## World Hellenic Biomedical

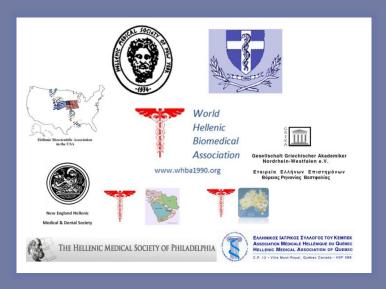
### News

Volume 3, Issue 3



## 2012





Hellenic
Biomedical
activities
around the World

Check for the WHBA group on Linkedin





Meet a Greek
investigator
Constantine Stratakis
M.D., D(Med)Sc

Eunice Kennedy Shriver National Institute of Child Health and Human Development Bethesda, USA

Ist WHBA postgraduate symposium on Translational Medicine University of Ioannina

February 22-24, 2013

Keynote Lecture

Nobel Laureate Professor

Dr. Harald zur Hausen

#### **Editorial Board**

#### **Editors**

Dimitra Chalkia, PhD Loukia Parisiadou, PhD Christos Sideras, MD Ioannis Zervantonakis, MSc

## Participating societies and Representatives in the General Assembly USA

**Hellenic Medical Society of New York** 

Hellenic Bioscientific Association in the USA

Rep: Athanasios Vassilopoulos, PhD

**New England Hellenic Medical & Dental Society** 

Rep: Ioannis Glavas, MD

Hellenic Medical Society of Philadelphia

Rep: Elias Iliadis, MD

Federation of Hellenic Medical Societies of North America

EUROPE

Hellenic Medical Society of the UK Rep: Effrossyni Gkrania-Klotsas, MD

**Hellenic Medical Society of Austria** 

Hellenic Scientific Society of Renania-Westphalia

Rep: Xenophon Baraliakos, MD

CANADA

Hellenic Medical Society of Montreal, Quebec

Rep: Christos Karatzios, MD

**AFRICA** 

Egypt: Greek community Hospital in Cairo

Rep: Irene Mavroudi, MD

#### **Contents**

#### News

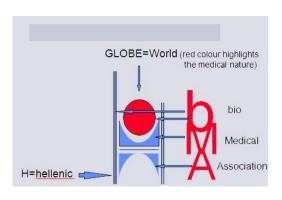
10<sup>th</sup> World Hellenic Biomedical Congress, Nicosia, Cyprus November 22-25, 2012

I<sup>st</sup> post-graduate symposiumin Translational Medicine for residents and post-docs, February 22-24, 2013

2<sup>nd</sup> WHBA summer school in Greece May 26 – June 4, 2013

News from the WHBA participant and other societies

Meet a Greek investigator
Constantine Stratakis, NICHD-NIH, Bethesda, MD, USA



#### 2000

#### **World Hellenic Biomedical Association**

© World Hellenic Biomedical Association

Founded in 1990

www.whba1990.org

President: Konstantinos Drosatos, MSc, PhD – Columbia University, USA

Vice-president: Peter Karayiannis, PhD, FIBMS, FRCPath [Virology] – Imperial College, UK

Vice-president: E. Lila Amirali, MD – McGill University, Canada

**Secretary**: Dimitris Paschos, MD, MRCPsych – NHS Islington, London UK

**Deputy Secretary:** Zois Vrettos, MD – Germany

**Treasurer**: Spyros Mezitis, MD, PhD – NY Presbyterian Hospital/Weill Cornell Medical Center Lenox Hill Hospital, USA

Assistant Treasurer: Elias Iliadis, MD - UMDNJ - Robet Wood Johnson Medical School, USA

Advisory Board: George Dangas, MD, PhD (chairman) • George Louis Bakris, MD, Hon D,

FAHA, FASN • Nicandros Bouras, MD, PhD • Argiris Efstratiadis, MD, PhD • Fotis C. Kafatos,

PhD, FoMeRS • Theodoros Mountokalakis, MD, PhD • Ari Patrinos, PhD • George Paxinos,

PhD, AO FAA FASSA • P. Roy Vagelos, MD • Olga Sarantopoulou, MD

Reproduction of this magazine's content without written approval by the executive board of the WHBA and the editorial board is strongly prohibited.

#### 10th World Hellenic Biomedical Congress

November 22-25, 2012 Nicosia, Cyprus



Scientific Program November 22, 2012 Venue: Major Atrium, Medical School, University of Nicosia

7.00pm: Opening Ceremony

7.20pm: Music Recital by Cyprus Young Strings Soloists

Addresses by:

Chairman of the Organizing Committee
University of Nicosia Representative
President of the PanCyprian Medical Association
President of the WHBA

7.40pm: **Keynote lecture** 

Professor Kyriacos Athanasiou, University of California at Davis

"Trail-blazing a commercialization pathway in academia: From paper-napkin designs to saving

ives"

8.20pm: Cocktail Reception

November 23, 2012

Venue: UNESCO Aphitheatre, Main Campus, University of Nicosia

Session 1- Clinical Genetics and Neurology

Moderator: Philippos Patsalis, PhD, Chief Executive

Medical Director CING

9.00 - 9.20: Kyriacos Kyriacou, PhD

Department of Electron Microscopy/Molecular Pathology of CING

"Familial breast cancer genetics"

9.20 – 9.40: **Violetta Christofidou Anastasiadou**, PhD Department of Clinical Genetics of CING & Archbishop

Makarios II Hospital

"Genetic testing and counseling for hereditary cancer syndromes in Cyprus"

9.40 - 10.00: Kleopas Kleopa, PhD

Neurology Clinic C and Neuroscience Lab of CING

"Inherited demyelinating disorders of the nervous system"

10.00 - 10.20: Carolina Sismani. PhD

Department of Cytogenetics & Genomics of CING

"Array-CGH in clinical practice"

10.20 - 10.40 Discussion

Coffee Break

Session 2 - Cancer & Immunology

Moderator: Petros Karayiannis, PhD: Imperial College

11.00-11.25: **Dennis Galanakis**, MD

Stony Brook University in New York, USA

"Cancer and thrombosis"

11.25-11.50: **P Kountourakis**, MD PhD

Bank of Cyprus Oncology Centre

"Recent advances in the management of ovarian cancer"

