



▶ Olga Arvaniti

Assistant Professor in the subject of “Environmental Analysis” National and Kapodistrian University of Athens
e-mail: oarvaniti@agro.uoa.gr

Education

B.Sc. in Chemistry (2002-2007), National and Kapodistrian University of Athens, Greece

M.Sc. in Chemical Analysis & Quality Control (2007-2009), National and Kapodistrian University of Athens, Greece

Ph.D. in Environmental Science (2010-2014), University of the Aegean, Greece
[Part of the Ph.D. research was placed in the Department of Environmental Engineering, Technical University of Denmark (DTU), Copenhagen]

Research Topics

Undergraduate Thesis: “Thriasio Plain salinization study”

Master Thesis: “Determination of perfluorinated compounds in aquatic samples using liquid chromatography-tandem mass spectrometry”

PhD Thesis: “Occurrence and fate of perfluorinated compounds (PFCs) in wastewater treatment”

Research Interests

General research interests: Development & Validation of Analytical Methods using LC-MS, LC-MS/MS and GC/MS, HPLC-DAD and AAS techniques • Separation & Identification of Degradation Organic By-products using LC-QTOF-MS • Development & Optimization of Sample Preparation Methods • Fate of Emerging Contaminants in Biological Wastewater Treatment Processes • Application of Physico-chemical Wastewater Treatment Processes • Fate and Behavior of Microplastics in Wastewater Treatment Plants • Application & Optimization of Anti-inflammatory and Anti-oxidative Assay • Investigation on the Actions of Platelet-Activating Factor • Isolation and Purification of Organic Compounds with High Added Value from Wastewaters • Effect of Salinization in Underground Water • Risk Assessment of Emerging Contaminants to the Aquatic Environment • Compilation & Submission of Research Proposals • ISO 17025 application, method development, and validation

Projects:

2014-2015: **Thales program** “Investigation of organic micropollutants’ fate in wastewater treatment and study of their behavior during wastewater disposal to the aquatic environment” (funding: Ministry of Education European Union & Greek National)

2017-2019: **Agrofood program** “Investigation of anti-oxidative, anti-inflammatory and anti-thrombotic capacity of ten different types of wine (red and white) from Ionian Sea region” (funding: Ministry of Education European Union & Greek National)

2019-2021: **Invalor program**: “Research infrastructure for waste valorization and sustainable management of resources” (funding: Ministry of Education European Union & Greek National)

2020-2022: **H.R.D.E.L.L.L. program**: “Microplastics in wastewater treatment plants. Occurrence and Fate” (funding: Ministry of Education European Union & Greek National)

2023-present: **Agricultural Development program** “Production of olive oil and added value by-products by pitted olives” (funding: Ministry of Agriculture)

Publications in journals and books

- Arvaniti, O.S., Gkotsis, G., Nika, M.C., Gyparakis, S., Manios, T., Thomaidis, N.S., Fountoulakis, M.S., Stasinakis, A.S. (2023). Study on the Occurrence of Artificial Sweeteners, Parabens, and Other Emerging Contaminants in Hospital Wastewater Using LC-QToF-MS Target Screening Approach. *Water*, 15(5), 936. <https://doi.org/10.3390/w15050936>
- Arvaniti, O.S., Arvaniti, E.S., Gyparakis, S., Sabathianakis, I., Karagiannis, E., Pettas, E., Stasinakis, A.S. (2023). Occurrence of pharmaceuticals in the wastewater of a Greek hospital: Combining consumption data collection and LC-QTOF-MS analysis. *Science of The Total Environment*, 858, 160153. <https://doi.org/10.1016/j.scitotenv.2022.160153>
- Ioannidi, A.A., Arvaniti, O.S., Miserli, K., Konstantinou, I., Frontistis, Z., Mantzavinos, D. (2023). Removal of drug dexamethasone from aqueous matrices using low frequency ultrasound: Kinetics, transformation products, and effect of microplastics. *Journal of Environmental Management*, 328, 117007. <https://doi.org/10.1016/j.jenvman.2022.117007>
- Arvaniti, O.S., Ioannidi, A.A., Politi, A., Miserli, K., Konstantinou, I., Mantzavinos, D., Frontistis, Z. (2022). Dexamethasone degradation in aqueous medium by a thermally activated persulfate system: Kinetics and transformation products. *Journal of Water Process Engineering*, 49, 103134. <https://doi.org/10.1016/j.jwpe.2022.103134>
- Nika, M.C., Alygizakis, N., Arvaniti, O.S., Thomaidis, N.S. (2022). Non-target screening of emerging contaminants in landfills: A Review. *Current Opinion in Environmental Science & Health*, 100430. <https://doi.org/10.1016/j.coesh.2022.100430>
- Arvaniti O.S., Tsolou, A., Sakantani, E., Milla, S., Kallinikou, E., Fragopoulou, E., Samaras, Y. (2022). Quality characteristics, polyphenol profile and antioxidant capacity in red, rosé and white monovarietal wines from Ionian Islands of Greece.

