

Hellenic Bioscientific Association in the USA

Hellenic Bioscientific Association in the USA

Newsletter

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MAY 2010

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This past March HBA-USA celebrated its fifth anniversary. This celebration was not an ordinary one, as it also indicated the presence of our association in a crossroad with the transition to a new Board of Directors. As this transition is implemented, HBA-USA would like to express its deepest appreciation to Board members whose term of service expired last year: Konstantinos Drosatos, Dimitrios Iliopoulos, Iordanis Karagiannidis, Evangelos Drivalas have served this organization well with their time and talents.

Congratulations to our newest Board members: Sotiria Sotiriou, Athanassios Vassilopoulos, Konstantinos Loupasakis, Spyridon Papapetropoulos, Emmanouela Filippidi. Along with Thomas Thomou and Dionysios Goussetis, we thank you for willing to serve the Board of

Directors for the next two years, and look forward to your contributions. Being true to the mission of HBA-USA which is to provide a forum for bioscientists of Greek and Greek-American origin to share experiences in establishing a network for scientific and social exchange, the current Board of Directors is continuing the work of previous years by re-launching established programs like the student transfer program and the scientist exchange program between US and Greek institutions and Universities. In addition, HBA-USA is instituting two brand-new initiatives. The first will include the creation of a database of resources that is aimed towards providing critical information to graduate students and medical doctors who wish to continue their education in the United States. The second initiative consists of the

creation of a program that will streamline applications of Greek medical



doctors who have finished with their degrees in Greece and wish to visit hospitals in the United States as observers, in an effort to strengthen their curriculum vitae in applying towards medical specialties. In addition, the HBA-USA will continue to stage several local networking events and seminars in an effort to further strengthen the ties among the Greek/Greek-American scientific community in the United States of America. We would like to thank you wholeheartedly for your support to this continuing endeavor.

New web-page www.hba-usa.org



One specific goal we have for this term is to update our website to make it more useable for everyone. Our councilor Emmanouela Filippidi has graciously taken the lead role for a website subcommittee, which is working on a new version of our website. We welcome all of our members to visit our new website at www.hba-usa.org. Any comments, additional new ideas and suggestions would be greatly appreciated.

Meet our new Board of Directors

THOMAS THOMOU, Ph.D.



Thomas received his B.Sc. from the University of Crete, Greece in 2000. He was admitted in the graduate program of Molecular Biology and Biomedicine at the University of Crete, where he received his M.Sc. in 2002. He moved to Boston, MA in 2003 and was awarded his PhD in Pathology and Laboratory Medicine in 2009 in a collaborative program between Boston University School of Medicine and the Mayo Clinic. He is currently working at the Mayo Clinic as a postdoctoral fellow. The main target of his research is the study of early epigenetic events that occur in visceral fat cell progenitors that account for insulin resistance

and the hereditary onset of obesity and diabetes. Furthermore, he is also interested in the effect of several developmental factors in the processes of fat tissue development.

Being among the founding members of the HBA-USA, Thomas has become personally vested in the progress of HBA-USA. Having the honor and privilege to preside over the current Board of Directors, Thomas would like to continue to bring structure and sustainability to the efforts of HBA-USA and in particular with respect to the scientist mobility program as well as the new observership program in an effort to contribute to future opportunities for the HBA-USA members.



SOTIRIA SOTIRIOU, Ph.D.



I completed my B.Sc. in Medical Biochemistry from the University of Glasgow, in Scotland, UK in 2000. From 2000 to 2002, I worked in the National Human Genome Research Institute (NHGRI) in the US, where I used mouse models to study the role of vitamin C. In 2002 I got accepted in Johns Hopkins University, in a Ph.D. program that was set up in collaboration with the National Institutes of Health. The focus of my Ph.D. thesis was the posttranscriptional regulation of alpha-synuclein, a gene that is centrally involved in Parkinson's disease. Due to my supervisor's move, my Ph.D. was completed in the University of California in San Francisco (UCSF), an unplanned event that gave me the opportunity to live in a part of the world with high entrepreneurship activity. I am currently a postdoctoral fellow in the University of Pennsylvania, in a lab that studies splicing and spinal muscular atrophy and has close ties with the pharmaceutical industry. Over the years, I attended a series of talks on entrepreneurship, funding of small biotech companies, venture capital, drug development and approval, patent law, licensing and technology transfer. As a member of Penn Biotech group, I participated in a consulting project involving one of the largest pharmaceutical companies in the world. I personally find these aspects of biomedical sciences fascinating and one of my goals, as a vice-president of HBA, is to provide information on the HBA website



ATHANASSIOS VASSILOPOULOS, Ph.D.



