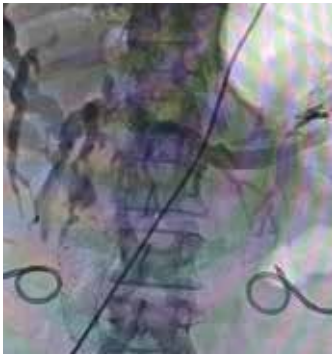


Fig 3

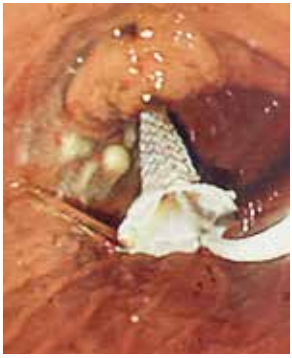


Fig 4

PA27 Bespoke PGT-M: From in-silico to in-vivo

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Introduction:

Preimplantation genetic testing for monogenic disorders (PGT-M) is a molecular prevention test provided to couples with high reproductive risks for a single-gene disorder. PGT-M combines molecular genetic diagnosis with assisted reproductive technology (ART) to ensure unaffected pregnancies after in vitro fertilization (IVF). Every PGT-M assay is designed or tailored to meet the unique profile of each family.

We present our strategy and methodology, for designing and implementing bespoke PGT-M assays.

Materials and Methods:

Couples with a family history and high genetic risks for a specific diagnosed monogenic disorder, seeking prevention by PGT-M.

Feasibility study for the evaluation of the pathogenic gene variation(s) responsible for the specific disorder. Initial assessment of the genomic and flanking sequences for potentially usable short tandem repeat (STR) polymorphic sites for linkage analysis.

In-silico design of a combined multiplex PCR assay for both direct mutation detection and linkage analysis.

Optimization of the designed in-silico assay by testing the suitability of the linkage and the direct mutation detection primers on the family DNA samples. Redesign if necessary. Perform trials to establish optimal sensitivity and specificity.

Validation by application of the optimized assay on 35-40 single-cell samples subjected in 5-6 separate experiments.

Results:

PGT-M methodology was introduced in CING in 2004; since then, more than 500 cases have been successfully tested, with no reported misdiagnosis. We have developed, validated, and applied PGT-M assays for more than 30 autosomal recessive, dominant, and X-linked mono-

genic disorders. A constantly increasing number of new PGT-M panels are designed in our laboratory every year.

Conclusion:

Our data demonstrates that Bespoke PGT-M is an efficient and reliable tool in reproductive care allowing couples with reproductive risks to achieve a healthy pregnancy avoiding the stress and risks of invasive prenatal testing.

PA28 Advancements in Alzheimer's Disease Research: Targeting Beta-Amyloid Protein for Disease Management

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Abstract: Alzheimer's disease (AD) is a global health challenge characterized by progressive cognitive decline. It affects over 55 million individuals worldwide, exerting a profound impact on quality of life, productivity, and the economy. Predominantly observed in individuals aged 65 and older, AD's prevalence increases exponentially with age. Nevertheless, early-onset AD, affecting individuals under 65, remains a concern. As the aging population grows, the prevalence of AD is expected to rise.

AD's etiology remains elusive, with aging, genetics, environment, and lifestyle factors implicated in its pathogenesis. Central to AD are β-amyloid protein aggregates and neurofibrillary tangles (NFTs) that inflict neuronal damage. Additional factors encompass neuronal loss, gliosis, genetic mutations, cerebrovascular amyloidosis, and neurotransmitter deficits. The insidious onset of AD initiates a decade or more before noticeable symptoms, during which toxic changes like amyloid plaques and tau tangles occur.

Characteristic hallmarks of AD include extracellular neuritic plaques from β-amyloid deposition and intracellular tau protein accumulation, resulting in intracytoplasmic NFTs. Healthy neurons deteriorate, lose connectivity, and eventually perish, accompanied by complex brain changes. Damage initially targets the hippocampus and entorhinal cortex, key memory-forming regions. As the disease progresses, widespread brain tissue shrinkage ensues.

AD's insidious onset leads to gradual declines in behavioral and cognitive functions, including short-term memory, language, attention, comprehension, and executive functioning. Currently, AD management involves symptomatic treatment using cholinesterase inhibitors and N-methyl-D-aspartate antagonists, as curative interventions remain elusive.

