

1. PERSONAL INFORMATION

NAME: HELEN G GIKA

DATE OF BIRTH: 22 JUNE 1976 ,

PLACE OF BIRTH: ATHENS, GREECE

WORK ADDRESS: LABORATORY OF FORENSIC MEDICINE & TOXICOLOGY, DEPARTMENT OF MEDICINE, SCHOOL OF HEALTH SCIENCE, ARISTOTLE UNIVERSITY OF THESSALONIKI, GREECE.

TEL. 2310996224

E-MAIL: gkikae@auth.gr

2. POSITIONS

- 8/2018- today: Assistant Professor, Department of Medicine, Aristotle University of Thessaloniki
- 1/2016- 8/2018: Lecturer, Department of Medicine, Aristotle University of Thessaloniki
- 2/2011- 2/2015: Lecturer, Department of Chemical Engineering, Aristotle University of Thessaloniki
- 10/2009-12/2010: Research scientist, IASMA Research and Innovation Centre, San Michele All Adige, Trento, Italy
- 1/2008-9/2011: Research Fellow, FP7 Marie Curie European Reintegration Grant. "Advanced bioanalytical technologies for systems biology studies" Chemistry Dep. AUTH
- 5/2006-11/2007: Post Doctorate Researcher. AstaZeneca Pharmaceuticals R&D, Alderley Park, Macclesfield UK. FP6, Transfer of Knowledge Academia-Industry Partnership Marie Curie Grant, "Novel post Genomic bioanalytical technologies of metabonomics in biomedical research and drug discovery".
- 3/2005-5/2006: Analytical chemist, Corporation of Industrial Research and Technological Development in Food Industry (ETAT AE), Athens, Greece
- 10/2002-6/2003 Visiting researcher (Erasmus fellowship), Institute of Analytical Chemistry, University of Vienna, Austria
- 10/1999 -10/2004 Ph. D. student, Lab. of Analytical Chemistry, Department of Chemistry, Aristotle University, Thessaloniki Greece

3. EDUCATION

- 9/1999 – 11/2004 : PhD in Analytical Chemistry. Aristotle University of Thessaloniki, Department of Chemistry, Laboratory of Analytical Chemistry. Thesis Title: Determination of thyroids hormones of their precursors and their optical isomers by HPLC in biological fluids and pharmaceuticals.
- 9/1994 – 7/1999 : Diploma of Chemistry Science. Aristotle University of Thessaloniki (7.55)

4. EDUCATIONAL WORK- TUITION

4.1 Under Graduate Level

In the Department of Medicine AUTH: Forensic Medicine & Toxicology

In the Department of Chemical Engineering AUTH: 1) Modern methods of Instrumental Analysis, 2) Laboratory of Analytical Chemistry, 3) Laboratory of Inorganic Chemistry , 4) Laboratory of Organic Chemistry,

In the Department of Chemistry AUTH, assistant in laboratory courses: 1) Separation methods in chemical Analysis, 2) Instrumental Chemical Analysis, 3) Quantitative chemical analysis

4.2 Post Graduate Level

-Department of Medicine AUTH: 1) Proteomics and Metabolomics in Drug Discovery and Development in «Clinical and Industrial Pharmacology», 1) Analytical Toxicology, 2)General Toxicology, 3) Mass spectrometry and QA/QC in «Clinical Toxicology» post graduate Program.

-Department of Chemistry AUTH : 1) Quality Assurance and 2) Bioanalysis in «Chemical Analysis & Quality Control post graduate Program»

-Medical School, Thessaly University: System biology in «Human Genetics post graduate Program»

4.3. SUPERVISION OF RESEARCH STUDIES

- Supervision or Co-Supervision of Undergraduate Dissertation theses: **20**
- Supervision of MSc theses: **8**, Co-Supervision or MSc theses: **12**
- Member of the supervision committee for PhD studies: **8**
- Member of the Examining Committee for MSc or PhD defence: **12**
- Supervisor of **3** postdoc researchers in the department of Medicine.

