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Born in 1961, Athens, Greece.

Education
B.Sc in Biology, National and Kapodistrian University of Athens, Greece, 1984
Ph.D in Biological Chemistry, University of Ioannina Medical School, Greece, 1991

Career milestones
1993-1996
Research Associate, Human Frontier (HFSPO) fellowship, Howard Hughes Medical Institute (HHMI), Department of Physiology & Molecular Biology Institute, University of California Los Angeles (UCLA), Los Angeles, California.
1998-1999
Fulbright Senior Research Scholar, Department of Physiology & Molecular Biology Institute, University of California Los Angeles (UCLA), Los Angeles, California.
1999-2000
Lecture assistant, Elective Undergraduate Study Program in Biochemistry, University of Ioannina, Greece.
2000-2006
Assistant Professor, Biological Chemistry, University of Ioannina Medical School, Greece.
2007-2011
Associate Professor, Biological Chemistry, University of Ioannina Medical School, Greece.
2012-today
Professor, Biological Chemistry, University of Ioannina, Department of Medicine, Greece.
2018-today
Director, Laboratory of Biological Chemistry, University of Ioannina, Department of Medicine, Greece.
2008-2018
Director, Interdepartmental Postgraduate Program in Biotechnology, University of Ioannina, Greece.
2018-today
Director, Interinstitutional Interdepartmental Postgraduate Program in Molecular and Cellular Biology and Biotechnology, University of Ioannina, Greece; http://msc-mcbb.ac.uoi.gr
2019-today
Director, Institute of Biosciences, University Research Center of Ioannina, University of Ioannina, Greece; https://urci.unit.uoi.gr/ibs/gr

Teaching
Postgraduate Courses
M.Sc Program in Biotechnology, University of Ioannina, Greece, 2002-2018 [courses: Molecular Pathology (2002-2008), Introduction to Experimental Methodology (2008-2018), Molecular Biology of the Gene (2008-2018)]
M.Sc Program in Molecular and Cellular Biology and Biotechnology, University of Ioannina, Greece, 2018-today [courses: Topics in Molecular and Cellular Biology (themes: Molecular Evolution, Transporters, Genome organization and evolution, Prokaryotic gene expression-regulation); Functional analysis of genes: from the design to the living system (themes: Genetic/genomic engineering, Mutagenesis designs); http://msc-mcbb.ac.uoi.gr]

M.Sc Program in Microbial Biotechnology, National and Kapodistrian University of Athens, Greece, 2003-2018 [course: Model microbial systems (theme: The lactose permease as a study model for transmembrane transport proteins)]

Undergraduate Courses

Biochemistry, Department of Medicine, University of Ioannina, Greece, 2002-today
From Genome to Proteome, Department of Medicine, University of Ioannina, Greece, 2002-2016
From Genome to Evolution, Department of Medicine, University of Ioannina, Greece, 2018-today
Biology, Department of Chemistry, University of Ioannina, 2004-2018
Evolutionary Biology, Department of Biological Applications and Technologies, University of Ioannina, Greece, 2004-2012
From Genome to Proteome, Department of Biological Applications and Technologies, University of Ioannina, Greece, 2004-2016

Books

Biology II (Biology of Organisms), University of Ioannina, 1999
Biochemistry, Molecular Biology (Laboratory Manuals), University of Ioannina, 2001 (most recent edition, 2014)
From Genome to Proteome, University of Ioannina, 2003

Textbook translations (participation)

Brock Biology of Microorganisms, Pearson, 2003 /2015 (Crete University Press, 2007 /2018)
Watson Molecular Biology of the Gene, Pearson, 2008 /2015 (Utopia Publishing, 2011 /2017)
Barton Evolution, Cold Spring Harbor Laboratory Press, 2007 (Utopia Publishing, 2011)
Cooper The Cell: A molecular approach, Sinauer, 2009 /2016 /2019 (Academic Publications, 2011 /2018 /2021)
Ferrier Biochemistry, Lippincott, 2014 (Parisianou Publications, 2015)
Tropp Principles of Molecular Biology, Jones and Bartlett, 2014 (Academic Publications, 2015)
Lensk Introduction to Genomics, Oxford University Press, 2012 (Utopia Publishing, 2017)
Lodish Molecular Biology of the Cell, Freeman, 2016 (Utopia Publishing, 2019)
Meisenberg-Simmons Principles of Medical Biochemistry, 2017 (Lagos Medical Editions, 2021)