Two categories of AD medications exist: those alleviating symptoms and those modulating disease progression. Symptomatic drugs temporarily mitigate cognitive and noncognitive symptoms. Although they do not halt brain cell damage, they can stabilize or alleviate symptoms for a limited duration. Conversely, disease-modifying drugs slow AD progression by preserving memory, cognitive function, and overall abilities.

Aducanumab (Aduhelm®), an intravenous anti-amyloid antibody therapy, has achieved accelerated FDA approval for early AD treatment. It targets elevated brain beta-amyloid, demon-

strating a reduction in cognitive and functional decline in early-stage AD patients. Common side effects include amyloid-related imaging abnormalities (ARIA), headache, and falls.

In summary, AD remains a global health concern necessitating innovative approaches. Advances like Aducanumab signify a promising step towards targeted beta-amyloid intervention, offering hope for improved disease management and a better quality of life for individuals living with AD.

PA29 Depletion of acid ceramidase leads to dysregulation of the expression levels of specific components of selected lipid rafts-related pathways in SH-SY5Y cells

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Plasma membranes contain specific microdomains, the so-called lipids rafts (LRs). In neurons, LRs are present in the axonal plasma membranes and are important for neuronal function. These domains are rich in lipids, especially sphingomyelin (SM), ceramide (Cer) and cholesterol and act as platforms for signal transduction molecules regulating actin cytoskeleton, endocytosis, vesicular trafficking and exosome formation. Acid ceramidase (AC) is a key regulatory enzyme of Cer metabolism. AC deficiency due to mutations in the ASAH1 gene, leads to Farber disease, a fatal lysosomal storage disorder and to Spinal Muscular Atrophy (SMA) with or without progressive myoclonic epilepsy. SMA is characterized by the degeneration of motor neurons in the spinal cord leading to symmetric muscle weakness and atrophy. The most frequent form of SMA is linked to mutations/deletions in the SMN1 gene, encoding the survival motor neuron protein (SMN). Our previous lipidomic analysis, revealed alterations in the intracellular levels of distinct sphingolipid species (significantly decreased of C24:1-Cer and elevated of C16-SM) in AC-depleted cells, suggesting dysregulation of LRs. The aim of this work was to gain a more complete understanding of the role of AC in particular pathways, such as spliceosome machinery, exosome formation/release and autophagy, which are related to LRs and been identified to be dysregulated in SMA models. To this end, two stable neuroblastoma SH-SY5Y cell lines were established, ASAH1 knockdown (shASAH1) and shScramble (control), and used to evaluate the mRNA and protein expression levels of particular targets in the aforementioned pathways. AC-depletion resulted in significantly increased mRNA and protein levels of SMN and Sm, indicating a gain of function effect that may cause impairment of snRNPs biogenesis and RNA regulation. Additionally, multiple U2-related components of the spliceosome were found to be upregulated in shASAH1 cells compared to the shScramble cells, suggesting dysregulation of the splicing mechanism. Furthermore, AC-depletion significantly increased the mRNA and protein levels of numerous subunits of the ESCRT-III complex, which drives the formation of intraluminal vesicles inside multivesicular bodies (MVBs). Lastly, the autophagic flux was found to be altered in AC-depleted cells. Together, these findings suggest an important role for AC in particular pathways that maintain the normal function of neurons. Our work could potentially identify new regulators of SMN expression, which may serve as potential therapeutic targets for the treatment of SMA.

PA30 Identification of novel γ-globin repressors through a custom CRISPR knockout screen and validation studies for the treatment of β-hemoglobinopathies

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Reactivation of γ-globin for the production of HbF can ameliorate β-thalassemia and sickle cell disease. Although therapeutic strategies involving genome editing for γ-globin reactivation are promising, their high cost and limited availability together with safety and efficacy issues constrain their use. Hence, we want to identify and validate novel γ-globin repressors as potential druggable targets.

Seven candidate genes were shortlisted following a custom CRISPR/Cas9 knockout screen, targeting 293 genes selected from published literature. The three most promising genes have been selected for further validation and functional studies. Gene A encodes for a protein involved in ion transport and iron homeostasis, Gene B is a transcriptional regulator and Gene C plays a central role in chromatin remodelling and acts as a transcriptional regulator.