5. EDITORIAL ACTIVITIES

- Editorial Board Member: Metabolites
- Editorial Board Member: Journal of Integrated Omics
- Guest editor Special Issue "Metabolomics2016" Metabolites.
- Guest editor Special Issue "Metabolomics III" J. Chromatography B, 2018
- Editor, Metabolic Profiling, book for the series Methods in Molecular Biology. Springer (2018), Online ISBN 978-1-4939-7643-0

6. MEMBER OF SCIENTIFIC UNIONS/ORGANISING COMMITTEES

Hellenic Metabolomics Network, (<http://hellenicmetabolomics.gr/>),

Society of Greek Chemists, Hellenic Mass Spectrometry Society,

Eurachem Work Group on Method Validation,

Member of the MQACC Think tank of NIH and the work group on Best Practices (<https://epi.grants.cancer.gov/Consortia/mQACC/>)

Organising Committee of:

- 1) "1st Workshop on Holistic Analytical Technologies for System biology studies, Thessaloniki 30-31 Oct 2008.
- 2) "2nd Workshop on Holistic Analytical Technologies for BioMedical, Food and Plant Sciences" Athens (9-11 November 2012)
- 3) "4th Workshop on Holistic Analytical Methods for System Biology Studies, Thessaloniki (April 17-19 2016).
- 4) 5th Metabolomics Workshop Thessaloniki (October 2018)
- 5) IMEKOFOODS (TC23) 3rd International Conference "Metrology Promoting Standardization and Harmonization in Food and Nutrition", <http://imekofoods3.web.auth.gr/> October 2017

7. REFEREEING

-for **17 Scientific Journals** (Bioanalysis, J Chromatogr B, J Chromatogr A, Anal Chim Acta, Anal. Bioanal Chem, J Sep sci, Chromatographia, J. Pharm Biomed Anal, Talanta, Current Pharma Anal, J. Chrom Sci, Trends in Analytical Chemistry, European J. of Pharmaceutical Sciences, The Canadian J of Anal Sci & Spectroscopy, Rapid mass Comm in Mass Spectrom, J. of Liquid Chrom & Related Tech
- H2020, Marie Curie Individual Fellowships, 2017 call, 10 proposals.

8. AWARDS

- 1) Top 40 under 40, the Analytical Scientist Journal (<https://theanalyticalscientist.com/the-power-list-2014/>)
- 2) One publication received award as Most Downloaded article from the Metabolomics Society
- 3) Publications included in the list of 50 most cited articles: J. Chromatography B
- 4) Faculty of Health Science (AUTH) prize for high cumulative IF publications in 2018.
- 5) Best presentation prize in the Hellenic conference of Clinical Chemistry 2017.

9. RECOGNITION

- **Sum of Times Cited 5434** (Google Scholar), 4106 (Scopus), 29 May 2020
- **h=33** (Google Scholar), **31** (Scopus), 29 May 2020
- Profile Google Scholar: <https://scholar.google.gr/citations?user=rUstrSNUAAAAJ&hl=en>

10. FUNDED PROJECTS

Since 2005 she has participated in **23 research grants**. Of these projects **17** projects were on the field of metabolomics.

In addition in **7** she was granted research projects as PI or coordinator : **1)** Correlation of clinical types and complexity of Coronary Artery Disease with patients' metabolic profile (Corlipid), ΕΣΠΑ NSRF (28/06/2018-27/06/2021) (PI), **2)** A metabolomics study on biomarkers discovery of chronic and acute alcohol toxicity, Operational Programme Human Resources Development, Education and Lifelong Learning 2014-2020, 01/2020 - 5/2021 (PI, coordinator), **3)** Peripheral blood metabolomics analysis for biomarker discovery in patients with multiple sclerosis with clinical and subclinical activity , Operational Programme Human Resources Development, Education and Lifelong Learning 2014-2020, 1/2020-5/2021 (co-PI). **4)** Excellence II GRS Grant Standardising Metabolomics "MetaboStandards", GSRT 2014-2015, <http://users.auth.gr/gkikae/aristeia/>, **5)** Strengthening research activities in AUTH, Research Committee «Metabolic profiling studies in the antitumor activity of biologically active ingredients of *Alkanna tinctoria* and *Lithospermum erythrorhizon* roots» 2011-2013. **6)** Marie Curie Actions Reintegration grant, EU. 36 months «Advanced bioanalytical technologies for systems biology studies» 2008-2011. (Individual Fellowship for my work in AUTH), **7)** Marie Curie Transfer of Knowledge Industry Academia Partnership between AUTH and AstraZeneca UK. EU 18 months "Novel post Genomic bioanalytical technologies of metabolomics in biomedical research and drug discovery" Research project in Drug metabolism and pharmacokinetics Department Alderley Park, Macclesfield, UK. 2005-2007.