Acta Scientiarum Polonorum Technologia Alimentaria, 21(4), 343-357.
<https://doi.org/10.17306/J.AFS.2022.1091>

- Lalas, K., Arvaniti, O.S., Zkeri, E., Nika, M.C., Thomaidis, N.S., Mantzavinos, D., Stasinakis, A.S., Frontistis, Z. (2022). Thermally activated persulfate oxidation of ampicillin: Kinetics, transformation products and ecotoxicity. *Science of The Total Environment*, 157378. <https://doi.org/10.1016/j.scitotenv.2022.157378>
- Arvaniti, O.S., Ioannidi, A., Mantzavinos, D., Frontistis, Z. (2022). Heat-activated persulfate for the degradation of micropollutants in water: A comprehensive review and future perspectives. *Journal of Environmental Management* 15, 115568. <https://doi.org/10.1016/j.jenvman.2022.115568>
- Arvaniti, O.S., Dasenaki, M.E., Asimakopoulos, A.G., Samaras, V.G., Maragou, N.C., Antoniou, K., Gatidou, G., Mamais, D., Noutsopoulos, C., Frontistis, Z., Thomaidis, N.S., Stasinakis, A.S. (2022). Effectiveness of tertiary treatment processes in removing different classes of emerging contaminants from domestic wastewater. *Frontiers of Environmental Science and Engineering* 11, 148. <https://doi.org/10.1007/s11783-022-1583-y>
- Arvaniti O.S., Antonopoulou, G., Gatidou, G., Frontistis Z., Mantzavinos, D., Stasinakis, A.S. (2022). Sorption of two common antihypertensive drugs onto polystyrene microplastics in water matrices. *Science of the Total Environment* 837. 155786. <https://doi.org/10.1016/j.scitotenv.2022.155786>
- Pagoni, A., Arvaniti, O.S., Kalantzi O.I. (2022). Exposure to phthalates from personal care products: urinary levels and predictors of exposure. *Environmental Research* 212, 113194. <https://doi.org/10.1016/j.envres.2022.113194>
- Ioannidi, A., Arvaniti, O.S., Nika, M.C., Aalizadeh, R., Thomaidis, N.S., Mantzavinos, D., Frontistis, Z. (2022). Removal of drug losartan in environmental aquatic matrices by heat-activated persulfate: Kinetics, transformation products and synergistic effects. *Chemosphere* 287, 131952. <https://doi.org/10.1016/j.chemosphere.2021.131952>
- Arvaniti, O.S., Konstantinou, I., Mantzavinos, D., Frontistis, Z. (2021). Destruction of valsartan using electrochemical and electrochemical/persulfate process. Kinetics, identification of degradation pathway and application in aqueous matrices. *Journal of Environmental Chemical Engineering* 9(5), 106265. <https://doi.org/10.1016/j.jece.2021.106265>
- Arvaniti, O.S., Antonopoulou, G., Tsagkogianni, D., Stasinakis, A.S. (2021). Screening on the sorption of emerging contaminants to polystyrene and polyethylene and use of coagulation-flocculation process for microplastics' removal. *Global NEST Journal* 23(2), 303-308. <https://doi.org/10.30955/gnj.003854>
- Petala, A., Arvaniti, O.S., Travlou, G., Mantzavinos, D., Frontistis, Z. (2021). Solar light induced photocatalytic removal of sulfamethoxazole from water and wastewater using BiOCl photocatalyst. *Journal of Environmental Science and Health, Part A* 56(9), 963-972. <https://doi.org/10.1080/10934529.2021.1948271>