These genes are validated individually through CRISPR/Cas-mediated knockouts based on lentiviral transduction as well as nucleofection with ribonucleoproteins in the HUDEP-2 cell line. The editing efficiency is assessed using the Interference of CRISPR Edits (ICE) web-tool, while immunoblotting is utilised for the quantification of the expression levels of candidate genes, as well as the α- and γ-globin chains.

The editing efficiencies for all three candidate genes were high (80%-87%) but there was no abolition of protein expression of Genes A and B. Exon skipping is one of the main mechanisms reported to interfere with protein expression knockout, which we are investigating through cDNA sequencing. In parallel, a duplex nucleofection CRISPR/Cas9 editing strategy is utilised, where two gRNAs targeting two different exons are used, aiming to cause a large deletion.

In conclusion, seven new candidate γ-globin repressor genes have been identified through the use of a CRISPR/Cas9 knockout screen. Validation studies are ongoing for three genes and studies of their mode of action will follow.

PA31 Targeting the desmoplastic tumor microenvironment to improve the efficacy of pancreatic cancer immunotherapy*

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Pancreatic ductal adenocarcinoma (PDAC) remains one of the most lethal cancer types. Despite the success of immune checkpoint blockers (ICBs) in some cancers, pancreatic tumours remain unresponsive due to excessive desmoplasia and low tumor immunogenicity.

Aim: To investigate the possible synergistic action of tranilast (TGF-β inhibitor) plus MZ-1 (next-generation bromodomain and extra-terminal inhibitor) combined treatment on tumor microenvironment (TME) remodelling and immunotherapy efficacy in pancreatic cancer. Methods: Pancreatic cancer orthotopic murine models were established using Panc02-Luc cells in C57/BL6 mice. Animals were treated with control-vehicle, tranilast, MZ-1 or tranilast+MZ-1 (first experiment), or PD-1, LAG-3, 4-1BB or dilution buffer (second experiment). Tumor growth and collagen levels were measured by whole-body bioluminescence imaging and masson's trichrome staining, respectively, while elastic modulus and vessel perfusion by ultrasound imaging. Tumor-infiltrating CD4+, CD8+ T-cells, FoxP3+ Tregs, MHC-II+CD206- M1 and MHC-II-CD206+ M2 macrophages were analyzed by flow cytometry.

Results: Tranilast and MZ-1 decreased collagen levels whereas tranilast monotherapy or in combination with MZ-1 reduced stiffness and improved tumor perfusion ($p<0.05$). In tranilast+MZ-1-treated mice, percentage of %FoxP3+/CD3+ cells and FoxP3+/CD8+ ratio were decreased compared to control (3.4-folds;p=0.027 and 2.8-folds, respectively). M1/M2 macrophage ratio was increased in the dual treatment compared to tranilast (4.1-folds) or MZ1 monotherapy (6.7-folds). Also, anti-PD-1 and anti-4-1BB antibodies increased the percentage of %CD8+/CD3+ cells (2-folds;p=0.012 and 5-folds;p-0.002, respectively) while decreased %FoxP3+/CD3+ cells (2.6-folds;p=0.039 and 4.1-folds; p=0.020, respectively) and FoxP3+/CD8+

ratio (6.3-folds;p=0.040 and 13.4-folds;p=0.028, respectively). Conclusion: Our preliminary data provide indications that tranilast+MZ1 dual treatment as well as anti-PD-1 and anti-4-1BB monotherapy could remodel pancreatic TME and improve anti-tumor immunity and therapeutic responses against PDAC. Further investigation is expected to provide new treatment options for PDAC patients and enhance the efficacy of immunotherapy.

*The project EXCELLENCE/0421/0179 is co-financed by the European Regional Development Fund and the Republic of Cyprus through the Research and Innovation Foundation.