11.50-12.15: George Petrikkos, MD, PhD

4<sup>th</sup> Dept of Internal Medicine, National and Kapodistrean University of Athens, "ATTIKON" University Hospital

"The evolving threat of antimicrobial resistance"

12.15-12.40: Petros Karayiannis, BSc, PhD,FIBMS,

FRCPath (virology)

Imperial College, UK

"Current developments in the treatment of chronic viral hepatitis"

12.40: Poster viewing and lunch

14.30: Excursion or visit to the Medical School of the University of Nicosia and the Cyprus Institute for

**Neurology & Genetics** 

## November 24, 2012 UNESCO Amhitheatre

#### Session 3 - Metabolic Syndrome

Moderator: George S. Potamitis, MD, Gastroenterologist

9:00 – 9:25: **Doros Loizou, MD** Internal Medicine, Diabetologist

"Metabolic Syndrome and Insulin Resistance"

9:25 - 9:50: Yiannis Stefanou, MD

Apollonion Hospital, Nicosia

"Metabolic Syndrome and the heart"

9:50 - 10:15: Nicos Angelides, MD

Ex-Director, Dept of Vascular Surgery, Nicosia General Hospital

"Metabolic Syndrome and the Vascular System"

10:15 - 10:40: Theodora Demetriou, MD

Gastroenteroloist/Hepatologist, Paphos General Hospital "Metabolic Syndrome and the liver"

## Coffee Break Session 4 – Cardiovascular Disease

Moderators: **Dennis Garalis**, MD, PhD, MPH, FACC, Rush University Medical Centre

**Petros Agathangelou**, MD, President of the Cyprus Society of Cardiology

11:00 – 11:25: **John A. Stathopoulos**, MD, PhD, FACC, FSCAI, FSVM,

Columbia University, New York, USA

"Peripheral Arterial Disease: Clinical importance and treatment"

11:25 – 11:50: Philippos Triposkiadis, MD

University of Thessaly, Div. of Cardiology, University Hospital, Greece

"The sympathetic nervous system in heart failure: pathophysiology and clinical implications"

11:50 - 12:15: **Antonis Polydorou**, MD,

Department of Hemodynamics, Evaggelismos General Hospital, Greece

"Recent Advances on Endovascular Therapy"

12:15 – 12:40: **Panayiotis Avraamides**, MD, MBBS, FRCP, MRCPI, FESC, FSCAI, FACC, FAHA Dept of Cardiology, Limassol General Hospital "The current treatment of heart failure with devices"

12.40pm: Poster viewing and lunch

1.30pm: Poster presentation (Unesco Theatre)

5 minutes of 8 best posters with 1 question allowed

Session 5 – Innovative Surgical and Medical Approaches for Diagnosis and Treatment

Moderator: Adonis Ioannides MD, University of Nicosia

14:30 – 14:55: **D Papamichael**, MD

Bank of Cyprus Oncology Centre "Systemic therapy and use of biomarkers in colorectal cancer FRCP"

14:55 – 15:20: **Melpo Christofidou-Solomidou**, PhD University of Pennsylvania, Philadelphia "Novel nutritional agents with antioxidant properties in acute and chronic lung disease - bench to bedside"

15:20 – 15:45: **Vassilis Hadjianastassiou**, DM(Oxon) FEBVS(Vasc Surg) FRCS(Gen Surg) BMBCh(Oxon) BSc, Director, Transplantation Unit, Nicosia General Hospital PancreasTransplantation – the first operation in Cyprus and a review of the benefits"

15.45 – 16.10: **Konstantinos Drosatos**, PhD Columbia University, Department of Medicine, "*Preventing sepsis-mediated cardiac dysfunction by stimulation of energy production*"

#### Coffee Break

#### Session 6 – "Mind or body?"

Moderator: **Nickandros Bouras**, MD, PhD - KIng's College London, UK

16:30 – 16:55: **Gabriel S Panayi** , ScD, MD, FARCP Guy's Hospital GKT School of Medicine, Kings College London, UK

"Body pain: a psychological construct or an abnormality in CNS chemistry"

16:55 –17:20: Pavlos Kymissis, MD, FAPA

St. George's Univ. of London Medical School at the Univ. of Nicosia, Cyprus

"A Systems Approach to the Body Mind Connection"

17:20 –17:45: **Eleni Palazidou**, MD PhD MRCP, FRCPSYCH, East London Foundation NHS University Trust, London, UK

"The Psychobiology of Depression"

17:45 – 18:10: **Andy Zamar**, MD, MBBCh, LRCP, MRCS, MRCPsych, The London Psychiatry Center, UK "PRΩLONG™, a recently licensed treatment for premature ejaculation in Europe: Review of physiology and clinical data"

#### 18:10 pm

## Closing session Summary of the meeting and remarks

**Petros Karayiannis**, PhD chairman of the organizing committee

8:00pm: Conference dinner

# 1<sup>st</sup> Post-graduate Symposium on Translational Medicine for residents and post-doctoral researchers

Focus on:
Neuroscience and Psychiatry
Immunity and Inflammation
Cardiovascular and Metabolic Disease

Organized by the

**World Hellenic Biomedical Association** 

Supported by

The University of Ioannina

Keynote Lecture

Nobel Laureate Professor Dr. Harald zur Hausen

February 22-24, 2013, Ioannina, Greece

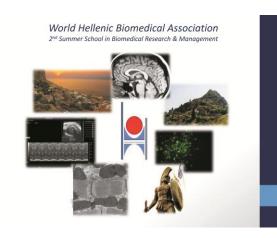


## 2<sup>nd</sup> Summer School in Medical & Biosciences Research & Management

#### Monemvasia & Sparta Lakonias, Greece May 26 – June 4, 2013

The World Hellenic Biomedical Association is organizing the 2nd Summer School in Medical & Biosciences Research and Management, which will take place in Monemvasia and Sparta, Laconia, Greece on May 26 – June 4, 2013 for undergraduate and graduate students of universities in Greece and abroad.

The  $2^{nd}$  summer school is the continuation of the one that took place in Mani, Laconia and Athens in May 2012 and included 39 prominent



graduate and undergraduate students of medical and biosciences background, who were selected among 140 applicants from 23 countries. The students attended classes given by top-notch experts from the most advanced medical and biosciences research centers in the United States, Canada, the United Kingdom, Switzerland and Greece, as well as from the Pharmaceutical and Biotechnology industry.