Athanassios works in Chuxia Deng's laboratory in Genetics of Development and Disease Branch, NIDDK, NIH. His research is focused on three major areas 1) role of cancer stem cells in BRCA1 associated tumors, 2) cell cycle regulation and mammary tumorigenesis and 3) sirtuins in cancer and metabolism. Athanassios did both his undergraduate and graduate studies in Greece and joined NIH in 2006 immediately after obtaining his Ph.D from the Department of Biology, University of Athens, Greece. His future career goals involve continuing

research at the interface of cancer and metabolism and leading a research team as an independent PI in an academic setting. While at NIH he has served as a representative of the Association of Greek Scientists at NIH from 2006 till 2009 and has been a member of the NIDDK Fellows Advisory Board from 2008 to 2009, while recently he was elected to the Board of Directors of the HBA-USA. When not in the lab, he enjoys spending time with his family and friends, participates in outdoor activities and likes reading biographies and playing music.

KONSTANTINOS LOUPASAKIS, M.D.



My name is Konstantinos Loupasakis and I am the Treasurer of HBA-USA. I am from Chania, Crete, Greece and I graduated from the Medical School of the University of Crete in 2007. Having always tried to challenge myself and to learn as much as possible out of every professional or academic experience, I took the United States Medical Licensing Examinations and I decided to pursue my medical specialty training in the US. I am currently a Medical Resident at Caritas St Elizabeth's Medical Center of Boston, a teaching hospital affiliated with Tufts University. Rheumatic diseases and immunology are my special interests and I have been involved in research regarding SLE pathophysiology, Scleroderma-like conditions and miRNAs association with arthritis. Through my participation in HBA-USA I will contribute my skills and enthusiasm to the continuation and invigoration of this important scientific association.



EMMANOUELA FILIPPIDI, M.S.



Currently I am doing my PhD in soft matter physics at New York University. My research focuses on measuring and simulating the self-organising properties of colloidal suspensions under shear. Previously, I completed my Master's working on assembly of silk fibers for tissue engineering applications and have worked on imaging the mobility of the cells of glioblastoma in 3d collagen gels. I participated in the first HBA board and have seen it grow in from Boston to all of the States and from a few scientists to about 300. My current task is to make the website more functional so one can head there for updated job postings, to seek fellow members per state or interest group and possibly add interactive features where members can post their own discussions, because the goal of HBA is to bring scientists together and foster collaborations among its members. I would be very interested to hear all your ideas.



SPYRIDON PAPAPETROPOULOS, M.D., Ph.D.



Spyros is a Senior Medical Director of Medical Affairs at Allergan, Irvine CA and a Voluntary Associate Professor of Neurology at the University of Miami, Miller School of Medicine, Department of Neurology. Spyros is a Neuroscientist, a board-certified Neurologist and a Movement Disorders specialist trained at the University of Patras, the Regional University Hospital of Patras and the National Hospital for Neurology and Neurosurgery London, UK. His academic interests include the neuropsychiatric aspects of neurodegenerative diseases, genomics/transcriptomics and biomarker development/validation. He has received grant support as a Primary Investigator (PI) by the NIH-National Institute of Mental Health, the Alzheimer's disease Association and the Muscular Dystrophy Association. Spyros has conducted genetic and translational research on the identification of novel therapeutic targets and biomarkers for Parkinson's disease and on the effect of environmental, toxic amino acids in neurodegeneration. His work has resulted in patent applications and media releases. Having experienced the multiple challenges that Greek scientists face in the US, Spyros recognizes the need for a strong Greek reference organization and will therefore be honored to serve on the Board of Directors and will work passionately toward achieving the goals of HBA-USA.

DENNIS GOUSSETIS, Ph.D.



I came to Chicago in 1996 and started my undergraduate studies at University of Illinois Chicago (Biochemistry B.S. – 2000). While studying, I was employed at the Biochemistry department in Dr. Ackerman’s laboratory trying to isolate the eosinophil granule cationic protein: Major basic protein (MBP). Thereafter, I entered Loyola University of Chicago Medical Center graduate program (Molecular and Cellular Biochemistry, Ph.D. - 2006). My doctoral work looked at heat shock proteins and their role in oxidative stress induced apoptosis in cardiomyocytes.