- Arvaniti, O.S., Kalantzi, O.I. (2021). Determinants of flame retardants in non-occupationally exposed individuals - A review. *Chemosphere* 263, 127923. <https://doi.org/10.1016/j.chemosphere.2020.127923>
- Fragopoulou, E., Petsini, F., Choleva, M., Detopoulou, M., Arvaniti, O.S., Kallinikou, E., Sakantani, E., Tsolou, A., Samaras, Y., Nomikos, T. (2020). A holistic approach to estimate the biological activity of wine extracts by ten different grape varieties. *Molecules* 25, 5024. <https://doi.org/10.3390/molecules25215054>
- Arvaniti, O.S., Bairamis, F., Konstantinou, I., Mantzavinos, D., Frontistis, Z. (2020). Degradation of antihypertensive drug valsartan in water matrices by heat and heat/ultrasound activated persulfate: Kinetics, synergy effect and transformation products. *Chemical Engineering Journal Advances* 4, 100062. <https://doi.org/10.1016/j.ceja.2020.100062>
- Petala, A., Arvaniti, O.S., Christofili, M., Safakas, A., Frontistis, Z., Mantzavinos, D. (2020). Lanthanum Nickel Oxide: An Effective Heterogeneous Activator of Sodium Persulfate for Antibiotics Elimination. *Catalysts* 10, 1373. <https://doi.org/10.3390/catal10121373>
- Arvaniti, O.S., Petala, A., Zalaora, A.-A., Mantzavinos, D., Frontistis, Z. (2020). Solar light induced photocatalytic degradation of methylparaben by g-C₃N₄ in different water matrices. *Journal of Chemical Technology & Biotechnology*, 95, 2811-2821. <https://doi.org/10.1002/jctb.6564>
- Arvaniti, O.S., Frontistis, Z., Nika, M.-C., Aalizadeh, R., Thomaidis, N.S., Mantzavinos, D (2020). Sonochemical degradation of trimethoprim in water matrices: Effect of operating conditions, identification of transformation products and toxicity assessment. *Ultrasonics Sonochemistry* 67, 105139. <https://doi.org/10.1016/j.ultsonch.2020.105139>
- Zantias, A., Frontistis, Z., Vakros, J., Arvaniti, O.S., Ribeiro, R.S., Silva, A.M., Faria J.L, Gomes H.T., Mantzavinos, D. (2020). Degradation of methylparaben by sonocatalysis using a Co-Fe magnetic carbon xerogel. *Ultrasonics Sonochemistry* 64, 105045. <https://doi.org/10.1016/j.ultsonch.2020.105045>
- Arvaniti O.S., Mitsionis P., Siorokos I., Endrysa Dermishay E., Samaras Y. (2019). Physicochemical Properties and Antioxidant Capacity of Greek Commercial and Homemade Vinegars. *Acta Scientiarum Polonorum Technologia Alimentaria* 18, 225-234. <http://dx.doi.org/10.17306/J.AFS.2019.0669>
- Gatidou G., Arvaniti O.S., Stasinakis A.S. (2019). Review on the occurrence and fate of microplastics in Sewage Treatment Plants. *Journal of Hazardous Materials* 367, 504-512. <https://doi.org/10.1016/j.jhazmat.2018.12.081>
- Arvaniti O.S., Samaras Y., Gatidou G., Thomaidis N.S., Stasinakis A.S. (2019). Review on fresh and dried fig fruits: chemical analysis and occurrence of phytochemical compounds, antioxidant capacity and health effects. *Food Research International* 119, 244-267. <https://doi.org/10.1016/j.foodres.2019.01.055>
- Gatidou G., Arvaniti O.S., Stasinakis A.S., Thomaidis N.S., Andersen H.R. (2016). Using mechanisms of hydrolysis and sorption to reduce siloxanes occurrence in biogas of anaerobic sludge digesters. *Bioresource Technology* 221, 205-213. <https://doi.org/10.1016/j.biortech.2016.09.018>

