

Applicant Name (Last, first, middle):

**BIOGRAPHICAL SKETCH**

Ioannis Zaganas

Name: Zaganas, Ioannis, V, MD, PhD

**POSITION TITLE:**

Assistant Professor of Neurology,  
Medical School, University of Crete,  
Heraklion, Crete, Greece

Personal Webpage:

**EDUCATION /TRAINING**

<b>INSTITUTION AND LOCATION</b>	<b>DEGREE (if applicable)</b>	<b>YEAR(s)</b>	<b>FIELD OF STUDY</b>
University of Crete, Heraklion, Crete, Greece	MD	1997	Medicine
University of Crete, Heraklion, Crete, Greece	Ph. D.	2005	Neuroscience
Prefecture of Heraklion, Crete, Greece	Neurology Certification	2008	Neurology

**A. ACADEMIC AND PROFESSIONAL POSITIONS**

**POSITIONS HELD**

1991-1997	University of Crete, Medical School (MD Degree)
1997-1999	Rural Service, Kastelli Health Center, Crete, Greece
1999	Resident, Internal Medicine Department, University Hospital of Heraklion, Crete, Greece
1999-2005	Doctoral Dissertation, title "Glutamate dehydrogenase in the biology of the mammalian nervous system", Medical School, University of Crete, Greece
2000	Resident, Psychiatry Department, University Hospital of Heraklion, Crete, Greece
2004-2005	Postdoctoral Fellow on Genetics and Neurobiology of Alzheimer's Disease: Mount Sinai School of Medicine, Department of Psychiatry and Neurobiology, New York, USA
2005-2008	Resident, Neurology Department, University Hospital of Heraklion, Crete, Greece
2008-2009	Temporary Assistant Professor of Neurology, Medical School, University of Crete, Greece
2009-2010	Temporary Lecturer of Neurology, Medical School, University of Crete, Greece
2010-2011	Neurology Consultant, Neurology Department, University Hospital of Heraklion, Crete, Greece
2011	Invited Scientist, Neuro-metabolism Unit, Department of Drug Design and Pharmacology, University of Copenhagen, Denmark
2011-2013	Post-Doctoral Researcher, Medical School, University of Crete, Greece
2013	Temporary Associate Professor of Neurology, Medical School, University of Crete, Greece
2014-present	Assistant Professor of Neurology, Medical School, University of Crete, Greece

**ADVISORY-ADMINISTRATIVE DUTIES**

Applicant Name (Last, first, middle):

## B. RESEARCH INTERESTS

The focus of my research is on the genetic basis and the molecular mechanisms of neurodegeneration, especially in relation to Alzheimer's disease and other dementias. I have also focused on the genetic basis of neurogenetic disorders.

Specifically, I am interested in:

- a) Understanding the functional properties and role of glutamate dehydrogenase, a key enzyme in glutamate metabolism and glutamate-induced neurodegeneration
- b) Dissecting the role of genetic factors, as found using whole exome / genome sequencing and other genetic analysis strategies, in the pathophysiology of Alzheimer's disease and other dementias, as well as other neural and non-neural phenotypes
- c) Studying the role of environmental factors on the onset and progression of dementia and other neurological disorders
- d) Establishing procedures for the use of whole exome sequencing and other next generation sequencing techniques in the diagnostic investigation of neurogenetic diseases

## C. SELECTED PEER-REVIEWED PUBLICATIONS (max 10) (in chronological order).

- (1) **Zaganas I**, Waagepetersen HS, Georgopoulos P, Sonnewald U, Plaitakis A and Schousboe A. Differential expression of glutamate dehydrogenase in cultured neurons and astrocytes from mouse cerebellum and cerebral cortex. *J Neurosci Res* 66: 909-13, 2001.
- (2) **Zaganas I**, Plaitakis A. Single amino acid substitution (G456A) in the vicinity of the GTP binding domain of human housekeeping glutamate dehydrogenase markedly attenuates GTP inhibition and abolishes the cooperative behaviour of the enzyme. *J Biol Chem* 277: 26422-28, 2002.
- (3) **Zaganas I**, Spanaki C, Karpusas M, Plaitakis A. Substitution of Ser for Arg443 in the regulatory domain of human housekeeping (*GLUD1*) glutamate dehydrogenase virtually abolishes basal activity and markedly alters the activation of the enzyme by ADP and L-leucine. *J Biol Chem* 277: 46552-8, 2002.
- (4) **Zaganas I**, Kanavouras K, Mastorodemos V, Latsoudis H, Spanaki C, Plaitakis A. The human *GLUD2* glutamate dehydrogenase: localization and functional aspects. *Neurochem Int* 55: 52-63, 2009.
- (5) Spanaki C\*, **Zaganas I\***, Kleopa K, Plaitakis A. Human *GLUD2* glutamate dehydrogenase is expressed in neural and testicular supporting cells. *J Biol Chem* 285: 16748-56, 2010. \*Equal contribution.
- (6) **Zaganas I**, Halpin AP, Oleinik A, Alegakis A, Kotzamani D, Zafiris S, Chlapoutaki C, Tsimoulis D, Giannakoudakis E, Chochlidakis N, Ntailiani A, Valatsou C, Papadaki E, Vakis A, Furie KL, Greenberg SM, Plaitakis A. A comparison of acute hemorrhagic stroke outcomes in 2 populations: the Crete-Boston study. *Stroke* 42: 3640-2, 2011.
- (7) **Zaganas I**, Kapetanaki S, Mastorodemos V, Kanavouras K, Colosio C, Wilks MF, Tsatsakis AM. Linking pesticide exposure and dementia: What is the evidence? *Toxicology* 307:3-11, 2013.
- (8) **Zaganas I**, Pajęcka K, Wendel Nielsen C, Schousboe A, Waagepetersen HS, Plaitakis A. The effect of pH and ADP on ammonia affinity for human glutamate dehydrogenases. *Metab Brain Dis* 28: 127-31, 2013.
- (9) **Zaganas IV**, Kanavouras K, Borompokas N, Arianoglou G, Dimovasili C, Latsoudis H, Vlassi M, Mastorodemos V. The odyssey of a young gene: structure-function studies in human glutamate dehydrogenases reveal evolutionary-acquired complex allosteric regulation mechanisms. *Neurochem Res* 39:471-86, 2014.
- (10) Dimovasili C, Aschner M, Plaitakis A, **Zaganas I**. Differential interaction of hGDH1 and hGDH2 with manganese: Implications for metabolism and toxicity. *Neurochem Int* 88: 60-5, 2015.