



## ▶ Aleiferi Eleni

Ph.D. Candidate at University of Athens

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### Education

**B.Sc. in Chemistry (2013-2018)**, National and Kapodistrian University of Athens, Grade: 8.37/10

**M.Sc. in Analytical Chemistry – Quality Assurance (2018-2020)**, National and Kapodistrian University of Athens, Grade: 9.20/10

**Ph.D. in Analytical Chemistry (2021-present)**, National and Kapodistrian University of Athens

### Research Topics:

**Ph.D. Thesis:** “Development of multi-omics ion mobility high-resolution mass spectrometry (TIMS-QTOF-MS) methods for the assessment of the toxicity of environmental contaminants in aquatic organisms”, Laboratory of Analytical Chemistry, Chemistry department, University of Athens, Greece (2021-present)

**Master Thesis:** “Determination of Ibuprofen and its potential biotransformation products in zebrafish (*Danio rerio*) embryo samples, from exposure experiments at three different pH values, using LC-ESI-QTOF-MS”, Laboratory of Analytical Chemistry, Chemistry department, University of Athens, Greece (2019-2020)

**Undergraduate Thesis:** “Determination of amino acids in food by liquid chromatography-tandem mass spectrometry (LC-MS/MS)”, Laboratory of Analytical Chemistry, Chemistry department, National and Kapodistrian University of Athens, Greece (2018)

### Research Interests

General research interests:

- **Method Development & Optimization**
- **Reversed-phase (RP) and Hydrophilic Interaction Liquid Chromatography (HILIC)**
- **High-Resolution Mass Spectrometry (HRMS)**
- **Ion Mobility Mass Spectrometry (IMS)**
- **Environmental Analytical Chemistry**
- **Wastewater-Based Epidemiology (WBE)**
- **Uptake, bioaccumulation, and toxicity of xenobiotics in aquatic**

**organisms**

- **Biotransformation (Phase I & II) in aquatic organisms**
- **Wide-scope target, suspect, and non-target screening**
- **Proteomics, Metabolomics, Lipidomics**
- **Matrix Assisted Laser Desorption Ionization (MALDI)**

## Research Projects

10/2022-today: **MALDI4Health**: Novel polymer-based MALDI matrices and next generation analytical platforms for the investigation of biologically relevant low molecular weight compounds (ELIDEK project)

10/2022-02/2023: **HUJI project**: "Determination of organic pollutants in environmental samples from Israel by LC-QTOF-MS", Participation in Joint Activity in collaboration with the Ruppin Academic Center, Hebrew University of Jerusalem.

09/2022 -11/2022: **"D.I.A.N.Y.A., Integrated on-site management of hospital wastewater"** (European Regional Development Fund of the EU and Greek national funds).

04/2021-12/2021: **Project for the National Public Health Organization (EODY)**: Determination of drug and chemical compound pattern changes in wastewater and investigation of their correlation with SARS-COV-2 (National Public Health Organization).

09/2019 -09/2020: **pHION Project**: Analytics and Modelling within the UBA project "Acidity - not always fun: pH effect on toxicity and bioaccumulation of ionic substances" ("A&M in PHION")

## Professional Experience

**Analyst (05/2021-today)**: Analyst in the Laboratory of Analytical Chemistry, Department of Chemistry, National and Kapodistrian University of Athens

**Analyst (01/07/18 - 31/10/18)**: Four-month internship at the Pesticide Residue Laboratory, VELTIA (formerly AGROLAB RDS), Markopoulo, Attiki, Greece

## Publications in Journals

1. Tom Topaz, Noam Gridish, Tal Sade, Hadar Zedaka, Yair Suari, Antigoni Konomi, Georgios Gkotsis, **Eleni Aleiferi**, Maria-Christina Nika, Nikolaos S. Thomaidis, Benny Chefetz, "Exploring Per- and Polyfluoroalkyl Substances (PFAS) in Microestuaries: Occurrence, Distribution, and Risks", *Environmental Science & Technology Letters*, , 2024, 11.5, 466471 (<https://doi.org/10.1021/acs.estlett.3c00882>).