PA32 Investigation of the anti-cancer effects of Vitis Vinifera seeds extract in breast cancer cells

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Breast cancer (BC) is the most widespread and frequent cancer among women worldwide. Even though various therapies have emerged to treat breast cancer in recent years, new therapeutic approaches are required to target difficult-to-treat subtypes of this disease. Compounds derived from natural products have long been regarded as an important source of anticancer drugs. Extracts from the Vitis vinifera (VV) plant have recently shown anti-cancer activity. In our study, we investigated the anti-cancer properties of the extract derived from the VV seed (E7) and described its mechanism of action in breast cancer cells. Cells were treated with increasing concentrations of E7 and we then applied the MTT assay to assess cell proliferation, flow cytometry to assess the effects of the extract on cell cycle progression and viability as well as Real-Time PCR and Western Blot to uncover its potential anti-cancer mechanism of action. We observed that E7 reduced the viability of MCF-7 cells (Estrogen Receptor positive, ER+) in all concentrations tested but did not affect the viability of the MCF-10A normal cell line; in addition, normal and cancer cells that are ER- were unaffected by the extract suggesting that the ER plays a role in its mechanism of action. Cell cycle analysis revealed that E7 induced the appearance of the subG1 fraction in MCF-7 cells, which is indicative of apoptosis, after 48hrs of incubation and increased the percentage of early apoptotic cells stained with Annexin V, after 72 hours. Furthermore, E7 reduced the levels of anti-apoptotic Survivin, Bcl-2 and Bcl-xL at the mRNA and protein level. Further investigation of the constituents and activity of Vitis Vinifera extracts may reveal potential pharmacological uses of this plant.

This project received funding from the private company Alpinamed AG (Freidorf, Switzerland).

PA33 The Role of Gut Microbiota in Cardiovascular Diseases and Metabolic Syndromes

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Cardiovascular diseases (CVDs) are an increasing concern, affecting a significant number of people over the last few decades. (JW;pubmed)This can mainly be attributed to a variety of risk factors, such as physical inactivity and unhealthy diets, among others. Trimethylamine N-Oxide, also known as TMAO, has been linked to several CVDs (such as myocardial infarction) and metabolic syndromes. Recent evidence has shown a strong correlation between TMAO levels, gut microbiota, and CVDs. (JW;pubmed) An increase in TMAO is associated with meat-based diet s (i.e., red meat) that contain high amounts of choline and L-Carnitine, which are later converted through a series of metabolic cycles to TMAO. (JW;pubmed) Furthermore, gut microbiota has been shown to play a pivotal role in influencing the synthesis of TMAO. Therapeutic interventions such as fecal microbiota transplantation could potentially benefit patients. (WHW;pubmed)Research involving mice has demonstrated the effectiveness of these interventions however, further research is still needed(WHW;pubmed). In the following presentation, we will first discuss the epidemic of CVDs. Next, we will analyse the TMAO production cycle, explore the types of molecules responsible for its increase, and explain the mechanism of action that increases the risk of CVDs. We will then proceed with an examination of the contributing role of the gut microbiota in affecting TMAO plasma levels. The closing remarks will include some potential therapeutic interventions aimed at reducing the risk of CVDs, mainly those associated with modifying the gut microbiota. This newly found connection between the gut microbiota and CVDs can enhance our limited understanding of CVDs and reshape our current thinking towards the use of novel therapeutic interventions for the treatment of both metabolic diseases and CVDs.

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PA34 Novel CARMIL2, TNIP1 and STAT1 heterozygous mutations associated with PID in Jordanian population

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Primary immunodeficiency diseases (PIDs) encompass a diverse group of immune system disorders, consisting of >130 different forms. They involve defects in both the innate and adaptive components of the immune system, resulting in severe infections, autoimmune conditions, and malignancies. Although PIDs are generally rare, they exhibit a higher incidence rate in the Jordanian population due to increased consanguinity compared to other countries. Their complex nature necessitates the use of genomic technologies to discover novel genetic defects associated with them. Here, we screened 9 Jordanian PID patient samples using whole-exome sequencing and verified the somatic single-nucleotide variations (SNVs) in 14 genes (IL17RA, STAT1, PIK3R4, TNIP1, STAT2, ELANE, CARMIL2, GPSM1, NLRP12, MBL2, TYK2, UNG, IL17RC and CDCA7) using Sanger sequencing. Of note, 3 of them (CARMIL2, TNIP1 and STAT1) were novel in Jordanian PID cases and could be verified, whereas those in PIK3R4 and IL17RA could not. For confirmation of the SNVs association with PID, we consulted Ensemble, Genome AD, and ClinVar genomic databases. In conclusion, our study validated previously reported mutations in PID, and identified three new ones, namely, in CARMIL2 (c.3683C>T), TNIP1 (c.460C>G) and STAT1 (c.1061T>C), all of which are reported to be associated with Jordanian PIDs for the first time. Nonetheless, according to KEGG pathway database the only found pathways associated with our findings were IL17 signalling pathway (IL-17RA), Th17 cell differentiation (STAT1), JAK-STAT signalling pathway (STAT2), Neutrophil extracellular trap formation (ELANE), Cocaine addiction (GPSM1), JAK-STAT signaling pathway (TYK2), Cytokine-cytokine receptor interaction (IL17RC), shigellosis (TNIP1).