The program of the 2013 summer school will be divided in two parts. The 1st part is taking place in the beautiful scenery of Monemvasia, Peloponnese on May 26 to June 2, 2013. For this part 2 plenary speakers of worldwide reputation (George Chrousos - University of Athens and George Kollias – Fleming Institute, Greece) and 12 instructors (Lefteris Diamandis – University of Toronto, Diomedes Logothetis – Virginia Commonwelath University, Evangelos Michelakis – University of Alberta, Canada, Sakis Mantalaris – Imperial College, Aristidis Moustakas – Uppsala University, Sweden, Spyros Kollias – ETH Switzerland, Constantine Anagnostopoulos – Biomedical Research Foundation of the Academy of Athens, Evi Giannakakou – Weill Cornel Medical College, USA, Kyriakos Kypreos – University of Patras, George Mentis – Columbia



Visit of the Ist Summer School participants to the President of the Hellenic Republic, Mr. Carolos Papoulias

University, USA, Nikos Scarmeas - University of Athens & Columbia University, USA, Despina Sanoudou - University of Athens) will present the most recent breakthroughs and current trends in basic and clinical research in Cancer Biology and oncology, Neurology and Neurosciences. Cardiovascular Biology and Cardiology and Stem Cells that will be chaired by Litsa Kranias (University of Cincinnati Medical College, USA) and will host a keynote lecture by Walter J. Koch (Director of the Center for Translational Medicine at Temple University, USA & chairman of the Basic Cardiovascular Sciences Council of the American Heart Association). Lectures will also be given by Evangelos Michelakis (University of Aleberta, Canada), Constantine Anagnostopoulos (Biomediclal Research Foundation of the Academy of Athens) and Anastasios

Lymperopoulos (Nova Southeastern University, USA) During the 2<sup>nd</sup> part that will be taking place in Sparta on ven June 3-4 the students will attend lectures about drug development, clinical research and bio-industry by Panos Macheras (University of Athens), Angelos Stergiou (ΣΕLLAS Clinicals, Greece), Dimitris Sakellariou (Merck Group, Greece), Nassos Alevizopoulos (Zestagen & Metaplasis, Switzerland).

Detailed information about the program and online application form are available on the website of the World Hellenic Biomedical Association.

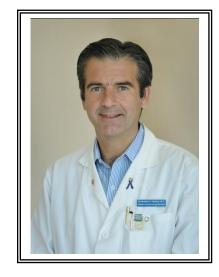
#### Meet with Hellenes Investigators from around the World

#### Research Activities of the group of Constantine A. Stratakis

Section on Endocrinology and Genetics, Program in Developmental Endocrinology and Genetics, Eunice Kennedy Shriver National Institute of Child Health and Human Development, National Institutes of Health, Bethesda, MD 20892-1862, USA

National Institutes of Health, Building 10, CRC, Room 1-3330 East Laboratories, 10 Center Drive, Bethesda, MD 20892, USA.

e-mail: stratakc@mail.nih.gov



Career steps - In 1983, I entered the Medical School of University of Athens (MSUAth). In 1984, at the Unit of Endocrinology of the Department of Pharmacology, I started working as an Assistant to the Director, Prof. M. Batrinos, an Endocrinologist and an absolutely wonderful person, a master teacher, and astute clinician. Prof. Batrinos introduced me to endocrine thinking, understanding biostatistics, and their application in clinical science, and showed me how a clinician can be a scientist. He also introduced me to an associate of his, Dr. S. Pitoulis, a biochemist who had just returned from France and was setting up a radioimmunoassay (RIA)based laboratory, a first for Greece, back then. So, here I was, in the fall of 1984, a second-year medical student and at the age of 18 years, setting up RIAs, labelling radiotracers with iodine, purifying first and second antibodies, getting my first glimpse of how to produce monoclonal antibodies (at the Agricultural School of Athens, Department of Veterinary Medicine, with collaborators) (2) and, most importantly, applying all these in patient samples: measuring hormonal levels in the sera of patients from Prof. Batrinos' clinic (3). My Thesis was on the measurement of insulin-like growth factors (IGF-I and IGF-II) freed from their binding proteins (4, 5) and the application of these assays in diurnal pituitary hormonal studies - this was the first time anybody could measure free IGFs in Greece. The antibodies and most materials were home-made. something that I took particular pride in, since at the time almost everything that we used in Greece had to be imported and paid with precious foreign currency. At the

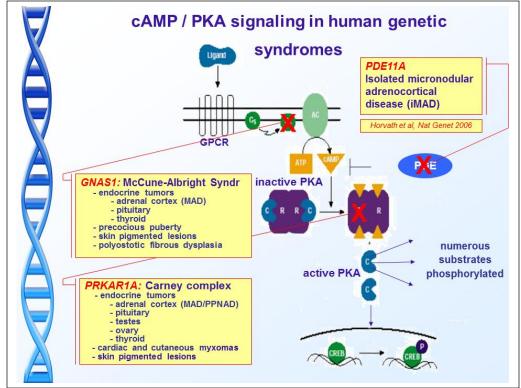
same time, I worked, first as a phlebotomist and then as a laboratory technician for the Radioisotopes & Hormones Laboratory of a private labor & delivery hospital, Mitera. This was the era of limited ultrasound use (too new and expensive); all high-risk pregnancies were followed by daily estriol and progesterone measurements. I was responsible for these assays and the delivery of results to the caring physicians. I was convinced then that Endocrinology not only combined my interests in physics and chemistry with biology, but it was also an essential field of Medicine. I was determined to combine my fascination with hematologyoncology (6, 7) with Endocrinology and decided to dedicate my life to the study of endocrine tumors. In 1987, with Prof. Batrinos' recommendation I received a stipend to spend a summer at the hospital Cochin, Paris, France. It was yet another life-changing experience: now, I was rounding and presenting patients to Prof. Luton and Prof. Bricaire, almost mythical names in Endocrinology. The study of pituitary and adrenal gland function was now definitely my interest; Prof. Bertagna, a Luton disciple, was among my teachers and is to this day a valuable collaborator. In 1988, after I returned to Greece from France, I received a scholarship award to spend time at the National Institutes of Health (NIH) in Dr. G. Chrousos' laboratory. I participated in the identification of the first human mutations of the glucocorticoid receptors (GRs) (8) causing cortisol resistance. I followed medical rounds at the NIH Clinical Center and was so lucky to be exposed to many more wonderful clinician scientists and outstanding teachers