## Conferences Presentations

1. Tsakanika.M., **Aleiferi.E.**, Damalas.D., Kritikou.A., Thomaidis.N. S., Sakellariou.G, "Design and characterization of new polymer matrices for MALDI-TOF mass spectrometry", 23<sup>rd</sup> Panhellenic Chemistry Conference, 25-28 September, Athens, Greece (Poster presentation)
2. Panagopoulou.E, Damalas.D, **Aleiferi.E.**, Tzepkinli.V, Nordhorn.I, Baessmann.C, Thomaidis.N.S, "Investigation of the potential biotransformation of different pharmaceuticals in zebrafish (*Danio rerio*) embryos, utilizing LC-TIMS-HRMS combined with suspect and non-target screening workflows", International Conference on Environmental & Food Monitoring (ISEAC41), 20-24 November 2023, Amsterdam, Netherlands (Poster presentation)
3. **Aleiferi.E.**, Tsakanika.M, Damalas.D, Kritikou.A, Sakellariou.G, Thomaidis.N, "Investigating the potential of novel polymer-based MALDI matrices for the detection of compounds of low molecular weight by leveraging MALDI-HRMS analytical workflows", International Mass Spectrometry School, IMSS 2023, 17-22/09/2023, Gagliari, Sardinia, Italy (Poster presentation)

4. E. Panagopoulou, Damalas.D, **Aleiferi.E**, Tzepkinli.V, Thomaidis.N, "Investigation of the potential biotransformation of different pharmaceuticals in zebrafish embryos (*Danio rerio*), utilizing LC-QTOFMS and LC-TIMS-QTOFMS", International Mass Spectrometry School, IMSS 2023, 17-22/09/2023, Gagliari, Sardinia, Italy (Poster presentation)
5. **Aleiferi.E**, Tsakanika.M, Damalas.D, Kritikou.A, Sakellariou.G, Thomaidis.N, "Novel polymer-based MALDI matrices: exploring their potential for low molecular weight compound detection, utilizing MALDI-HRMS analytical platforms", 18th International Conference on Environmental Science and Technology, (CEST-2023), 30 August-2 September 2023, Athens, Greece (Flash and Poster presentation)
6. E. Panagopoulou, Damalas.D, **Aleiferi.E**, V.Tzepkinli, Schweizer.M, Heid.C, Köhler.H.R., P.C. von der Ohe, Triebskorn.R, Thomaidis.N, "Determination of the effect of environmentally relevant pH values on the toxicity, uptake & biotransformation of Propranolol in zebrafish embryos by LC-HRMS", 18th International Conference on Environmental Science and Technology, (CEST-2023), 30 August-2 September 2023, Athens, Greece (Flash and Poster presentation)
7. E. Panagopoulou, Damalas.D, **Aleiferi.E**, Tzepkinli.V, Schweizer.M, Kundy.L, Köhler.H.R., P.C. von der Ohe, Triebskorn.R, Thomaidis.N, "Investigating the role of biotransformation in the toxicity of ionizable organic compounds, using LC-HRMS – Zebrafish embryos exposed to Ibuprofen as a case study", Society of Environmental Toxicology and Chemistry, SETAC Europe 33rd Annual Meeting (SETAC Europe 2023), 30 April - 4 May 2023, Dublin, Ireland (Poster presentation)
8. E. Panagopoulou, Damalas.D, **Aleiferi.E**, Tzepkinli.V, Thomaidis.N, "Assessment of the potential biotransformation of pharmaceuticals in zebrafish embryos, utilizing LC-HRMS techniques", Society of Environmental Toxicology and Chemistry, SETAC Europe 33rd Annual Meeting (SETAC Europe 2023), 30 April - 4 May 2023, Dublin, Ireland (Poster presentation)
9. **Aleiferi.E**, Galani.A, Gkogkou.A, Kontou.A, Nika.M.C, Alygizakis.N, Thomaidis.S.N, "Wastewater-based epidemiology monitoring of drug use and chemical exposure during COVID-19 in Athens, Greece, utilizing Wide-Scope LC-HRMS & LC-MS/MS Target Screening Analysis", SETAC Europe 32<sup>nd</sup> Annual Meeting (SETAC SciCon2022), 15-19May 2022 (Poster Presentation)
10. **Aleiferi.E**, Galani.A, Kontou.A, Gkogkou.A, Gkotsis.G, Nika M.C, Alygizakis.N, Thomaidis.N.S, "Patterns of drug use and chemical exposure in Athens (Greece) during COVID-19 pandemic, using Wastewater-Based Epidemiology," 17<sup>th</sup> International Conference on Environmental Science & Technology, (CEST2021), 1-4 September 2021 (Poster Presentation)
11. Damalas.D, Panagopoulou.E, **Aleiferi.E**, Tzepkinli.V, Aalizadeh.R, Schweizer.M, Kuttler.J, Heid.C, Köhler. H.R, P.C von der Ohe, Triebskorn.R, Thomaidis.N.S, " Toxicity, uptake and biotransformation assessment of zebrafish embryos exposed to tetracaine under different pH values, utilizing embryotoxicity and LC-HRMS", 17<sup>th</sup> International Conference on Environmental Science & Technology, (CEST2021), 1-4 September 2021 (Poster Presentation)
12. Damalas.D, Panagopoulou.E, **Aleiferi.E**, Aalizadeh.R, Schweizer.M, Kuttler.J, Heid.C, Köhler. H.R, P.C von der Ohe, Triebskorn.R, Thomaidis.N.S, " Zebrafish toxicity, uptake and biotransformation assessment of Tetracaine exposure under different pH values, utilizing embryotoxicity and LC-HRMS", Open Science for Enhanced Global Environmental Protection, SETAC Europe 31<sup>th</sup> Annual Meeting (SETAC SciCon 2021), 3-6 May 2021 (Poster Presentation)
13. **Aleiferi.E**, Panagopoulou.E, Damalas.D, Aalizadeh.R, Schweizer.M, Kuttler.J, Köhler.H.R., P.C. von der Ohe, Triebskorn.R, Thomaidis.N, "Assessment of the pH effect on toxicity & biotransformation of the anti-inflammatory drug Diclofenac using the zebrafish (*Danio rerio*) toxicity test", Open Science for Enhanced Global Environmental Protection, SETAC Europe 30<sup>th</sup> Annual Meeting (SETAC SciCon 2020), 3-7 May 2020 (Poster presentation)
14. Panagopoulou.E, Damalas.D, **Aleiferi.E**, Aalizadeh.R, Schweizer.M, Kundy.L, Köhler.H.R., P.C. von der Ohe, Triebskorn.R, Thomaidis.N, " Investigation of the influence of pH on the toxicity, uptake and biotransformation of Ibuprofen in zebrafish (*Danio rerio*) embryos", Open Science for Enhanced Global Environmental Protection, SETAC Europe 30<sup>th</sup> Annual Meeting (SETAC SciCon 2020), 3-7 May 2020 (Poster Presentation)