- 8)** Greek Aromatic and medicinal plants exploitation (AromaDisitil) ΕΣΠΑ NSRF 6/2018- 6/2021, (partner)
- 9)** ITN (MARIE SKŁODOWSKA-CURIE ACTION Innovative Training Network) Project "MICROMETABOLITE", 2017 , <http://www.micrometabolite.eu/micrometabolite/index.php> (partner)
- 10)** Research & Innovation Infrastructure, GSRT Project: FOODOMICS GR, 2017. (partner)
- 11)** Latsis Foundation Grant. Metabolomics for the discovery of neonatal sepsis biomarkers Team member (partner)
- 12)** Heals, FP 7 EU grant, Health and Environment-wide Associations based on Large population Surveys, coordinator Prof. Dimosthenis Sarigiannis AuTh. , cooperation in 2 WPs (partner)
- 13)** IKYDAAD, 2014-2016. Enhancing biomarker identification in non-targeted metabolomics. Retention time prediction and biochemical pathway visualization as tool for filtering metabolite identity annotations. (partner)
- 14)** Excellence Grant II, Collaboration with N Thomaidis Athens Univ, Transformation products of emerging pollutants in the aquatic environment. (partner)
- 15)** Thalys project, 2012-2015 Investigation of organic micropollutants' fate in wastewater treatment and study of their behaviour during wastewater disposal to the aquatic environment. Collaboration with S. Stasinakis Univ. Aegean (partner).
- 16)** Thales - Support of the interdisciplinary and/or inter-institutional research and innovation Operational Programme: Education and lifelong learning "investing in knowledge society", Ministry of Education, Lifelong Learning and Religious Affairs, Greece, 47 months «Embryometabolomics: Metabolomics as a tool for the assessment of embryo growth and viability in in-vitro fertilisation» 2012-2015. (partner)
- 17)** «Metabolomics in biomedical Research, Funded by Astra Zeneca 2009- 2011.
- 18)** Bioanalysis Network AUTH, 2008- 2009. (partner)
- 19)** «Research needs for Pathology-Oncology and endoscopy» in cooperation with A' Clinic of Pathology AHEPA. AUTH, 2006-2010. (partner).
- 20)** HUSERMET (Human Serum Metabolome Project) BBSRC Funding, Manchester University UK. 2005-2007, (partner).
- 21)** Bilateral Agreement Greece- Czech Republic 24 months "Monolithic Polymeric Phases for Capillary Chromatography and Capillary ElectroChromatography Analysis of Biomolecule Enantiomers" with the University of Pardubice. 2006-2008 (partner).
- 22)** Bilateral Agreement Greece-Romania 24 months, "Knowledge based multifunctional materials for biotechnological and biomedical use. Molecularly Imprinted Polymers and pH/thermoreponsible micro- and nanospheres for the Development of novel drug delivery systems and analytical tools for pharmaceuticals". With "Petru Poni" Institute of Macromolecular Chemistry, Iassy, Romania. 2007-2008, (partner).
- 23)** "Determination of risperidone levels" financing Jansen pharmaceuticals Laboratory of Toxicology, School of medicine AUTH. 2005-2006 (partner).

11. PROJECTS APPLICATIONS

The last 8 years she has participated in the applications of more than 30 proposals for grants. Selective proposals are provided:

- Host-gut microbiome and metabolome dysbiosis due to antibiotics induced colitis (Dysbiosis), ΕΛΙΔΕΚ 2018 (PI)
- Effect of Canabidiol and total extract from Cannabis sativa L. in Multiple Sclerosis and innovative products KannabMS. (KannabMS), ΕΣΠΑ NSRF 2018 (PI)
- Consolidating Mass Spectrometry Metabolomics: Promoting Metabolite Identification, Quantification and Data Mining/Data-basing, (MSMetabolomics) EU ITN 2107 (partner)
- The Challenge of the Human Blood Metabolome: Filling the analytical and informatics toolbox" (BloodMetaboAnal), ITN EU 2018 (partner)
- Standardising Metabolomics, COST 2017 (partner)
- Personal Scholarship for PhD Studies IKY 2018 (PI)
- Metabolic phenotyping as an early diagnostic tool in late-onset neonatal sepsis, International research Grant 2017 (PI)