(Drs. Lynn Loriaux, Roy Hertz, Gordon Cutler and others); as much as I liked Paris and despite a job offer by Prof. Luton, I fell in love with NIH. I was determined to continue my work there, so a few weeks after I graduated in June 1989. I found myself back in Bethesda, MD. I continued my research there, finishing up my Thesis and planning my next steps: I had to finish my clinical training. George Chrousos convinced me that given my interests in endocrine oncology, Pediatrics rather than Internal Medicine (which was my focus in France) was better suited for me – the rest is history...I was accepted by the Georgetown University Department of Pediatrics, Washington, DC, where I am clinical faculty to this day. This is how and why) I became a Pediatric Endocrinologist! Medical Genetics was a second love - I realized that to study the endocrine tumors I was so interested in, I had to get additional training in genetics, a field that was in the 90s –and still is, perhaps now more than ever - at the forefront of Medicine. I owe my introduction into genetics to Dr. Owen Rennert, a paediatrician, a geneticist and Chairman of Pediatrics at Georgetown University Hospital (GUH) at the time. Dr. Rennert has been my mentor and friend since; to this day, we still see patients together at the NIH Clinical Center. I have to say that I was finally convinced that this was the right track for me, when Dr. Francis Collins, then newly appointed Director of the National Center for Human Genomics

Research (which today is the National Human Genome Research Institute or NHGRI) came to GUH for one of our weekly grand rounds. His talk (as always) was so inspiring that at the end I was convinced that with proper training I would be able to find the genetic causes of the endocrine tumors I was interested in. I talked briefly to Dr. Collins after rounds, and this was it. By 1996, I was board-certified in Pediatrics, Pediatric Endocrinology, and Medical Genetics and accepted the offer by Dr. Athur Levine to start a small laboratory at the NIH (Unit on Genetics & Endocrinology) co-mentored by Dr. Chrousos and Dr. Carolyn Bondy, an absolutely wonderful clinician-scientist who had just started her now seminal work on Turner syndrome. With Chrousos' unique insights in human physiology, Bondy's help in setting up my laboratory, and Rennert's continuing advice from Georgetown, I was set, and.... amazingly lucky: just the right people and combination of talents to learn from!

It is because of the above that when I received, in 2009, the Endocrine Society's Ernst Oppenheimer Award, I dedicated it to my mentors. This was recognition that the many people that helped me and taught me how to "do stuff" at such a young age, did not waste their time. Any recognition for "my" work is really recognition of my many mentors – they deserve it as much as I do and

maybe more than I do. I dedicated this Award to all who helped my career so early, some of whom are mentioned above (but not all, there are many more!). But, there was someone I first met in 1994, who deserves a special mention: Dr. J. Aidan Carney -now my friend and collaborator but truly also my mentor. A physician par excellence, a true clinical investigator to whom endocrine pathology owes a host of diseases and myriad observations; and as Dr. Carney always (and proudly) says, all of that without a cent of grant funding (!). To paraphrase a song I liked as a teenager, Dr. Carney doesn't "just like Medicine; he loves it" (and



#### World Hellenic Biomedical News



The team led by Dr. Constantine Stratakis (front left), head of the National Institute on Child Health and Human Development's Section on Endocrinology and Genetics, is researching the genetic causes of pediatric endocrine tumors. The lab team includes (clockwise from top right) Nirmal Gokarn, Dr. Madson Almeida, Dr. Anya Rothenbuhler, Dr. Anelia Horvath, Stratakis, Dr. Maria Nesterova, Dr. Fabio Faucz, and Kit Man Tsang.

lives for it!). He did not need any grants to immerse himself in what he loved most – what a lesson for all of us clinician scientists! The award should also go to my French colleagues, the friends I made at Hospital Cochin, Paris, France, back in 1987. Prof. Luton introduced me then to his successor Xavier Bertagna and he, in turn, to my best friend and collaborator now Jerome Bertherat. Just wonderful scientists, astute clinicians, and great people....

In 2011, I was named Scientific Director of the Division of Intramural Research at the Eunice Kennedy Shriver National Institute of Child Health and Human Development. Established in 1962, NICHD's research mission is "to understand the basic mechanisms that transform cells into healthy and effectively-functioning individuals and to enhance clinical practice to prevent and ameliorate conditions that influence the lifelong health of women, children, and persons with disabilities". NICHD's most important achievement has been to provide a home for such a vast area of science

and doing it so successfully for half a century now: this year, NICHD celebrates 50 years of these impressive achievements, from childhood vaccinations to the improved survival of premature infants, developmental biology, endocrinology, reproductive medicine to cell biology and new imaging techniques, behavioral science and rehabilitation medicine, and numerous other discoveries and applications. NICHD's extraordinary accomplishments exemplify what science at the National Institutes of Health (NIH) is all about, bench-to-bedside and back, thus serving NIH's mission "to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce the burdens of illness and disability" and doing so in the specific populations of women, children, and persons with disabilities. It has been a privilege to work for NICHD, in one or another role, since 1988. Clearly, when I walked in the Bethesda campus as a student in November 1988, I never imagined that one day I would be honored to be chosen as the leader of NICHD's

intramural science (Division of Intramural Research or DIR). It is true that we live in an era of budgetary challenges which make new initiatives harder to accomplish. However, it is also an era with tremendous explosion of knowledge; the research tools that are available today, I could not even dream of when I was a graduate student. Fostering the existing outstanding intramural research but also recruiting and mentoring new investigators for our laboratories are my goals. Cell and developmental biology, the pioneering use of animal models of human disease such as zebrafish. developmental neurosciences, behavioural and reproductive science, pediatric imaging and basic biophysics in addition to perinatal, gynaecological, endocrine, and genetic investigations, are just some of areas where NICHD DIR researchers literally lead their respective fields. I also hope that we will expand, in new exciting areas of science that will be determined after strategically planning for our future, a process that has just started in earnest at the NICHD DIR and will be completed within the next year. Finally, we are all excited at the NICHD and highly supportive of what is going on across NIH, the many new initiatives such as the opening of the NIH Clinical Center to the extramural investigators (http://clinicalcenter.nih.gov/translationalresearch-resources/index.html). NIH is a great place to be at right now. No wonder why we attract so many applications from phenomenal scientists in our new recruitment efforts, such as the Earl Stadtman Investigator Search (http://irp.nih.gov/stadtman).

