

Ieronymos-Jerome Zoidakis

Assistant Professor of Biochemistry

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Personal Data

Date of Birth: 14/08/1974

Military Service: 11/1997-08/1999

Education

1999-2004: University of California Los Angeles, U.S.A., Ph.D. in Biochemistry

1992-1997: University of Liege, Belgium, Licence in Biochemistry

Professional Experience

2022-current: National and Kapodistrian University of Athens, Assistant Professor of Biochemistry, Biology Department

2012-2022: Biomedical Research Foundation, Academy of Athens. Senior Research Scientist, Proteomics Laboratory

2008-2011: Biomedical Research Foundation, Academy of Athens. Post-doctoral Fellow, Proteomics Laboratory

2007-2008: Biotypos Clinical Laboratory. Athens, Greece. Clinical Biochemist. Responsible for Biochemical and Antibody-based assays, including cancer biomarkers

Research experience

2012-current: BRFAA. Proteomics of tissues and biological fluids. Systems Biology analysis of proteomics, transcriptomics, genomics, and metabolomics data in the context of Chronic Kidney Disease (CKD), cardiovascular disorders, bladder cancer, prostate cancer, and multiple myeloma, aiming to discover novel biomarkers and therapeutic targets.

Bioinformatics analysis of -omics datasets for defining the biochemical/metabolic processes in healthy tissues and their deregulation in disease.

Proteomic analysis of olive leaf trichomes for elucidation of their functional relevance and mistletoe (*Viscum album*) tissues for assessment of their proteins as anti-cancer agents.

Measurement in human plasma by Multiple Reaction Monitoring (MRM) of biomarkers for Bladder Cancer and CKD. Participation as co-PI to the EU funded projects TRANSBIOBC and iMOD-CKD.

Supervision of 6 PhD students and 3 junior postdoctoral fellows.

2012- 2016: BRFAA. Cervical cancer biomarker discovery by proteomic approaches. Recipient (co-PI) of the research grant CERVICANPROT (ΘΑΑΗΣ). Research adviser for 2 PhD students

2008-2011: BRFAA. Characterization of the urinary proteome. Discovery and validation of candidate bladder cancer biomarkers by mass spectrometry, ELISA, and WB. Submission of scientific reports for the EU funded DECANBIO project.

Research Adviser: A. Vlahou

2000-2004: UCLA. Kinetic and biophysical studies of the enzymes Phenylalanine Hydroxylase from *Chromobacterium violaceum* and 1-Aminocyclopropane-1-Carboxylate Deaminase from *Pseudomonas putida*. Biochemical techniques used for protein purification and characterization: Gel filtration and affinity chromatography, Circular Dichroism, Differential Scanning Calorimetry, enzyme kinetics.

Research adviser: M. Abu-Omar

1996-1997: University of Liege and Foundation of Research and Technology, Crete, Greece. Cloning, purification and characterization of a psychrophilic chitinase from the Antarctic bacterium *Arthrobacter sp. TAD20*.

Research Advisers: C. Gerday (Belgium), V. Bouriotis (Greece)

1996 spring: University of Ioannina. Migration of the plasticizer DOA from plastic membranes to meat during microwave cooking.

Research adviser: K. Kodominas

Teaching experience

2022-current: Lectures and laboratories for the undergraduate classes of the Biology Department, NKUA: Biochemistry, Molecular Biology, Advanced Topics of Biochemistry

2015-current: Organizer and instructor of short courses and workshops relative to “proteomics”, “MRM” and “preparing future faculty for teaching” offered in the context of EU funded Innovative Training Network programs for PhD students and post-doctoral researchers

2010-current: Teaching proteomics and genomics classes for Masters Courses offered by the National and Kapodistrian University of Athens, and the Agricultural University of Athens with particular focus on clinical applications

2003-2004: Member of the Collegium of University Teaching Fellows at UCLA

Designed and taught a class entitled “Applications of enzymes” offered in the Spring of 2004

2002-2004: Teaching Assistant Consultant responsible for the training of the new TAs at the UCLA department of Chemistry and Biochemistry.

Reorganized the TA training program of the department. Evaluated 46 TAs and helped them improve their teaching by giving them detailed reports and constructive criticism

1999-2003: Teaching Assistant for lecture and laboratory courses at UCLA. Led discussions for the classes, *Biochemistry: Structure, Enzymes, and Metabolism* and *Environmental Chemistry*. Directed laboratory sections for the class *Biochemical Methods I*.

Excellence in Teaching has been recognized by Departmental (2001) and University (2004) awards at UCLA and invited lectures as an expert on preparing future faculty for teaching careers in the US and Europe (example: 2018 FEBS Educational Workshop on Molecular Life Sciences).