12. RESEARCH PUBLICATIONS

In total **100 publications** in Peer Review Journals and Book Chapters

12.1 List of selected of publications in peer reviewed Journals *=corresponding author

1. **H Gika***, A Orfanidis, G Theodoridis, O Mastrogiani, N Raikos, A UHPLC–MS-MS Method for the Determination of 84 Drugs of Abuse and Pharmaceuticals in Blood, *J Anal Toxicology*, (2020) 1117, 136-147.
2. Study of fecal and urinary metabolite perturbations induced by chronic ethanol treatment in mice by UHPLC-MS/MS targeted profiling, Deda, O., Virgiliou, C., Orfanidis, A., **Gika***, H.G. *Metabolites*, (2019) 9, 232-248.
3. Untargeted LC/MS-based metabolic phenotyping (metabonomics/metabolomics): The state of the art **H Gika**, C Virgiliou, G Theodoridis, RS Plumb, ID Wilson, *J Chromatogr B*, (2019) 1117,136-147.
4. O Begou, **HG Gika***, ID Wilson, G Theodoridis, Hyphenated MS-based targeted approaches in metabolomics, *Analyst*, (2017) 142, 3079-3100.
5. E. D. Spyrelli, A. V. Kyriazou, C. Virgiliou, A. Nakas, O. Deda, V. P. Papageorgiou, A. N. Assimopoulou and **H. G. Gika*** Metabolic profiling study of shikonin's cytotoxic activity in the Huh7 human hepatoma cell line, *Mol. BioSyst.* (2017) 13, 841-851.
6. Tsakelidou, E., Virgiliou, C., Valianou, L., **Gika***, **H.G.**, Raikos, N., Theodoridis, G. Sample preparation strategies for the effective quantitation of hydrophilic metabolites in serum by multi-targeted HILIC-MS/MS, *Metabolites* (2017) 7, 13.
7. Sarafidis, K., Chatziioannou, A.C., Thomaidou, A., **Gika, H.**, Mikros, E., Benaki, D., Diamanti, E., Agakidis, C., Raikos, N., Drossou, V., Theodoridis, G. Urine metabolomics in neonates with late-onset sepsis in a case-control study, *Scientific Reports* (2017) 7, Article number: 45506.
8. Tsochatzis, E.D., Begou, O., **Gika, H.G***, Karayannakidis, P.D., Kalogiannis, S. A hydrophilic interaction chromatography-tandem mass spectrometry method for amino acid profiling in mussels, *J. Chrom B* (2017) 1047, 197-206.
9. Deda, O., Chatziioannou, A.C., Fasoula, S., Palachanis, D., Raikos, N., Theodoridis, G.A., **Gika***, **H.G.** Sample preparation optimization in fecal metabolic profiling, *J. Chrom B* (2017) 1047, 115-123.
10. Begou, O., Kontou, A., Raikos, N., Sarafidis, K., Roilides, E., Papadoyannis, I.N., **Gika, H.G.*** An ultra-high pressure liquid chromatography-tandem mass spectrometry method for the quantification of teicoplanin in plasma of neonates, *J. Chrom B* (2017) 1047, 215-222
11. Deda, O., **Gika, H.G.**, Taitzoglou, I., Raikos, N., Theodoridis, G. Impact of exercise and aging on rat urine and blood metabolome. An LC-MS based metabolomics longitudinal study, *Metabolites* (2017) 7,
12. Virgiliou, C., **Gika, H.G.**, Witting, M., Bletsou, A.A., Athanasiadis, A., Zafrakas, M., Thomaidis, N.S., Raikos, N., Makrydimas, G., Theodoridis, G.A. Amniotic Fluid and Maternal Serum Metabolic Signatures in the Second Trimester Associated with Preterm Delivery, *J. Proteom Res* (2017) 16, 898-910.

