



▶ Aikaterini Psoma

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Education

B.Sc. in Chemistry (2003-2010), University of Athens, Grade: 6.24/10

M.Sc. in Chemical Analysis & Quality Control (2010-2013), University of Athens, Grade 8.86/10

Ph.D. in Analytical Chemistry (2013-present), University of Athens.

Research Topic:

Bachelor thesis: Development and validation of a method for the determination of Cd-Pb and As-Cu in fish tissue and fish feed by electrothermal atomic absorption spectrometry and use of chemical modifiers.

Master thesis: Development and validation of a method for the determination of pesticides in Chios mastic gum by liquid chromatography-tandem mass spectrometry (LC-MS/MS).

Ph.D thesis: Development of a method for the target and suspect screening of transformation products of emerging pollutants in wastewater by mass spectrometric techniques.

Research Interests

My research interests are summarized on method development of modern analytical protocols for trace analysis in environmental and food samples, using atomic absorption and mass spectrometry analytical techniques. Since May 2013, I have been working in the field of “emerging pollutants” in environmental matrices.

General research interests:

- Method Development
- Reversed Phase Liquid Chromatography (RP-LC) and Hydrophilic interaction chromatography (HILIC)
- High Resolution Mass Spectrometry (HRMS)
- Application of suspect and non-target screening workflows for the identification of new compounds
- Risk assessment
- Environmental Chemistry (monitoring of priority pollutants and emerging contaminants in environmental samples)
- Lab-scale biotransformation experiments set up under aerobic conditions
- Data treatment with sophisticated chemometric tools

Projects:

- 2013 –2015: **TREMOPOL Project**, ARISTEIA, Ministry of Education: Transformation Products of Emerging Pollutants in the aquatic environment
- 2016-present: **EMBLAS II**, EU/UNDP Project: Improving environmental monitoring in the Black Sea. Analysis of water framework priority substances and screening of black sea specific pollutants in water biota and sediment samples obtained during the National Pilot Monitoring Studies and Joint Open Sea Surveys and risk assessment of identified pollutants.

Publications in journals

1. A.A. Mazioti, A.S. Stasinakis, **A.K. Psoma**, N.S. Thomaidis, H. R. Andersen, Hybrid Moving Bed Biofilm Reactor for the biodegradation of benzotriazoles and hydroxybenzothiazole in wastewater, **Journal of Hazardous Materials**, **2017**, 323 (doi: 10.1016/j.jhazmat.2016.06.035).
2. V.G. Beretsou, **A.K. Psoma**, P.G. Ferrero, R. Aalizadeh and N.S. Thomaidis, Identification of biotransformation products of citalopram formed in activated sludge, **Water Research**, **2016**, 103 (doi: 10.1016/j.watres.2016.07.029).
3. **A.K. Psoma**, I.N. Pasiyas, A.A. Bletsou, and N.S. Thomaidis, Development and validation of a multi-residue method for the determination of pesticides in Chios mastic gum by QuEChERS and liquid chromatography - tandem mass spectrometry, **Food Analytical Methods**, **2014**, 7 & Issue, (doi: 10.1007/s12161-014-9930-7).
4. **A.K. Psoma**, I.N. Pasiyas, N.I. Rousis, K.A. Barkonikos, N.S. Thomaidis, Development, validation and accreditation of a method for the determination of Pb, Cd, Cu and As in seafood and fish feed samples, **Food Chemistry**, **2014**, 152, (doi: 10.1016/j.foodchem. 2013.11.045).

Chapters in books

1. I.N. Pasiyas, **A.K. Psoma**, N.I. Rousis, N.S. Thomaidis, Inorganic Arsenic in Foodstuffs: Health Effects and Analytical Methods for Its Determination by Marissa Jane Olson in Arsenic: Detection, Management Strategies and Health Effects, Nova Science Publishers Inc., ISBN 978-1-63321-054-7, New York.

Conferences Presentations

1. Oral presentation: M.C. Nika, G. Koulis, D. Damalas, K. Diamanti, A.A. Bletsou, **A. Psoma**, S. Attiti, R. Aalizadeh, N. Alygizakis, M. Dasenaki, K.M. Kasiotis, P. Oswald, J. Slobodnik and **N.S. Thomaidis** Determination of legacy pollutants and emerging contaminants in the marine environment of Black Sea, CEST 2017, 31/08-02/09/**2017**, Rhodes, Greece.
2. Poster presentation: **A.K. Psoma**, J. Kinyua, A. Van Nuijs, A. Covaci and N.S. Thomaidis Identification of biotransformation products of p-methoxy methamphetamine and dihydro-mephedrone formed in activated sludge by LC-QToF-MS, CEST 2017, 31/08-02/09/**2017**, Rhodes, Greece.
3. Oral presentation: **A.K. Psoma**, V.G. Beretsou, E.N. Georgantzi, A.A. Bletsou, Rebekka Gulde, K. Fenner, and N.S. Thomaidis A workflow for the orthogonal identification of biotransformation products by HILIC-QTOFMS, 1st NORMAN workshop on analysis of problematic compounds, 1-2/09/**2015**, Rhodes, Greece.
4. Poster presentation: **A.K. Psoma**, S.M. Attiti, O. Arvaniti, K. Fenner, A.S. Stasinakis and N.S. Thomaidis, Fate of selected emerging pollutants and formation of transformation products in activated sludge batch reactors under aerobic/anoxic/anaerobic conditions, CEST 2015, 3-5/09/**2015**, Rhodes, Greece.
5. Poster presentation: **V.G. Beretsou**, **A.K. Psoma**, A.A. Bletsou, and N.S. Thomaidis, Biotransformation of citalopram: insights from identification of transformation products by LC-QToF-MS, MED-MS 2015, 28/6-2/7/**2015**, Athens, Greece.
6. Poster presentation: **A.A. Bletsou**, P.G. Ferrero, **A.K. Psoma**, R. Aalizadeh N.S. Thomaidis, Development of wide-scope high resolution mass spectrometric screening workflows for the determination of known and unknown emerging contaminants in wastewater samples, 9th AACD 2014, 29/09-3/10/**2014**, Chios, Greece.
7. Poster presentation: **A.K. Psoma**, A.A. Bletsou, N.S. Thomaidis, Workflow for the identification of

biotransformation products of amine-containing psychotropic drugs in the aquatic environment, 5th EuCheMS Chemistry Congress, 31/08-4/09/2014, Istanbul, Turkey. (**Awarded**)

8. Poster presentation: **A.A. Bletsou**, **A.K. Psoma**, P.G. Ferrero, N.S. Thomaidis, Targeted determination of 1525 micropollutants and transformation products in wastewater by liquid chromatography quadrupole-time-of-flight mass spectrometry with an accurate-mass database, 28th ACS National Meeting and Exposition, **2014**, San Francisco, USA.
9. **A.K. Psoma**, N.S. Thomaidis, "Development and validation of a multi-residue method for the determination of pesticides in Chios mastic gum by QuEChERS and liquid chromatography-tandem mass spectrometry", 8th International Conference on Instrumental Methods of Analysis – Modern Trends and Application, 15-19/09/2013, Thessaloniki, Greece.

Awards and Honors

1. Top poster award, 5th EuCheMS Chemistry Congress Istanbul/Turkey, Turkish Chemical Society and European Association for Chemical and Molecular Science, 2014

Professional Affiliations

Association of Greek Chemists, 2010-Present

Hellenic Mass Spectrometry Society, 2013-Present

Contact information

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