- Arvaniti O.S., Stasinakis A.S. (2015). Review on the occurrence, fate and removal of perfluorinated compounds during wastewater treatment. *Science of the Total Environment* 524- 525, 81-92. <https://doi.org/10.1016/j.scitotenv.2015.04.023>
- Arvaniti O.S., Hwang Y., Andersen H.R., Stasinakis A.S., Thomaidis N.S., Aloupi M. (2015). Reductive degradation of perfluorinated compounds from water using Mg-aminoclay coated nanoscale zero-valent iron. *Chemical Engineering Journal* 262, 133-139. <https://doi.org/10.1016/j.cej.2014.09.079>
- Arvaniti O.S., Andersen H.R., Thomaidis N.S., Stasinakis A.S. (2014). Sorption of perfluorinated compounds onto different types of sewage sludge and assessment of its importance during wastewater treatment. *Chemosphere* 111, 405-411. <https://doi.org/10.1016/j.chemosphere.2014.03.087>
- Arvaniti O.S., Asimakopoulos A.G., Dasenaki M.E., Ventouri E.I., Stasinakis A.S., Thomaidis N.S. (2014). Simultaneous determination of eighteen perfluorinated compounds in dissolved and particulate phases of wastewater, and in sewage sludge by liquid chromatography-tandem mass spectrometry. *Analytical Methods* 6, 1341-1349. <https://doi.org/10.1039/C3AY42015A>
- Stasinakis A.S., Thomaidis N.S., Arvaniti O.S., Asimakopoulos A.G., Samaras V.G., Ajibola A., Mamais D., Lekkas T.D. (2013). Contribution of primary and secondary treatment on the removal of benzothiazoles, benzotriazoles, endocrine disruptors, pharmaceuticals and perfluorinated compounds in a sewage treatment plant. *Science of the Total Environment* 463-464, 1067-1075. <https://doi.org/10.1016/j.scitotenv.2013.06.087>
- Arvaniti O.S., Ventouri E.I., Stasinakis A.S., Thomaidis N.S. (2012). Occurrence of different classes of perfluorinated compounds in Greek wastewater treatment plants and determination of their solid-water distribution coefficients. *Journal of Hazardous Materials* 239-240, 24-31. <https://doi.org/10.1016/j.jhazmat.2012.02.015>

Conference Presentations

- Ioannis Martakos, Ilias Tzavellas, Marilena Dasenaki, Ioannis Skoufos, Athina Tzora, Charalampos Proestos, Nikolaos Thomaidis, “Untargeted 4D Lipidomics combined with Chemometrics, as a reliable tool for the classification of pork meat cuts”, 10th Greek Lipid Forum, November 25, 2022, Athens, Greece (oral presentation)
- Antonopoulou G., Arvaniti O.S., Soto Beobide A., Voyiatzis G., Stasinakis A.S. On the occurrence and fate of microplastics in wastewater treatments plants of Greece. *Protection and Restoration of the Environment XV*, Kalamata, Greece, July 2022
- Arvaniti O.S., Arvaniti E.S., Gyparakis S., Sabathianakis I., Karagiannis E., Nika M.C., Thomaidis N.S., Manios T., Fountoulakis M.S., Stasinakis A. S. Combining consumption-based approach and chemical analysis for identifying pharmaceuticals occurrence in hospital wastewater. *12th Micropol & Ecohazard Conference*, Galicia, Spain, June 2022