13. Tsochatzis, E.D., Tzimou-Tsitouridou, R., **Gika, H.G.*** Analytical Methodologies for the Assessment of Phthalate Exposure in Humans, *Critical Reviews in Analytical Chemistry* (2017) 1- 19.
14. Deda, O., **Gika***, H., Panagoulis, T., Taitzoglou, I., Raikos, N., Theodoridis, G. Impact of exercise on fecal and cecal metabolome over aging: A longitudinal study in rats, *Bioanalysis* (2017) 9, 21-36.
15. Arapitsas, P., Corte, A.D., **Gika**, H., Narduzzi, L., Mattivi, F., Theodoridis, G. Studying the effect of storage conditions on the metabolite content of red wine using HILIC LC-MS based metabolomics, *Food Chemistry* (2016) 197, 1331-1340.
16. **Gika, H.G.***, Zisi, C., Theodoridis, G., Wilson, I.D. Protocol for quality control in metabolic profiling of biological fluids by U(H)PLC-MS, *J. Chrom B* (2016) 1008, 15-25.
17. Deda, O., **Gika**, H.G., Wilson, I.D., Theodoridis, G.A. An overview of fecal sample preparation for global metabolic profiling, *J. Pharm Biomed Anal* (2015) 113, 137-150.
18. Virgiliou, C., Sampsonidis, I., **Gika**, H.G., Raikos, N., Theodoridis, G.A. Development and validation of a HILIC-MS/MS multitargeted method for metabolomics applications, *Electrophoresis* (2015) 36, 2215-2225.
19. **Gika***, H.G., Wilson, I.D., Theodoridis, G.A. LC-MS-based holistic metabolic profiling. Problems, limitations, advantages, and future perspectives, *J. Chrom B* (2014) 966, 1-6.
20. **Gika***, H.G., Theodoridis, G.A., Plumb, R.S., Wilson, I.D. Current practice of liquid chromatography-mass spectrometry in metabolomics and metabonomics, *J. Pharm Biomed Anal* (2014) 87, 12-25.
21. HG **Gika***, ID Wilson Global metabolic profiling for the study of alcohol-related disorders, *Bioanalysis* (2014) 6, 59-77.
22. **Gika**, Helen; Theodoridis, Georgios; Mattivi, Fulvio; Vrhovsek, Urska; Pappa-Louisi, Adriani Retention prediction of a set of amino acids under gradient elution conditions in hydrophilic interaction liquid chromatography, *J. Sep Sci.* (2012) 35, 376-383.
23. **Gika***, Helen G; Ji, Cheng; Theodoridis, Georgios A; Michopoulos, Filippos; Kaplowitz, Neil; Wilson, Ian D; Investigation of chronic alcohol consumption in rodents via ultra-high-performance liquid chromatography–mass spectrometry based metabolite profiling, *J. Chrom A* (2012) 1259, 121-127.
24. **Gika**, Helen G; Theodoridis, Georgios A; Vrhovsek, Urska; Mattivi, Fulvio; Quantitative profiling of polar primary metabolites using hydrophilic interaction ultrahigh performance liquid chromatography–tandem mass spectrometry, *J. Chrom A* (2012) 1259, 128-137.
25. **Gika***, Helen; Theodoridis, Georgios. Sample preparation prior to the LC-MS-based metabolomics/metabonomics of blood-derived samples, *Bioanalysis* (2011) 3, 1647-1661.
26. Ramautar, R., Nevedomskaya, E., Mayboroda, O.A., Deelder, A.M., Wilson, I.D., **Gika**, H.G. Theodoridis, G.A., Somsen, G.W., De Jong, G.J. Metabolic profiling of human urine by CE-MS using a positively charged capillary coating and comparison with UPLC-MS, *Mol. Biosyst* (2011) 7, 194-199.
27. **Gika**, H.G., Theodoridis, G.A., Earll, M., Snyder, R.W., Sumner, S.J., Wilson, I.D. Does the mass spectrometer define the marker? A comparison of global metabolite profiling data generated simultaneously via UPLC-MS on two different mass spectrometers, *Analytical Chemistry* (2010) 82, 8226-8234.
28. **Gika**, H.G., Michopoulos, F., Divanis, D., Metalidis, S., Nikolaidis, P., Theodoridis, G.A. Daptomycin determination by liquid chromatography-mass spectrometry in peritoneal fluid, blood plasma, and urine of clinical patients receiving peritoneal dialysis treatment, *Anal Bioanal Chem* (2010) 397, 2191-2197.
29. Want, E.J., Wilson, I.D., **Gika**, H., Theodoridis, G., Plumb, R.S., Shockcor, J., Holmes, E., Nicholson, J.K. Global metabolic profiling procedures for urine using UPLC-MS, *Nature Protocols* (2010) 5, 1005-1018.
30. Friswell, M.K., **Gika**, H., Stratford, I.J., Theodoridis, G., Telfer, B., Wilson, I.D., McBain, A.J. Site and strain-specific variation in gut microbiota profiles and metabolism in experimental mice, *PLoS ONE* (2010) 5, e8584.
31. **Gika***, H.G., Macpherson, E., Theodoridis, G.A., Wilson, I.D. Evaluation of the repeatability of ultra-performance liquid chromatography-TOF-MS for global metabolic profiling of human urine samples, *J. Chrom B* (2008) 871, 299-305.
32. **Gika***, H.G., Theodoridis, G.A., Wilson, I.D. Liquid chromatography and ultra-performance liquid chromatography-mass spectrometry fingerprinting of human urine. Sample stability under different handling and storage conditions for metabonomics studies, *J. Chrom A* (2008) 1189, 314-322.