After graduating, I accepted my current position as post-doctoral researcher at the Lurie H. Comprehensive Cancer Center at Northwestern University, with my research being supported by the NIH - Ruth L. Kirschstein national research service award. Currently I’m working on the antileukemic effects of arsenic-trioxide via the activation of apoptosis and autophagy, and looking at more target delivery mechanisms of arsenic drugs to leukemic cells. My general research interests are focused on cell death signaling pathways induced by oxidative stress signals.



Event in Washington D.C.

On March 5th 2010, the Board of Directors organized along with the Association of Greek Scientists at the NIH a social event in the Greek Embassy in Washington DC to celebrate the five years of the HBA-USA. Approximately 35 guests from Washington DC and neighboring states including Maryland and Virginia had a chance to interact and to celebrate together with the board members. In addition, the board of directors had a chance to meet with personnel from the Greek Embassy including Deputy Chief of Mission Mr. Ioannis Vrailas and Counselor for Cultural Affairs Dr. Zoe Kosmidou and to brief them with respect to past and future activities of the HBA-USA. We would like to thank the Association of Greek Scientists at the NIH and all attendees for embracing this first event of the new board.



E. Papafragkou, T. Thomou, E. Filippidi



E. Filippidi, A. Zacharia, I. Stasinopoulos



G. Casagrande, I. Alevizos, N. Moutsopoulos



HBA-USA president T. Thomou, cutting the “Vasilopitta” pie

The HBA-USA welcomes new members

Lida Anestidou The National Academies

Andrea Antoniou University of Illinois at Chicago

Leonidas Bleris University of Texas

Ioannis Eleftherianos George Washington University

Stavros Garantziotis National Institute of Environmental Health Sciences

Antonios Ioannou University of Pennsylvania

Nikolaos Kakouros Johns Hopkins University

Alexandros Karabinis Wright State University

Vasiliki Karantza The Cancer Institute of New Jersey

Eirini Kefalogianni NYU School of Medicine

Antonios Kourtidis Mayo Clinic

Constantine Lyketsos Johns Hopkins University

Yannis Mantas Paulus Memorial Sloan-Kettering Cancer Center

Ioannis Stasinopoulos Johns Hopkins University School of Medicine

Vasilis Vasiliou University of Colorado Denver

Fotios Vlachos Columbia University

Meet our new local representative

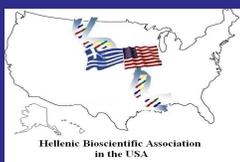


We would like to welcome back Dr. Iordanis Karagiannidis. Being among the founding members of HBA-USA and having served the Board of Directors for five years, Dr. Iordanis Karagiannidis is ideally positioned to continue to contribute to our association from the position of the State representative for California.

Dr. Iordanis Karagiannidis received his Bachelor's degree in Biology at Plymouth State University and his Master's degree in Genetics at University of New Hampshire. He went on to study in the department of Pathology and Laboratory Medicine at Boston University School of Medicine. During his Graduate work he researched the intrinsic changes in fat cell differentiation with aging and accomplished to demonstrate changes in the expression of numerous factors involved in adipocyte differentiation with increasing age in the field of fat tissue physiology.

The main target of his research is to study the extent of abdominal fat tissue involvement in the generation of inflammation during inflammatory bowel disease (IBD). As a post-doctoral fellow at Harvard, Dr. Karagiannidis received a three-year Fellowship Award from the Crohn's and Colitis Foundation of America to investigate the SP-mediated involvement of mesenteric fat tissue in the development of IBD. He joined UCLA July of 2007 as an Assistant Researcher and a member of the Center of Inflammatory Bowel Disease at the Division of Digestive Diseases and was recently awarded a two-year Broad Medical Research Program Grant to investigate the effects of obesity in colitis-associated changes in the intestine and mesenteric adipose tissue.

TOP 10 PUBLICATIONS LIST



*Congratulations
to all!*

Refer to the next page to read an interesting interview with Dr Poulidakos, about the **No 1 publication** "RAF inhibitors transactivate RAF dimmers and ERK signaling in cells with wild-type BRAF"

The best 10 papers published during the time-span of Dec '09 - Apr '10 by Greek/Greek-American researchers as the two first or as corresponding last authors, that have registered with the HBA-USA, have been posted on the association's website (www.hba-usa.org). This is an effort aiming to highlight the scientific achievements of the Greek researchers who are members of the Hellenic Bioscientific Association in the USA.