- Iliopoulou A., Arvaniti O.S., Deligiannis M., Gatidou G., Vyrides I., Fountoulakis M.S., Stasinakis A.S. Removal of pharmaceuticals from wastewater in a methanogenic MBBR - aerobic MBR system. 12th Micropol & Ecohazard Conference, Galicia, Spain, June 2022
- Papadaki M., Koutsochristou E., Escobar-Hernandez H.U., Arvaniti O.S., Quddus N., Sengupta D. "Process Safety and Environment: Are there essential links? The need for integrated choices". 2021 Mary Kay O'Connor Process Safety Symposium, |College Station, Texas, October 19-21, 2021 (oral presentation)
- Iliopoulou A., Gyparakis S., Arvaniti O.S., Sabathianakis I., Karagiannis E., Nika M.C., Mr. Thomaidis N.S., Kanellopoulou N., Manios T., Fountoulakis M.S., Stasinakis A.S. "Combining consumption-based approach and chemical analysis for identifying pharmaceuticals occurrence in hospital wastewater". 17th Conference on Environmental Science and Technology, Athens, Greece, September 2021
- Gatidou G., Hatzopoulos P., Chhetri R.K., Kokkoli A., Giannakopoulos A., Arvaniti O.S., Andersen H.A., Stasinakis A.S. "Study on the fate of the chemical uncoupler 3,3',4',5- tetrachlorosalicylanilide (TCSA) in activated sludge process and investigation of its effects to different aquatic organisms". 17 th Conference on Environmental Science and Technology, Athens, Greece, September 2021
- Tsagkogianni D., Arvaniit O.S., Antonopoulou G., Stasinakis A.S. "Use of coagulationflocculation for the removal of microplastics from water" 7th International Conference on Industrial and Hazardous Waste Management, Crete, Greece, July 2021
- Petala A., Arvaniti O.S., Travlou G., Mantzavinos D., Frontistis Z. "Photocatalytic performance of BiOCl towards sulfamethoxazole degradation in different water matrices." 8th International Conference on Environmental Management, Engineering, Planning and Economics, Thessaloniki, Greece, June 2021 (oral presentation)
- Papadaki M., Lenga V., Annopoulou A., Arvaniti O.S., Giannakopoulos E., Georgopoulos S., M. Antonopoulou M. Towards valorization of agricultural and food waste for the adsorption of pharmaceuticals. 8th International Conference on Environmental Management, Engineering, Planning and Economics, Thessaloniki, Greece, June 2021 (oral presentation)
- Arvaniti O.S., Antonopoulou G., Stasinakis A.S. "Investigating the sorption of selected pharmaceuticals, personal care products and endocrine-disrupting compounds to different types of microplastics". 8 th International Conference on Sustainable Solid Waste Management, Thessaloniki, Greece, June 2021
- Arvaniti O.S., Apostolakou A., Frontistis Z., Mantzavinos D. "Electrochemical mineralization of antihypertensive drug valsartan for wastewater treatment". 1st International Conference on Environmental Design, Athens, Greece, October 2020
- Arvaniti O.S., Petala A., Frontistis Z., Travlou G., Kondarides D.I., Mantzavinos D. "BiOCl as a beneficial photocatalyst for pharmaceutical wastewater". 1st

International Conference on Environmental Design, Athens, Greece, October 2020

- Arvaniti O.S., Frontistis Z., Mantzavinos D. “Removal of trimethoprim from (waste) water with sonolysis”. Protection and Restoration of the Environment XV, Kalamata, Greece, July 2020
- Vazaiou N., Gatidou G., Arvaniti O.S., Stasinakis A.S. “Investigation of food additives readily biodegradability in respirometric tests”. 16th Conference on Environmental Science and Technology, Rhodes, Greece, September 2019
- Fragopoulou E., Arvaniti O.S., Choleva M., Detopoulou M., Kallinikou E., Petsini F., Sakantani E., Tsolou A., Samaras Y. “Anti-platelet and anti-inflammatory properties of wines from Ionian Islands”. 30th International Symposium on the Chemistry of Natural Products & 10th International Congress on Biodiversity (ISCNP30 & ICOB10), Athens, Greece, November 2018
- Fragopoulou E., Arvaniti O.S., Choleva M., Detopoulou M., Kallinikou E., Petsini F., Sakantani E., Tsolou A., Samaras Y. “Study for the existence of PAF inhibitors in wines from Ionian Islands”. Conference Bioactive Lipids (BIOLIP2018), Athens, Greece, March 2018
- Psoma A.K., Attiti S., Arvaniti O.S., Stasinakis A.S. and Thomaidis N.S. “Fate of selected emerging pollutants and formation of transformation products in activated sludge batch reactors under aerobic/anoxic/anaerobic conditions”. 14th Conference on Environmental Science and Technology, Rhodes, Greece, September 2015
- Gatidou G., Arvaniti O.S., Salatas A., Stasinakis A.S., Andersen H.R., Thomaidis N.S. “Method development for the determination of selected cyclic siloxanes in wastewater and sludge and study of their hydrolysis at different temperatures”. 14th Conference on Environmental Science and Technology, Rhodes, Greece, September 2015
- Arvaniti O.S., Asimakopoulos A.G., Samaras V., Antoniou K., Thomaidis N., Mamais D., Stasinakis A.S. “Removal of emerging pollutants through wastewater tertiary treatment”. 4th International Industrial and Hazardous Waste Management, Crete, Greece, September 2014
- Arvaniti O.S., Hwang Y., Andersen H.R., Thomaidis N.S., Stasinakis A.S. “Removal of perfluorinated compounds using nanoscale zero-valent iron”. Singapore International Water Week, Water Convention 2014, Singapore, Southeast Asia, June 2014
- Arvaniti O.S., Andersen H.R., Hwang Y., Antoniou M.G., Gatidou G.M., Thomaidis N.S., Stasinakis A.S. “Removal of perfluorinated compounds from water with activated carbon and redox treatments”. 13th Conference on Environmental Science and Technology, Athens, Greece, September 2013
- Arvaniti O.S., Symsaris E.C., Andersen H.R., Antoniou M.G., Thomaidis N.S., Stasinakis A.S. “Removal of perfluorinated compounds from water with activated carbon and advanced oxidation processes (AOPs)”. 8th IWA Specialized

