

Thalia Tsiaka, Post-doctoral researcher

Chemist, PhD, MSc, Scopus ID: 23006476200, h-index (Scopus)=7

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CURRENT RESEARCH FIELDS

- Health and food sciences with emphasis in LCMS analyses and LCMS targeted and untargeted metabolomics/bioanalysis
- Post-data processing/analysis/interpretation using specialized software
- Analysis of targeted bioactive compounds (polyphenols, carotenoids, etc.) in (a) drugs and cosmetics (b) food matrices and natural (by)products (c) biological fluids (serum, plasma, amniotic fluid, urine, feces) (d) marine organisms.
- DOE-optimization of green eco-friendly high energy extraction techniques (UAE, MAE) for recovery of natural extracts. Hyphenation with innovative green solvents (natural deep eutectic solvents, NADES).

WORK EXPERIENCE

| National and Hellenic Research Foundation (NHRF), Institute of Chemical Biology | 2015-today |
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| Postdoctoral Researcher: 1) «Targeted metabolomic analysis using LC-MS/MS in serum samples of NAFLD patients» 2) «Analysis and data processing/interpretation of LC-MS/MS spectra» 3) "Agrowaste for Nutritious Mushrooms", RESEARCH-CREATE-INNOVATE, «Development and validation of LC-MS/MS method for the determination of isoprostanes in biological fluids/Development and validation of LC-MS/MS methods for the determination of lovastatin and ergothioneine in mushrooms” | 20/09/2019-30/09/2022 |
| PhD candidate: "QFytoTera", RESEARCH-CREATE-INNOVATE «Development of LC-MS/MS method for the discovery of novel ligands of insect odorant binding proteins (OBPs)» | 01/11/2018-31/08/2019 |
| PhD candidate: «ARCADE», “Determination of active substances in serum samples” | 01/04/2018-31/05/2018 |
| PhD candidate: “Education and Lifelong Learning” of the National Strategic Reference Framework (NSRF)—Research Funding Program: Thales”, “Metabolomic analysis for the elucidation of biomarkers related to fetal growth using NMR” | 01/03/2015-26/06/2015 |
| Department of Food Science and Technology, University of West Attica | 2020-today |
| Postdoctoral Researcher: "Roseham", RESEARCH-CREATE-INNOVATE, “Optimization of UAE extraction of polyphenols from aromatic plants using DOE models and investigation of extracts’ metabolic profile using LC-MS/MS” | 28/03/2022-today |
| Teaching Fellow/Lecturer: Chemical Composition and Food Quality (Lab), Instrumental Analysis (Lab), Research Methodology (Course) Supervision of 3 bachelor theses | 24/02/2020-today |
| Placement in General State Chemistry Laboratory <i>Routine analyses (IRMS, spectrophotometry, κά) in honey samples and alcoholic beverages</i> | 2008 |

EDUCATION

2019: PhD, Analytical Chemistry, National and Kapodistrian University of Athens

Development and validation of LC-MS and NMR methods for the qualitative and quantitative determination of carotenoids in foods and byproducts

2012: Master in Science, Chemical Composition-Quality Control, National and Kapodistrian University of Athens

Development of a chemiluminescent method for determining the peroxide value of edible oils

2008: B.Sc. Chemistry Department, National and Kapodistrian University of Athens

Fluorimetric determination of folic acid

PUBLICATIONS & CONFERENCES

19 peer-reviewed scientific articles; 18 announcements; 3 oral presentations

Highlighted Publications in Peer Reviewed Scientific Journals

- 1) **Towards the Optimization of Microwave-Assisted Extraction and the Assessment of Chemical Profile, Antioxidant and Antimicrobial Activity of Wine Lees Extracts.** D. Tagkouli, T. Tsiaka, E. Kritsi, M. Sokovic, V.J. Sinanoglou, D. Lantzouraki, P. Zoumpoulakis, *Molecules*, (2022), 27(7), 2189.
- 2) **Effects of Non-Polar Dietary and Endogenous Lipids on Gut Microbiota Alterations: The Role of Lipidomics.** K. Tsiantas, S. Konteles, E. Kritsi, V.J. Sinanoglou, T. Tsiaka*, P. Zoumpoulakis, *International Journal of Molecular Sciences*, (2022), 23(8), 4070.
- 3) **Design and Development of Novel Nutraceuticals: Current Trends and Methodologies.** T. Tsiaka, E. Kritsi, K. Tsiantas, P. Christodoulou, V.J. Sinanoglou, P. Zoumpoulakis, *Nutraceuticals*, (2022), 2(2), 71-90.
- 4) **Exploring the Role of Natural Deep Eutectic Solvents (NADES) Towards the Valorization of Food Processing Industry Waste.** A. Tzani, M.A. Karadendrou, T. Tsiaka, E. Kritsi, P. Zoumpoulakis, A. Detsi in *Deep Eutectic Solvents: Properties, Applications and Toxicity*, (2022).
- 5) **The Metagenomic and Metabolomic Profile of the Infantile Gut: Can They Be "Predicted" by the Feed Type?**, E.I. Dimitrakopoulou, A. Pouliakis, V. Falaina, T. Xanthos, P. Zoumpoulakis, T. Tsiaka, R. Sokou, Z. Iliodromiti, T. Boutsikou, N. Iacovidou, *Children*, (2022), (9)2, 154.
- 8) **Expanding the Role of Sub-Exploited DOE-High Energy Extraction and Metabolomic Profiling towards Agro-Byproduct Valorization: The Case of Carotenoid-Rich Apricot Pulp.** T. Tsiaka, C. Fotakis, D.Z. Lantzouraki, K. Tsiantas, E. Siapi, V.J. Sinanoglou, P. Zoumpoulakis, *Molecules*, (2020), 25, 2702.
- 9) **Choline chloride and Tartaric acid NADES: An efficient solvent for the extraction of phenolic and carotenoid compounds.** S. Koutsoukos, T. Tsiaka, A. Tzani, P. Zoumpoulakis, A. Detsi, *Journal of Cleaner Production*, (2019), 241, 118384.
- 12) **¹H NMR-based metabolomics reveals the effect of maternal habitual dietary patterns on human amniotic fluid profile.** M. Fotiou, C. Fotakis, F. Tsakoumaki, E. Athanasiadou, C. Kyrkou, A. Dimitropoulou, T. Tsiaka, A.C. Chatziioannou, K. Sarafidis, G. Menexes, G. Theodoridis, C.G. Biliaderis, P. Zoumpoulakis, A.P. Athanasiadis, A.M. Michaelidou, *Scientific Reports*, (2018), (8):4076, 1-12.
- 15) **Metabolic and antioxidant profiles of herbal infusions and decoctions.** C. Fotakis, D. Tsigirmani, T. Tsiaka, D.Z. Lantzouraki, I.F. Strati, C. Makris, D. Tagkouli, C. Proestos, V.J. Sinanoglou, P. Zoumpoulakis, *Food Chemistry*, 211 (2016) 963–971.

FOREIGN LANGUAGES

English: Certificate of Proficiency in English, Cambridge (Level C2), **Spanish:** Diploma de Espanol como Lengua Extranjera NIVEL B2 (Level B2),

French: D.E.L.F. 2nd Degre (Level B)

SCHOLARSHIPS

2009-2011: Bachelor degree scholarship of 'A. Papadakis' from National and Kapodistrian University of Athens.