December 2009 – April 2010

1. **Poulidakos PI**, Zhang C, Bollag G, Shokat KM, Rosen N, **RAF inhibitors transactivate RAF dimers and ERK signalling in cells with wild-type BRAF**, **Nature**. 2010 Mar 18;464(7287):427-30. (IF: 31.434)
2. Tzeng SR, **Kalodimos CG**, **Dynamic activation of an allosteric regulatory protein**, **Nature**. 2009 Nov 19;462(7271):368-72. (IF: 31.434)
3. Reavie L, Della Gatta G, Crusio K, Aranda-Orgilles B, Buckley SM, Thompson B, Lee E, Gao J, Bredemeyer AL, Helmink BA, Zavadil J, Sleckman BP, Palomero T, Ferrando A, **Aifantis I**. Regulation of hematopoietic stem cell differentiation by a single ubiquitin ligase-substrate complex, **Nat Immunol**. 2010 Mar;11(3):207-15. Epub 2010 Jan 17. (IF: 25.113)
4. **Manolagas SC**, **From Estrogen-Centric to Aging and Oxidative Stress: A Revised Perspective of the Pathogenesis of Osteoporosis**, **Endocr Rev**. 2010 Jan 5. [Epub ahead of print]. (IF: 18.562)
5. **Kiskinis E**, Eggan K, Progress toward the clinical application of patient-specific pluripotent stem cells, **J Clin Invest**. 2010 Jan;120(1):51-9. (IF: 16.559)
6. Rached MT, Kode A, Silva BC, Jung DY, Gray S, Ong H, Paik JH, DePinho RA, Kim JK, Karsenty G, **Kousteni S**, **FoxO1 expression in osteoblasts regulates glucose homeostasis through regulation of osteocalcin in mice**, **J Clin Invest**. 2010 Jan;120(1):357-68. (IF: 16.559)
7. Rached MT, Kode A, Xu L, Yoshikawa Y, Paik JH, Depinho RA, **Kousteni S**, **FoxO1 is a positive regulator of bone formation by favoring protein synthesis and resistance to oxidative stress in osteoblasts**, **Cell Metab**. 2010 Feb 3;11(2):147-60. (IF: 16.107)
8. Dunnick WA, Collins JT, Shi J, Westfield G, Fontaine C, Hakimpour P, **Papavasiliou FN**, Switch recombination and somatic hypermutation are controlled by the heavy chain 3' enhancer region, **J Exp Med**. 2009 Nov 23;206(12):2613-23. Epub 2009 Nov 2. (IF: 15.463)
9. **Giagtzoglou N**, Mahoney T, Yao CK, Bellen HJ, **Rab3 GTPase lands Bruchpilot**, **Neuron**. 2009 Dec 10;64(5):595-7. (IF: 14.170)
10. Lin X, **Parisiadou L**, Gu XL, Wang L, Shim H, Sun L, Xie C, Long CX, Yang WJ, Ding J, Chen ZZ, Gallant PE, Tao-Cheng JH, Rudow G, Troncoso JC, Liu Z, Li Z, Cai H, **Leucine-rich repeat kinase 2 regulates the progression of neuropathology induced by Parkinson's-disease-related mutant alpha-synuclein**, **Neuron**. 2009 Dec 24;64(6):807-27. (IF: 14.170)

Q: Dr. Poulidakos, could you give us an introduction of your academic profile?

A: First, I would like to thank you for the opportunity to communicate my findings with the members of the association and to congratulate you for your efforts to strengthen the ties among Greek scientists. I received both my undergraduate and graduate degrees from the Department of Biology, University of Athens. I then joined Joe Testa's lab at Fox Chase Cancer Center in Philadelphia, where I started working on cell signaling and cancer biology. I moved to Neal Rosen's lab at Memorial Sloan-Kettering Cancer Center in New York in 2006 and started working on the biological and biochemical effects of small molecules inhibitors in tumors and normal cells.



Q: Briefly, could you give us a summary of your most important findings with respect to your publication in Nature?

A: The paradoxical observation that RAF inhibitors activate their target has actually been reported more than 10 years ago. However, the underlying mechanism remained elusive until now. In 2002, activating BRAF mutations were discovered in melanoma and other tumors, leading to the development of RAF kinase inhibitors to be used in clinic. I think the most important part of this work is the elucidation of the biochemical mechanism of action of RAF inhibitors, which now helps us understand the observed responses, rationalize treatment strategies and predict ways of drug resistance.