## Awards and Honors

1. **Scholarship for Ph.D. studies**, A.G. Leventis Foundation, 2024-2025
2. **Scholarship for Ph.D. studies**, A.G. Leventis Foundation, 2023-2024
3. **06/2023: Travel grand/ Nico Nibbering Travel Awards** issued by the International Mass Spectrometry Foundation and the Organizing Committee of the International Mass Spectrometry School (IMSS 2023) for participation in the 6th IMSS in Cagliari, Sardinia, Italy
4. **Scholarship for Ph.D. studies**, A.G. Leventis Foundation, 2022-2023
5. **Travel Grant**, A.G. Leventis Foundation for attending the 32<sup>nd</sup> SETAC Annual European Conference, (Copenhagen, 15-19 May 2022), 2021-2022
6. **Scholarship** for the second year of **master's** studies from the master's degree program "Analytical Chemistry - Quality Assurance" (Laboratory of Analytical Chemistry, Department of Chemistry, University of Athens), 2019-2020

## Languages

**English - C2:** Certificate of Proficiency in English (ECPE), University of Michigan (06/2021)

**Korean - B2:** Topik II, Level 4/6 (4 ㉿), National Institute for International Education, NIIED (10/2021)

**French - B2:** Delf B2, Ministère de l'éducation nationale, de la jeunesse et de la vie associative (10/2011)

**Chinese - A2:** HSK 2, Hanban (06/2023)

**Japanese - A1:** JLPT, N5 (12/2023)

## Professional affiliations

1. **Association of Greek Chemists** (2021-present)

## Contact information

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