Current research in Dr. Stratakis' laboratory – In the last 15 years, our laboratory has made numerous discoveries both clinical (from imaging adrenal and pituitary tumors and their biochemical diagnosis, to treatment) and basic: the genetics of various endocrine conditions, their molecular biology, the mechanisms of tumor formation. Our laboratory has worked on most "endocrine" tumor genes that we know today: MEN1, PRKAR1A, AIP, TP53, cKIT, and many others.

We recently identified succinate dehydrogenase mutations in pituitary tumors where an association between pheochromocytomas and pituitary tumors was found in succinate dehydrogenase defects. This is an interesting finding (9, 10); it is still preliminary because it has to be confirmed in other and maybe larger cohorts. Having said that, I already know of several other families with pituitary tumors and succinate dehydrogenase mutations; thus, it is most likely a real association. Mitochondrial oxidation defects have never

before been linked to pituitary tumors, so, this association opens up a new area of research which may lead to new treatments for these lesions.

Our involvement with succinate dehydorgenase defects grew out of our research on adrenal tumors (12). After the identification of PRKAR1A as the molecule responsible for Carney complex (13), we found out that most pediatric cortisol-producing hypeprlasias actually do not bear mutations in this gene (14, 15). We then went on to describe what is a new disorder that we named "isolated micronodular adrenocortical disease" (iMAD) (15). We are actively working on the genetic defects leading to the various types of iMADs. This research led to the discovery that defects in cyclic AMPbinding phosphodiesterases (PDEs) like PDE11A and PDE8B are associated with adrenal (16-19) and, in fact, other endocrine tumors (20, 21). I was particularly happy to see a PDE8B knock-out mouse model published last vear by Dr. Beavo's group (22); this mouse developed Cushing ACTH-independent syndrome confirming our human molecular genetic data. We are not a molecular pharmacology laboratory but we continue to be interested in PDEs, and while we are looking for additional genes leading to iMAD, we collaborate with some of the best leaders in the PDE field to explore these molecules as potential therapeutic targets for adrenal diseases (23). Finally, we are also interested in finding the genes for the adult forms of adrenal hyperplasias – namely what has been called massive macronodular adrenocortical disease (MMAD) ACTH-independent macronodular hyperplasias (AIMAHs). In an interesting twist of fate, we described the first mitochondrial enzyme defect leading to MMAD in the form of a fumarate hydratase (FH) mutation in association with MMAD (24) at about the same time we studied the succinate dehydrogenase mutations in other tumors (25). However, MMAD is highly heterogeneous, probably more so than iMAD, and although a few families with autosomal dominant inheritance have been described (26) the gene that accounts for the majority of the cases of MMAD remains elusive. We are running various genome-wide studies to identify the MMAD gene(s).

Following up on our studies of cortisol-producing adrenal hyperplasias, we also have studied aldosterone-producing lesions. The first such study linked familial hyperaldosteronism to chromosome 7 (27); however, a gene has yet to be identified there. We continue genome-wide searches to identify genes that are responsible for

aldosterone-producing lesions. Our team at the NIH now sees a large cohort of patients with both adenomas and hyperplasias and we offer surgical therapy, genetic testing, and counselling. The recent discovery of KCNJ5 mutations (28) in some of these patients allowed us to subgroup our patients in genetically distinct groups that are better suited for genome-wide studies.

#### REFERENCES

- 1. Stratakis CA. Physics and power analysis of the movements of vehicles. J. Soc. Greek Physicists Physicos Cosmos 84:19-23, 1983. [in Greek]
- 2. CA Stratakis, S. Chadio, S. Pitoulis. Development of a radio-immuno-assay (RIA) for pregnant mare serum gonadotropins (PMSG). (oral presentation) 4th Greek Conference of Veterinary Medicine, Athens, Greece, 1987.
- 3. Panitsa-Faflia C, Stratakis C, Androutsopoulou C, Batrinos M. Effect of ovarian suppression on testosterone and dehydroepiandrosterone sulfate levels in hirsutism. Adolesc Pediatr Gynecol 3(2):89-93, 1990.
- 4. M Koutsilieris & CA Stratakis. Regulatory mechanisms of growth hormone secretion. Materia Medica Graeca 15(6):431-440, 1987. [in Greek]
- 5. Stratakis CA, Mastorakos G, Magiakou MA, Papavassiliou E, Panitsa-Faflia Ch, Georgiadis E, Batrinos M. 24-Hour secretion of growth hormone (GH), insulin-like growth factors -I and -II (IGF-I and -II), prolactin (PRL) and thyrotropin (TSH) in young adults of tall and normal stature. Endocr Res. 22(3): 261-276, 1996.
- 6. Stratakis CA, Demertzi E, Gerogiannis H, Zervas J. Diagnosis and treatment of Hodgkin's disease in pregnancy. Hippokrates 2:75-79, 1989. [in Greek]
- 7. Stratakis CA, Nakopoulou L, Theocharis S, Zervas J. Acute nephrotic syndrome as a manifestation of recurrent Hodgkin's disease. Hippokrates 2:391-396, 1989. [in Greek]
- 8. Hurley DM, Accili D, Stratakis CA, Karl M, Vamvakopoulos N, Rorer E, Constantine K, Taylor SI, Chrousos GP. Point mutation causing a single amino acid substitution in the hormone binding domain of the glucocorticoid receptor in familial glucocorticoid resistance. J Clin Invest. 1991:87:680-6