Conference on «Assessment and control of micropollutants and hazardous substances in water»/ Micropol & Ecohazard, Zurich, Switzerland, June 2013

- Arvaniti O.S., Andersen H.R., Thomaidis N.S., Stasinakis A.S. “Sorption of perfluorinated compounds onto different types of sludge”. 8th IWA Specialized Conference on «Assessment and control of micropollutants and hazardous substances in water»/ Micropol & Ecohazard, Zurich, Switzerland, June 2013
- Arvaniti O.S., Ventouri M.E., Dasenaki M.E., Stasinakis A.S., Thomaidis N.S. “Development and validation of analytical methods for the determination of perfluorinated compounds in wastewater and sewage sludge samples using liquid chromatography – tandem mass spectrometry”. 8th Aegean Analytical Chemistry Days (AACD2012), Izmir, Turkey, September 2012
- Arvaniti O.S., Orli E.T., Thomaidis N.S., Stasinakis A.S. “Investigating the Sorption of Perfluorinated Compounds in Different Types of Sludge”. 6th Society of Environmental Toxicology and Chemistry (SETAC), Berlin, Germany, May 2012
- Arvaniti O.S., Stasinakis A.S., Thomaidis N.S. “Occurrence and Evaluation of the Fate of Perfluorinated Compounds in Wastewater Treatment Plant of Athens (Greece)”. 6th Society of Environmental Toxicology and Chemistry (SETAC), Berlin, Germany, May 2012
- Thomaidis N.S., Arvaniti O.S., Dasenaki M.E., Stasinakis A.S. “Occurrence and fate of emerging contaminants in sewage treatment plant of Athens”. 12th International Conference on Environmental Science and Technology, Rhodes, Greece, September 2011 (oral presentation)
- Arvaniti O.S., Ventouri M.E., Dasenaki M.E., Stasinakis A.S., Thomaidis N.S. “Determination of perfluorinated compounds by LC-MS/MS and evaluation of their fate in two Greek wastewater treatment plants”. 12th International Conference on Environmental Science and Technology, Rhodes, Greece, September 2011 (oral presentation)
- Ventouri E.I., Arvaniti O.S., Dasenaki M.E., Thomaidis N.S. “Quantitative determination of perfluorochemicals in environmental solid samples by liquid chromatography-electrospray-tandem mass spectrometry”. 7th Aegean Analytical Chemistry Days (AACD2010), Lesvos, Greece, September 2010
- Arvaniti O.S., Dasenaki M.E., Thomaidis N.S. “Determination of perfluorinated compounds in water by liquid chromatography/tandem mass spectrometry (LC-MS/MS)”. 1st Pan-Hellenic Congress of Master Students of Chemistry, Athens, Greece, March 2009

Contact information

Olga S. Arvaniti

Office: 1st floor, Wing A, Room 07

Phone: 2228099525

Postal Address: Evripos University Complex of NKUA, Postal Code:34400, Psachna, Evia, Greece

Email: oarvaniti@agro.uoa.gr