Q: In your study you demonstrate that RAF inhibitors actually activate MEK and ERK in certain melanomas. Could you briefly explain the proposed mechanism leading to this phenomenon?

A: After excluding possibilities of unspecific or off-target effects, the main problem that had to be addressed was to overcome the obvious paradox of having an ATP-competitive inhibitor and ATP bound to the same molecule. In fact of course, that is not happening. The molecules that the inhibitor binds to become inactive, but they adopt the active phosphorylated state of the kinase. In situations where RAF exists in dimers (due to upstream RAS activation) the activating conformational change is transmitted allosterically to the small portion of RAF molecules that are inhibitor-free, via direct interaction (transactivation). It is the activity of these latter molecules that activates downstream ERK signaling. In tumors with mutant BRAF, BRAF is already in the active state and RAS activity is low, so the pathway is effectively inhibited.

Q: Could you comment on how the insight gained from your study might help us to understand the clinical differences observed, when melanomas are treated with MEK or BRAF inhibitors and how this information may be important with respect to which drug regimen to employ to treat genetically distinct tumors?

A: An obvious consequence of these results is the prediction that RAF inhibitors will not work and they might even have deleterious effects in patients with RAS mutations. Moreover, approximately 20% of patients with BRAF-mutant tumors treated with a RAF inhibitor developed squamous cell carcinoma of the skin, which could be due to activation of ERK signaling in normal skin. On the other hand, it is this exact phenomenon of activation in normal cells that allowed the administration of high doses of RAF inhibitors without obvious toxicities, achieving a much higher therapeutic index than with MEK inhibitors. That led to the remarkable responses achieved by a RAF inhibitor during a recent phase I clinical trial. However, most of the patients that initially responded eventually relapsed after less than a year on the drug. Based on our findings, we are now investigating the possibility that tumor cells exploited the mechanism of transactivation and upregulated upstream signaling in order to compromise the effects of the drug. In that case, combinatorial approaches might be beneficial. Overall, further understanding of the biochemical and biologic effects of small molecule inhibitors appears key to further development of targeted therapies and personalized medicine.

Thank you very much.

New web-page www.whba1990.org



The World Hellenic Biomedical Association is a non-profit medical and biosciences society that was established in the United Kingdom in 1990. Throughout past 20 years the WHBA has organized numerous local and international scientific meetings. The WHBA is in the process of registering in the United States of America as a tax-exempt organization.

Since January 2010, the WHBA has a new executive board that will serve until 2014. Founding member and past president of the HBA-USA Konstantinos Drosatos has been

elected to serve as president-elect for a tenure of two years. The new board consists of physicians and bioscientists from the USA, the UK, Canada and Germany while communication has been established with doctors and scientists from several countries around the Globe.

We welcome your visit in the brand new website of the WHBA which is available at www.whba1990.org, and we urge you provide us with your comments and suggestions on the aims and activities that the WHBA

Available Positions

Positions in the United States

Medical College of Georgia, Augusta, GA

Specifics: **senior post-doctoral position** in Vascular Biology and endothelial cell biology

New York University, New York, NY

Specifics: **post-doctoral position** in Molecular Biology of neurodegeneration and Alzheimer's disease

University of Michigan, Ann Arbor, MI

Specifics: **post-doctoral position** in Biology or Biomedical Engineering

Pennsylvania State University College of Medicine, Hershey, PA

Specifics: **post-doctoral position** in molecular basis of individual variability to pulmonary disease susceptibility

Pennsylvania State University College of Medicine, Hershey, PA

Specifics: **physician-Scientist/Basic Scientist position in Host defense, Inflammation & Lung Disease**

Children's Hospital, Philadelphia, PA

Specifics: **post-doctoral positions in molecular immunology**

FivePrime Therapeutics, Inc, San Diego, CA

Specifics: **senior scientist II/III position** in Immunology

Kaztronix Inc, Iselin, NJ

Specifics: **laboratory Assistant** with Biology background

Swiftwater Group, Inc, Exton, PA

Specifics: **senior Associate for Drug Development Consulting**

Positions in Greece

Biomedical Research Foundation of the Academy of Athens, Greece

Specifics: **post-doctoral position** in Molecular Cardiology

University of Patras, Greece

Specifics: **lecturer or Assistant Professor position in Molecular Biotechnology**

Agricultural University of Athens, Greece

Specifics: **2 PhD positions** in food science for non-Greek citizens only



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