- 9. Xekouki P, Stratakis CA. Succinate dehydrogenase (SDHx) mutations in pituitary tumors: could this be a new role for mitochondrial complex II and/or Krebs cycle defects? Endocr Relat Cancer. 2012 (In press)
- 10. Xekouki P, Pacak K, Almeida M, Wassif CA, Rustin P, Nesterova M, de la Luz Sierra M, Matro J, Ball E, Azevedo M, Horvath A, Lyssikatos C, Quezado M, Patronas N, Ferrando B, Pasini B, Lytras A, Tolis G, Stratakis CA. Succinate dehydrogenase (SDH) D subunit (SDHD) inactivation in a growth-hormone-producing pituitary tumor: a new association for SDH? J Clin Endocrinol Metab. 2012 Mar;97(3):E357-66.
- 11. Stratakis CA, Tichomirowa MA, Boikos S, Azevedo MF, Lodish M, Martari M, Verma S, Daly AF, Raygada M, Keil MF, Papademetriou J, Drori-Herishanu L, Horvath A, Tsang KM, Nesterova M, Franklin S, Vanbellinghen JF, Bours V, Salvatori R, Beckers A. The role of germline AIP, MEN1, PRKAR1A, CDKN1B and CDKN2C mutations in causing pituitary adenomas in a large cohort of children, adolescents, and patients with genetic syndromes. Clin Genet. 2010 Nov;78(5):457-63.
- 12. Stratakis CA. New genes and/or molecular pathways associated with adrenal hyperplasias and related adrenocortical tumors. Mol Cell Endocrinol. 2009;300(1-2):152-7.
- 13. Kirschner LS, Carney JA, Pack SD, Taymans SE, Giatzakis C, Cho YS, Cho-Chung YS, Stratakis CA. Mutations of the gene encoding the protein kinase A type I-alpha regulatory subunit in patients with the Carney complex. Nat Genet. 26:89-92, 2000.
- 14. Gunther DF, Bourdeau I, Matyakhina L, Cassarino D, Kleiner DE, Griffin K, Courkoutsakis N, Abu-Asab M, Tsokos M, Keil M, Carney JA, Stratakis CA. Cyclical Cushing syndrome presenting in infancy: an early form of primary pigmented nodular adrenocortical disease, or a new entity? J Clin Endocrinol Metab. 89:3173-82, 2004.
- 15. Stratakis CA, Boikos SA. Genetics of adrenal tumors associated with Cushing's syndrome: a new classification for bilateral adrenocortical hyperplasias. Nat Clin Pract Endocrinol Metab. 3:748-57, 2007.
- 16. Horvath A, Boikos S, Giatzakis C, Robinson-White A, Groussin L, Griffin KJ, Stein E, Levine E, Delimpasi G, Hsiao HP, Keil M, Heyerdahl S, Matyakhina L, Libè R, Fratticci A, Kirschner LS, Cramer K, Gaillard RC, Bertagna X, Carney JA,

- Bertherat J, Bossis I, Stratakis CA. A genome-wide scan identifies mutations in the gene encoding phosphodiesterase 11A4 (PDE11A) in individuals with adrenocortical hyperplasia. Nat Genet. 38:794-800, 2006.
- 17. Carney JA, Gaillard RC, Bertherat J, Stratakis CA. Familial micronodular adrenocortical disease, Cushing syndrome, and mutations of the gene encoding phosphodiesterase 11A4 (PDE11A). Am J Surg Pathol. 34:547-55, 2010.
- 18. Horvath A, Mericq V, Stratakis CA. Mutation in PDE8B, a cAMP-specific phosphodiesterase in adrenal hyperplasia. N Engl J Med 358:750-2, 2008.
- 19. Horvath A, Giatzakis C, Tsang K, Greene E, Osorio P, Boikos S, Libè R, Patronas Y, Robinson-White A, Remmers E, Bertherat J, Nesterova M, Stratakis CA. A cAMP-specific phosphodiesterase (PDE8B) that is mutated in adrenal hyperplasia is expressed widely in human and mouse tissues: a novel PDE8B isoform in human adrenal cortex. Eur J Hum Genet. 16:1245-53, 2008.
- 20. Horvath A, Korde L, Greene MH, Libe R, Osorio P, Faucz FR, Raffin-Sanson ML, Tsang KM, Drori-Herishanu L, Patronas Y, Remmers EF, Nikita ME, Moran J, Greene J, Nesterova M, Merino M, Bertherat J, Stratakis CA. Functional phosphodiesterase 11A mutations may modify the risk of familial and bilateral testicular germ cell tumors. Cancer Res. 69:5301-6, 2009.
- 21. Faucz FR, Horvath A, Rothenbuhler A, Almeida MQ, Libé R, Raffin-Sanson ML, Bertherat J, Carraro DM, Soares FA, de Campos Molina G, Campos AH, Alexandre RB, Bendhack ML, Nesterova M, Stratakis CA. Phosphodiesterase 11A (PDE11A) genetic variants may increase susceptibility to prostatic cancer. J Clin Endocrinol Metab. 96:E135-40, 2011.
- 22. Tsai LC, Shimizu-Albergine M, Beavo JA.The high-affinity cAMP-specific phosphodiesterase 8B controls steroidogenesis in the mouse adrenal gland. Mol Pharmacol. 79:639-48, 2011.
- 23. Levy I, Horvath A, Azevedo M, de Alexandre RB, Stratakis CA. Phosphodiesterase function and endocrine cells: links to human disease and roles in tumor development and treatment. Curr Opin Pharmacol. 11:689-97, 2011.
- 24. Matyakhina L, Freedman RJ, Bourdeau I, Wei MH, Stergiopoulos SG, Chidakel A, Walther M, Abu-

- Asab M, Tsokos M, Keil M, Toro J, Linehan WM, Stratakis CA. Hereditary leiomyomatosis associated with bilateral, massive, macronodular adrenocortical disease and atypical cushing syndrome: a clinical and molecular genetic investigation. J Clin Endocrinol Metab. 90:3773-9, 2005
- 25. Hsiao HP, Kirschner LS, Bourdeau I, Keil MF, Boikos SA, Verma S, Robinson-White AJ, Nesterova M, Lacroix A, Stratakis CA. Clinical and genetic heterogeneity, overlap with other tumor syndromes, and atypical glucocorticoid hormone secretion in adrenocorticotropin-independent macronodular adrenal hyperplasia compared with other adrenocortical tumors. J Clin Endocrinol Metab. 94:2930-7, 2009.
- 26. Stratakis CA, Carney JA. The triad of paragangliomas, gastric stromal tumours and pulmonary chondromas (Carney triad), and the dyad of paragangliomas and gastric stromal sarcomas (Carney-Stratakis syndrome): molecular genetics and clinical implications. J Intern Med. 266:43-52, 2009.
- 27. Lafferty AR, Torpy DJ, Stowasser M, Taymans SE, Lin JP, Huggard P, Gordon RD, Stratakis CA. A novel genetic locus for low renin hypertension: familial hyperaldosteronism type II maps to chromosome 7 (7p22). J Med Genet. 2000 Nov;37(11):831-5
- 28. Xekouki P, Hatch MM, Lin L, Rodrigo de A, Azevedo M, de la Luz Sierra M, Levy I, Saloustros E, Moraitis A, Horvath A, Kebebew E, Hoffman DA, Stratakis CA. KCNJ5 mutations in the National Institutes of Health cohort of patients with primary hyperaldosteronism: an infrequent genetic cause of Conn's syndrome. Endocr Relat Cancer. 2012 May 3;19(3):255-60.