LA01 Mathematical Modeling of Tumor Growth: A comparative investigation of the Logistic and the Gompertz Differential Equation Models in predicting experimental colon cancer data

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Background: In locating the underpinnings and synthetic mechanisms of cancer development, mathematical modeling has been a tool of supreme importance. Current models are mainly based on differential equations of population growth and curve-fitting which, when combined with the artifice of scientific research, may describe and even predict tumor growth.

Methods: The data set comprised of the number of colorectal adenocarcinoma epithelial cancer cells of five cancer cell lines (wild-type, PTEN (-/-), KRasG12A, KRasG12D, KRasG12R) from the parental SW48 line, provided for use by Dr. Theodora Katsila, Associate Researcher at the Institute of Chemical Biology of the National Hellenic Research Foundation. The Logistic and Gompertz Differential Equation Models were investigated by solving their differential equations and exploring the graphical and/or biological importance of their constants. Direct Curve Fitting (DCF) was carried out in Desmos™, with parallel manipulation of the constants of the Logistic and Gompertz model, to optically identify the one which provides the greatest fit to the data, based on comparison of their graphs of best-fit.

Results: DCF resulted in the Logistic model equation being the best-fit in 4 out of 5 cancer cell lines examined, in contrast to 2 out of 5 for the Gompertz Differential model equation.

Conclusion: The Logistic model equation was more predictive of the growth of experimental colon cancer cell populations, in comparison to the Gompertz Differential model equation. However, both are equally flexible mathematical tools, which when appropriately manipulated, can work collaboratively and supplementary to each other, maximizing the accuracy of predictions for tumor growth which clinically enables valid predictions of future outcomes and potentially more effective therapy scheduling.

LA02 The therapeutic potential of seaweed extracts in the battle against cancer: The effect of the fucoidan from brown alga Fucus vesiculosus on human neuroblastoma cell viability upon experimentally induced oxidative stress

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Background: Algae are among the most researched natural resources regarding cancer prevention and treatment, while cancer is the leading death cause globally. Whilst the focus remains on radiation and immunotherapy, the shift towards more natural and less invasive treatments is evident by constant research on natural compounds, such as brown algae. The literature majorly attributes their anticancer potential to their antioxidative properties.

Methods: The antioxidative effect of the brown algae seaweed extract fucoidan was investigated on SH-SY5Y human neuroblastoma cells. Oxidative stress conditions were experimentally established by introducing 0.01% hydrogen peroxide in treatment and control groups. Fucoidan, at both low (10 mg/ml) and high concentration (100 mg/ml), was then introduced, as treatment, for comparison to the control groups which were no further treated. Cell viability (%) after 24 hours was assessed using the Trypan Blue dye exclusion test cell counting, while phenotypical parameters of viability including density, shape, size were observed under a Leica™ inverted-light microscope at times 20 magnification. The investigation was carried out under the supervision and auspices of the Vekrellis Lab of the Biomedical Research Foundation Academy of Athens.

Results: Cell viability was 68.3% at low concentration and 81.2% at high concentration, compared to 36.9% in the control group. The increase by 31.4% and 44.3%, at low and high concentration respectively, is statistically significant at $p<0.01$ and supports a dose-related antioxidative effect of fucoidan, which is further supported by maintenance of normal morphological features, also in a dose-dependent pattern.

Conclusion: Fucoidan extract indicates a notable potential as an anti-oxidative agent, which appears to follow a dose-related relationship. Therefore, further research on fucoidan and its potential for use in the prevention or treatment of cell oxidative stress as part of the pathophysiology of cancer is greatly encouraged.

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