Research

Current research of the lab focuses on the structure-function and specificity relationships of nucleobase-cation symporters

http://www.frillingoslab.gr

Research Group

Post-doctoral: Maria Botou (PhD, 2016)
PhD students: Ekaterini Tatsaki (MSc, 2015), Eleni Anagnostopoulou (MSc, 2020)
MSc students: Nikoleta Iosifidou
Undergraduate students: Eirini Kalfa
Previous members:
Panayiota Lazou (MSc, 2014; PhD, 2021), Vassilis Yalelis (PhD, 2020); Ekaterini Karena (MSc, 2007; PhD, 2014; postdoc, 2015), Ekaterini Georgopoulou (PhD, 2011), Konstantinos Papakostas (PhD, 2011; postdoc, 2012), George Mermelekas (PhD, 2009), Sotiria Tavoulari (PhD, 2005; postdoc, 2006), Panayiota Karatza (PhD, 2006), Panayiotis Panos (MSc, 2005), Alexander Kallis (MSc, 2009), Sotiria Libanovnou (BSc, 2006), Eleni Vourvou (BSc, 2008), Bill Vlantos (BSc, 2010), Vassiliki Charalambous (BSc, 2012), Effie Karyda (BSc, 2017), Sofia Prassopoulou (BSc, 2019), Ariadne Sbouki (BSc, 2020)

Funding (as PI/coordinator)

Greek Ministry of Education Heraklitos-I (2003-2007),
Greek Ministry of Development GSRT "Reinforcement Programme of Human Research Manpower" (PENED) (2005-2009),
GSRT "Collaborations with Research and Technology Organizations outside Europe" (NONEU) (2006-2009), co-financed from the European Union Social Fund,
Greek Ministry of Education Heraklitos-II (2009-2013),
Greek Ministry of Education Thalis program (EVOTRANS) (2011-2015), co-financed from the European Union Social Fund
IKY Scholarships for PhD students (Tatsaki) (2018-2021)
IKY Scholarships for postdoctoral researchers (Botou) (2019-2021)
Periphery Excellence Program (BIOMED-20) (2020-2023)
Hellenic Foundation for Research and Innovation, Science and Society Hubs (EvoResConEdu) (2021-2023)

Selected publications

1. Botou M, Yalelis V, Lazou P, Zantza I, Papakostas K, Charalambous V, Mikros E, Flemetakis E, and Frillingos S. (2020). Specificity profile of NAT/NCS2 purine transporters in *Sinorhizobium* (*Ensifer*) *meliloti*. *Mol Microbiol* 114:151-171
2. Doukas, A., Karena, E., Botou, M., Papakostas, K., Papadaki, A., Tziouvara, O., Xingi, E., Frillingos, S., and Boleti, H. (2019). Heterologous expression of the mammalian sodium-nucleobase transporter rSNBT1 in *Leishmania tarentolae*. *BBA-Biomembranes* 1861:1546-1557
3. Chaliotis A, Vlastaridis P, Ntountoumi C, Botou M, Yalelis V, Lazou P, Tatsaki E, Mossialos D, Frillingos S, and Amoutzias GD (2018). NAT/NCS2 hound: A webserver for the detection and evolutionary classification of prokaryotic and eukaryotic nucleobase-cation symporters of the NAT/NCS2 family. *GigaScience* 7:giy133.
4. Botou M, Lazou P, Papakostas K, Lambrinidis G, Evangelidis T, Mikros E, and Frillingos S. (2018). Insight on specificity of the NAT/NCS2 family from analysis of the transporter encoded in the pyrimidine utilization operon of *Escherichia coli*. *Mol Microbiol* 108:204-19
5. Karena E, Tatsaki E, Lambrinidis G, Mikros E, and Frillingos S. (2015). Analysis of conserved NCS2 motifs in the xanthine permease XanQ of *Escherichia coli*. *Mol Microbiol* 98:502-17
6. Papakostas K, Botou M, and Frillingos S. (2013). Functional identification of the guanine/hypoxanthine transporters YjcD and YgfQ and the adenine transporters PurP and YicO of *Escherichia coli* K-12. *J Biol Chem* 288:36827-40
7. Karena E, and Frillingos S. (2011). The role of transmembrane segment TM3 in the xanthine permease XanQ of *Escherichia coli*. *J Biol Chem* 286:39595-605
8. Kaback HR, Dunten R, Frillingos S, Venkatesan P, Kwaw I, Zhang W, and Ermolova N. (2007). Site-directed alkylation and alternating access model for LacY. *Proc Natl Acad Sci USA* 104:491-4
9. Karatza P, and Frillingos S. (2005). Cloning and functional characterization of two bacterial members of the NAT/NCS2 family in *Escherichia coli*. *Mol Membr Biol* 22:251-61
10. Frillingos S, Sahin-Toth M, Wu J, and Kaback HR (1998). Cys-scanning mutagenesis: a novel approach to structure-function relationships in membrane proteins. *FASEB J* 12:1281-99