Fall 2012 Volume 3, Issue 3 World Hellenic
Biomedical News

#### WHBA Societies News



Gesellschaft Griechischer Akademiker Nordrhein-Westfalen e.V. Εταιρεία Ελλήνων Επιστημόνων Βόρειας Ρηνανίας/Βεστφαλίας

GREKA, the Greek Society of Academics in North Rhein-Westfalia, Germany, was co-organizer of 3 different concerts in Dortmund, Cologne and Duesseldorf, Germany which were organized as a charity event for the Doctors of the World Greece with the scope of support with medicine compounds for Greece. All three concerts were a great success (photo of the concert).



GREKA is organizing a talk on the topic 'Aneurysm of the coeliac aortic artery: diagnosis and treatment on December 2, 2012

#### Hellenic Medical Society of the UK

This year the HMS-UK commemorates the 50th anniversary of the death of the Greek medical pioneer and one of the greatest researchers of the 20th Century, Dr Georgios Papanikolaou. The event will be held under the auspices of the Hellenic Foundation for Culture and the Embassy of Greece in London.

Original research papers in the fields of medicine, biomedical sciences or related areas have been invited. The Prize consists of an award certificate and £250. 4 candidates from the Society will participate in the competition. Candidates must be 38 years or younger and below Consultant or Senior Scientist status, or the equivalent in other



areas. They should be members or eligible for membership of the Hellenic Medical Society, UK. Consultants and senior scientists and group leaders are invited to encourage their juniors to enter the competition.

#### Recent events

#### **Hippocratic Oration, Friday 19th October 2012**

"From Hippocrates to 21st century Nutritional Medicine"

Prof Joe Millward PhD, DSc RPHNutr, Emeritus Professor of Human Nutrition, Department of Nutrition and Metabolism, Institute of Biosciences and Medicine, University of Surrey, Guildford.

& Dr Eleni Tsiompanou MD, DipHPM, MSc Nutritional Medicine, Researcher in History of Medicine, Physician at Penny Brohn Cancer Care, Palliative Medicine, Kingston Hospital & Princess Alice Hospice.

#### 2012 Annual Dinner Dance, Saturday 29th September 2012

"The role of financial markets in the Greek debt crisis"

Guest of honour: Apostolos Gkoutzinis, Partner, Shearman & Sterling LLP, Visiting Professor, Institute of Advanced Legal Studies, University of London, Visiting Professor, International Hellenic University.

#### Under the auspices of the Embassy of Greece, UNESCO and the Hellenic Institute for Culture

To mark the 50<sup>th</sup> anniversary of the death of the Greek medical pioneer

#### Professor George N. Papanikolaou (1883-1962)



## The Hellenic Medical Society of the UK presents

"I only live to serve life" - 2012 Papanikolaou Prize

Saturday 24 November, at 18.00

Great Hall, Hellenic Centre 16 – 18 Paddington Street, London W1U 5AS

#### **Programme:**

18.00	Papanikolaou Prize: Candidates' Research Presentations
19.00	Address by the President of the Royal College of Gynaecologists, Dr Anthony D. Falconer DM FRCOG
19.10	'The impact of the Pap Test on the lives of women', Dr Margaret Stavrou, Histopathologist and Past HMS-UK President
19.25	Two short films on the life of George Papanikolaou produced for the occasion by the <i>University of Athens Medical School</i> and the <i>Hellenic Foundation for Culture</i>
19.45	Presentation of the <i>Papanikolaou Prize 2012</i>
20.00	Reception

The event is open to the public and is organised in association with:





#### - WHBA Societies News

#### **Hellenic Medical Society of New York**

#### The Hellenic Medical Society of New York

requests the pleasure of your company at its 76th Annual Scholarship Gala "Celebrating Excellence in Science"

 $\mathcal{H}_{onoring}$ 

 $\mathcal{D}$ istinguished  $\mathcal{P}$ hysician

Basil Rigas, MD.

Professor of Medicine and Professor of Pharmacological Sciences Chief, Division of Cancer Prevention and Division of Gastroenterology

Distinguished Hellene
Mike Angeliades

M.A. Angeliades, Inc. Construction

 $\mathcal{D}$ istinguished  $\mathit{C}$ olleague

Michael Michelis, MD

Director, Division of Nephrology Clinical Professor of Medicine New York University School of Medicine

a della

Supporting

#### St. Demetrios School Science Program

Saturday, December 8, 2012

The New York Palace

455 Madison Avenue New York, NY 10022

Live Jazz Cocktail Reception at Seven in Reid Salon Gala Awards Dinner at Eight in Villard Ballroom

 ${\mathcal B}$ lack  ${\mathcal T}$ ie

Music and dancing by Apollo Orchestra with Lefteris Bournias throughout the night.

#### **Annual Scholarship Celebration**

#### **GALA COMMITTEE**

Dr. Stella Lymberis, Mrs. Roula Lambrakis Mrs. Evangelia Tsavaris

December 7, 2012

#### SCHOLARSHIP CEREMONY

Scientific Symposium Dr. Jack Soterakis Chair

#### Scholarship Awards

Dr. Alexander Sotiropoulos and Dr. Michael Michelis Chairs



Dear members of the WHBA network,

We invite you to join us in this year's Scholarship Gala celebration in support of our youth in the arduous path for education. Our Society has a distinguished record of sponsorship for American students of Hellenic descent attending medical schools in the United States. This mission has been recently expanded to support postgraduate training in fellowship programs at leading academic medical centers, where our Society is recognized and respected for the achievements of its members. High school students with special interest in the sciences have also been acknowledged through our grants and awards program.