33. **Gika***, H.G., Theodoridis, G.A., Wilson, I.D. Hydrophilic interaction and reversed-phase ultra-performance liquid chromatography TOF-MS for metabonomic analysis of Zucker rat urine, *J.Sep Sci* (2008) 31, 1598-1608.

34. **Gika**, H.G., Theodoridis, G.A., Wingate, J.E., Wilson, I.D. Within-day reproducibility of an HPLC-MS-based method for metabonomic analysis: Application to human urine, *J. Proteom Res* (2007) 6, 3291-3303.

12.2 List Of selected Book chapters

1.H. **Gika**, G Theodoridis, ID Wilson, Metabolic Profiling. Topic, Challenges, perspective in Metabolic Profiling, edited by H. Gika, G Theodoridis, ID Wilson, for series Methods in Molecular Biology, Springer, 2018.

2.H **Gika**, G Theodoridis, P Rainville, RS Plumb, I D. Wilson Metabolic phenotyping (metabonomics/metabolomics) by liquid chromatography-mass spectrometry, *Liquid Chromatography Applications Volume 2 Series Editor Colin F. Poole (Second Edition)*, 2017, 245-265.

3.**Gika**, H.G., Wilson, I.D. Metabolic Profiling Approaches for Biomarkers of Ethanol Intake (Chapter 17) in *Molecular Aspects of Alcohol and Nutrition: A Volume in the Molecular Nutrition Series* (2015) 213-222.

4.**Gika**, H.G., Wilson, I.D., Theodoridis, G.A. The Role of Mass Spectrometry in Nontargeted Metabolomics (2014) *Comprehensive Analytical Chemistry*, 63, pp. 213-233. pp 1-21, in "From Genes to Metabolites", C. Simo ed. Elsevier 2014.

5.G. Theodoridis, H. G **Gika** & I. D. Wilson "Analytical methodology for clinical metabolic profiling: sample preparation, sample analysis and statistical evaluation", in Ebook: Global metabolic profiling in health and disease, Future Science 2014 Pages 20-34.

6.H. G. **Gika** ,G. A. Theodoridis, I. D. Wilson, "Application of UHPLC-MS to Human Metabolomic/Metabonomic Studies" pp 387-428, in "UHPLC in Life Sciences", 2012, Royal Society of Chemistry, ISBN: 978-1-84973-549-0 JLVethey D. Guillarme Editors.

13. PARTICIPATION IN SCIENTIFIC CONFERENCES

Participation in **more than 70 international scientific meetings workshops or conferences** with more than 125 presentations (22 invited oral or oral or 108 posters). The majority of the presentations were on the development and application of analytical metabolomics for life science applications.