PhD Theses co-supervised at the Biomedical Research Foundation, Academy of Athens:

2018 Marika Mokou “Elucidation of molecular features associated with cardiovascular diseases”

2018 Vasiliki Lygirou “Bioinformatic and proteomic characterization of cervical cancer cell lines”

2017 Georgia Kontostathi “Proteomic study of cervical cancer cell line secretome”

2016 Szymon Filip “Discovery and validation of predictive biomarkers for CKD”

2016 Maria Frantzi “The role of Profilin-1 in bladder cancer”

2015 Akshay Bhat “Systems biology approach for molecular characterization of bladder cancer”

2015 Irene Navarro Lobato “RGS14414-mediated prevention of an episodic memory loss: a study of molecular mechanism”

2011 Makridakis Manousos “Determination of biomarkers for bladder cancer aggressiveness”

Books and education materials

1. Editor of the book “Integration of omics approaches and systems biology for clinical applications” Wiley 2018

2. Author of the Chapter entitled Mass Spectrometry: Structure Determination of Proteins and Peptides Book: Reference Module in Chemistry, Molecular Sciences and Chemical Engineering 2017

Involvement in EU COST (Cooperation in Science and Technology) actions

Participated at the EUROKUP (European Kidney and Urine Proteomics, 2009-2012) COST action as a representative of Greece

Participating at the CLIMARK (good biomarker practice' to increase the number of clinically validated biomarkers, 2017-2021) COST action as the coordinator of education activities and short-term scientific visits (STSM).

Responsible for managing a budget of 10,000 in the first year of the program and 35,000 for the second year. Coordinated the STSM of 36 researchers from 01/05/2017 to 30/09/2021.

Organizer of the COST CLINIMARK training school: Approaches for Biomarker Discovery and Validation, Spetses 23-27/09/19 involving 24 trainers and 34 trainees (budget 44,000 €) <https://clinimark.eu/component/icagenda/9-cost-clinimark-training-school.html?Itemid=102>

Grants obtained

1. Title: Promoting the appreciation of scientific research by high-school students

Role: PI

Amount and currency: 10,000 \$ Start: 01/01/2017 Finish: 31/12/2017

Awarding Body: Amgen Foundation

2. Title: Development of a high diagnostic and prognostic accuracy model for the cervical intraepithelial neoplasia (CIN) based on early biomarkers by employing proteomic and bioinformatic analysis (CERVICANPROT)

Role: co-investigator, (PI: Pappa K, University of Athens)

Amount and Currency: 520,000 € Start: 01/01/2013 Finish: 30/11/2015

Awarding Body: EU and Hellenic General Secretariat of Research and Technology

Current and recent grant support

<i>Project</i>	<i>Funding source</i>	<i>Amount (€)</i>	<i>Period</i>	<i>Role</i>	<i>Research focus</i>
mELISA	Hellenic GSRT	350,000	06/09/2018 05/03/2022	Co-PI	Validation of plasma biomarkers for CKD progression
My-BIOTag	Hellenic GSRT	283,405	06/09/2018 05/03/2023	Co-PI	Muti-omics approaches for identification of multiple myeloma biomarkers and therapeutic targets
PROCEED	EU H2020 MSCA-IF	171,461	01/08/2018 28/02/2021	PI	Identification of CKD biomarkers and therapeutic targets by systems biology methods
STEPUPIORS	EU Twinning	250,000	01/10/2022 30/09/2025	PI	Research and management expertise transfer to IORS
ELMUMY	EU Horizon	467,895	01/01/2023 31/12/2026	PI	Creation of a molecular model for multiple myeloma

Grant Management Experience

Responsible for drafting reports to the EU for the TRANSBIOBC and iMODECKD research grants and to the Hellenic GSRT for the CERVICANPROT research grant

Service experience:

2017-2021: Education activities chair for the COST action CliniMARK
2014-current: Organizer and host of high-school student visits to BRFAA
2009-current: Organizer and moderator of the weekly BRFAA seminars
2001-2004: Organizer and host of a monthly seminar series at the UCLA department of Chemistry and Biochemistry
2002-2003: Appointed for one year as graduate student representative to the committee on education abroad of the Academic Senate at UCLA
2001-2002: Appointed for one year as graduate student representative to the committee on teaching of the Academic Senate at UCLA

Awards and Honors:

2016 First prize for poster presentation, 8th European Multidisciplinary Meeting on Urological Cancers (EMUC16), 24-27/11/2016, Milan, Italy
Fragkoulis H, Mermelekas G, Hatziharalambous D, Lygirou V, **Zoidakis J**, Ntoumas K
“Multiple reaction monitoring study for bladder cancer diagnosis using novel urine biomarkers”
2004 UCLA Academic Senate Distinguished Teaching Assistant Award
2004 UCLA Alumni Association Outstanding Graduate Student Award
2003 Jeffrey L. Hanson Distinguished Service Award of the UCLA Graduate Student Association
2001-2003 Vardinoyannis Foundation Graduate Student Fellowship
2000 Teaching Assistant Award, Department of Chemistry and Biochemistry, UCLA
1996 Erasmus Fellowship, University of Liege

76 Publications in Peer Review Journals. H-index 20, 1397 citations (Scopus, 10/11/2022)
<https://www.scopus.com/authid/detail.uri?authorId=6506081730>

More than 100 oral/poster presentations in national and international scientific meetings. Invited lectures on proteomics and the scholarship of teaching at scientific meetings and workshops.

EU Patent (Designated as inventor)

Date filed 23/12/2016 Title: Bladder cancer Biomarker Proteins Application No. 15202453.5-1405

Reviewer experience for the following journals

Proteomics Clinical Applications, BBA- Proteins and Proteomics, PLOS ONE, Metabolism Data in Brief, Journal of Molecular Biochemistry, Analytica Chimica Acta, Oncogene, Clinical Biochemistry, Heliyon, Journal of Pharmaceutical and Biomedical Analysis, Journal of Proteomics, Talanta

Expert reviewer of research grants for the EU (Marie Curie ITN and IF), France (CNRS), Greece (GSRT), UK (Wellcome Trust Foundation), Cyprus (Research and Innovation Foundation).