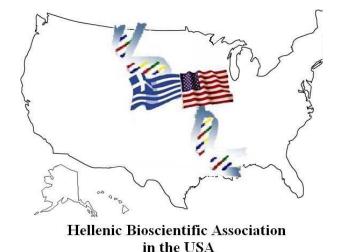
This year we introduce 'Celebrating Excellence in Science', a bold initiative of inaugural support for the Science Program at St. Demetrios High School in Astoria, a school with proud tradition and distinguished graduates in one of the Hellenic-American community's major population centers. Our youth is our treasure and its exemplary education is an imperative we cannot ignore. Inspired teachers in our high school science courses lay the foundation for successful careers and benefit our country and all humanity.

We urge you to contribute generously to this noble cause and to demonstrate your support to our youth with your presence at our events on December 7 and 8.

For the Executive Board 2010 - 2012

Nicholas H.E. Mezitis, M.D., President

#### - WHBA Societies News



#### Hellenic Bioscientific Association in the USA

#### September 25, 2012 Mini Symposium on Epigenetics

Speakers **Manolis Kellis**, PhD
Associate Professor, MIT

"Regulatory Genomics and Epigenomics of Human Disease"
Departments of Computer Science and Electrical Engineering, MIT
Broad Institute of MIT and Harvard

#### Dimitrios Iliopoulos, PhD

Associate Professor, UCLA David Geffen School of Medicine
Center for Systems Biology
"Systems Biology Approaches to study Inflammation and
Epigenomics Circuits in Cancer"



Manolis Kellis, PhD - MIT



Dimitrios Iliopoulos, PhD - UCLA















Board of Directors: Ioannis Zervantonakis, MIT - Athanassios Vassilopoulos, Northwestern University - Anastasia Nikolopoulou, Weil Cornell Medical Center - Eleftherios Makris, UC Davis - Konstantinos Biliouris, University of Minnesota - Panteleimon Mavroudis, Rutgers University - Pavlos Msaouel, Albert Einstein College of Medicine

#### WHBA Societies News

#### Hellenic Medical Society of Philadelphia

#### Hellenic Medical Society of Philadelphia

#### **Prior Events**

I. Hellenic Medical Society of Philadelphia Community Service project at the St Thomas festival, October 4, 5, 6 and 7th. Working in conjunction with the Daughter of Penelope, HMS members provided blood pressures and medical information on this year's topic of Lung Cancer. This project supported the Jim Fifis Lung Cancer Research Fund and all donations were directed to the fund. Many thanks to members Kathy Horiates RN, Dr. Isa



Velez, Dr. Denis Hadjiliadis, Dr. Tara Morrison, Sandy Tzaferos PharmD and Dr. Mike Moussouttas as well as the members of Cooper Outreach program and CVS Pharmacists Gina Papadopoulos and Katherine Iliadis for providing influenza vaccinations. The Medical Society is dedicated to improving the health of our community.

- 2. Hellenic Medical Society of Philadelphia Continuing Medical Education program October 27th, 2012. At the Philadelphia Heart Institute, Hellenic Medical Society organized an excellent CME program for the benefit of our friends and members. A special thank you to all our speakers for their talents and efforts in making this program a success: Photis Galanis MD, Vasilios Velmahos MD, Frances Zappalla DO, Dean Karalis MD, Frank Leone MD and Stephanie Morris DO. Keynote speaker Mr. John Katsanis, President and CEO of Temple University Hospital gave an excellent and informative lecture discussing health care reform. Many thanks to our education committee, Michael Moussouttas MD and Alex Poulathas DO for organizing the event and for the many participants for braving the hurricane warnings to attend. The feedback and evaluations were excellent and the Society looks forward to our next CME event.
- 3. Hellenic Medical Society of Philadelphia Student Scholarship program. The HMS supports a medical student and allied health student scholarship each year. As of May I, applications are being sent to local (NJ, PA, DE) colleges and universities. The Award will be presented at our November Dinner meeting. Our Scholarship committee is current reviewing the applications and more details to follow.
- 4. **Hellenic Medical Society medical Student/Resident Exchange program**. As part of this program, the HMS has supported our first medical student, Ms. Darilena Karaviti in her pursuit of a residency in the US. Her story and photos will be posted on the HMS website and submitted to our local media outlets for distribution. Please let the Society know of any interested student or resident at HMSPHL@gmail.com.

#### **Upcoming Events and Announcements**

- I. Call for Nominations of the Board of Directors of the Hellenic Medical Society of Philadelphia. As per the HMS bylaws, elections of half (5 seats) of the Board of Directors is to occur every year. Members in Good standings of the Society are eligible to run for the Board and I would encourage all interested members to contact the Society at HMSPHL@gmail.com
- 2. **Hellenic Medical Society of Philadelphia Fall meeting**, November 2012. The Board of Directors is organizing our semi-annual members meeting during the last week of November. Topics include the presentation of the Scholarships, Board elections and presentation of the ongoing programs and future directions of the HMS. More to Follow.
- 3. Hellenic Medical Society of Philadelphia to Co-sponsor Holiday Party. Working with the local Philadelphia Hellenic Professional organizations, a holiday party is being planned and more details to follow.

### Support the mission of the WHBA



The World Hellenic Biomedical Association has established a continuously expanding global network that now consists of over 1,500 physicians and bioscientists.

Donation	Supported Activity
\$10	Administrative expenses
\$20	WHBA summer school
\$50	Summer school and
<b>330</b>	World Hellenic Biomedical Conference
\$100	All current activities , scholarships and research funding support

Payment by check
Prepare a check payable to the "World Hellenic Biomedical Association"

Mail your check to:

World Hellenic Biomedical Association

c/o: Konstantinos Drosatos

Columbia University, Department of Medicine

630 W 168th st, P&S 9-513

New York, NY 10032, USA

Submit your donation online (US and International credit cards accepted) www.whba1990.org

The World Hellenic Biomedical Association is a tax-exempt non-profit organization operating under the code 501(c)(3) of the Internal Revenue Service - USA