

# ► Dasenaki Marilena

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## Education

**B.Sc. in Chemistry (2001-2006)**, National and Kapodistrian University of Athens, Grade: 6.8/10

**M.Sc. in Chemical Analysis & Quality Control (2006-2008)**, National and Kapodistrian University of Athens

**Ph.D. in Analytical Chemistry (2009-2015)**, National and Kapodistrian University of Athens

**Post-Doctoral research in Analytical Chemistry (2015-today)**, National and Kapodistrian University of Athens

## Research Topics:

**Undergraduate Thesis:** "Validation of the simultaneous determination of 10 sulfonamides in fish tissue with HPLC-UV, according to Commission Decision 657/2002/EC", Laboratory of Analytical Chemistry, Chemistry department, University of Athens, Greece (2006)

**Master Thesis:** "Development and validation of methods for the determination of sulfonamides in fish tissue by liquid chromatography and UV (LC-UV) and tandem mass spectrometric detection (LC-MS/MS)", Laboratory of Analytical Chemistry, Chemistry department, University of Athens, Greece (2006-2008)

**Ph.D. Thesis:** "Development of methods for the determination of veterinary drugs in food matrices by Liquid Chromatography – Mass Spectrometry", Laboratory of Analytical Chemistry, Chemistry department, University of Athens, Greece (2009-2015)

**Post-Doctoral Research:** Food authenticity assessment using High Resolution Mass Spectrometry and advanced chemometrics

## Research Interests

**General research interests:** Food Authenticity, Food Metabolomics, High Resolution Mass Spectrometry (HRMS), Development of LC-MS/MS methods, Mass Spectrometric Detection

### Projects:

2018 –2021: Foodomics-GR – Molecular Characterization of Food (funding: EPANEK-NSFR)

2018 –2020: Emblematic action - The Olive Road (funding: Ministry of Education)

2018 –2021: Novel wide-scope research for the promotion of N. Aegean olive oil and olive products through the designation of their unique characteristics and bioactive content (funding: Prefecture of North Aegean)

2019 –2020: Study and Exploitation of Olive Oil as Innovative Raw Material for Special Industrial Applications to Baby Food Products (funding: Region of Western Greece)

## Publications in journals and books

1. Marilena E. Dasenaki, Sofia K. Drakopoulou, Reza Aalizadeh, Nikolaos S. Thomaidis "Targeted and Untargeted Metabolomics as an Enhanced Tool for the Detection of Pomegranate Juice Adulteration", *Foods*, 2019, 8 (6), 212 (doi:10.3390/foods8060212).
2. Marilena E. Dasenaki and Nikolaos S. Thomaidis "Quality and Authenticity Control of Fruit Juices-A Review", *Molecules*, 2019, 24, 1014; (doi:10.3390/molecules24061014)
3. Marilena Dasenaki, Maria Papatzani, Eleni Gounari, Paraskevi Magnisali, Nektaria Papadopoulou-Marketou, Christina Kanaka-Gantenbein, Paraskevi Moutsatsou & Nikolaos S. Thomaidis "Simultaneous Determination of Free Cortisol, Cortisone and their Tetrahydrometabolites in Urine by Single Solvent Extraction and Liquid Chromatography-Tandem Mass Spectrometry", *Analytical Letters*, 2019, 1-18 (doi: 10.1080/00032719.2019.1602629).
4. Ioulia Ch. Moschou, Marilena E. Dasenaki, Nikolaos S. Thomaidis "Ionization study and simultaneous determination of avermectins and milbemycines in fish tissue by LC-ESI-MS/MS", *Journal of Chromatography B*, 2019, 1104, 134-140 (doi: 10.1016/j.jchromb.2018.11.017).
5. Marilena E. Dasenaki, Nikolaos S. Thomaidis "Multi-1 residue methodology for the determination of 16 coccidiostats in animal tissues and eggs by Hydrophilic Interaction Liquid Chromatography - Tandem Mass Spectrometry", *Food Chemistry*, 2019, 275, 668-680 (doi: 10.1016/j.foodchem.2018.09.138).
6. F. Karamolegou, M. Dasenaki, V. Belessi, V. Georgakilas, N. Thomaidis "Multi-Residue Determination of 7  $\beta$ -Agonists in Liver and Meat Using Gas Chromatography-Mass Spectrometry", *Food Analytical Methods*, 2018, in press (doi: 10.1007/s12161-018-1278-y).
7. Ahmad Hanafi, Marilena Dasenaki, Anna Bletsou, Nikolaos S. Thomaidis "Dissipation rate study and pre-harvest intervals calculation of imidacloprid and oxamyl in exported Egyptian green beans and chili peppers after pestigation treatment", *Food Chemistry*, 2018, 240, 1047-1054 (doi:10.1016/j.foodchem.2017.08.037)
8. Marilena E. Dasenaki, Nikolaos S. Thomaidis "Meat safety II: Residues and contaminants" (chapter 18) in "Lawrie's Meat Science, 8th edition" by Fidel Toldra (Ed), Woodhead Publishing Series in Food Science, Technology and Nutrition, Wiley, 2017 (ISBN-13: 9780081006948).
9. Marilena E. Dasenaki, Anna A. Bletsou, Ahmad H. Hanafi, Nikolaos S. Thomaidis "Liquid chromatography-tandem mass spectrometric methods for the determination of spinosad, thiacloprid and pyridalyl in spring onions and estimation of their pre-harvest interval values", *Food Chemistry*, 2016, 213, 395-401 (doi: 10.1016/j.foodchem.2016.06.099)
10. Marilena E. Dasenaki, Christina S. Michali, Nikolaos S. Thomaidis "Analysis of 76 veterinary pharmaceuticals from 13 classes including aminoglycosides in bovine muscle by hydrophilic interaction liquid chromatography-tandem mass spectrometry", *Journal of Chromatography A*, 2016, 1452, 67-80 (doi: 10.1016/j.chroma.2016.05.031)
11. Nikolaos S. Thomaidis, Pablo Gago-Ferrero, Christoph Ort, Niki C. Maragou, Nikiforos A. Alygizakis, Viola L. Borova, Marilena E. Dasenaki, "Reflection of Socioeconomic Changes in Wastewater: Licit and Illicit Drug Use Patterns", *Environmental Science and Technology*, 2016, in press (doi: 10.1021/acs.est.6b02417)
12. Nikoletta Xamonaki, Anastasios Asimakopoulos, Anastasios Balafas, Marilena Dasenaki, Ioannis Choinopoulos, Silverio Coco, Emmanuel Simandiras, Spyros Koinis "Tetrathiomolybdate Complexes of Rhodium(I) with Molybdenum-Rhodium Interactions", *Inorganic Chemistry*, 2016, 55 (10), 4771-4781 (doi: 10.1021/acs.inorgchem.6b00072)
13. Marilena E. Dasenaki, Nikolaos S. Thomaidis, "Multi-residue determination of 115 veterinary drugs and pharmaceutical residues in milk powder, butter, fish tissue and eggs using liquid chromatography-tandem mass spectrometry" *Analytica Chimica Acta*, 2015, 880, 103-121 (doi: 10.1016/j.aca.2015.04.013)
14. Marilena E. Dasenaki, Anna A. Bletsou, George A. Koulis and Nikolaos S. Thomaidis "Qualitative multi-residue screening methods for 143 veterinary drugs and pharmaceuticals in milk and fish tissue using

- liquid chromatography quadrupole-time-of-flight mass spectrometry" *Journal of Agricultural and Food Chemistry*, 2015, 63, 4493–4508 (doi: 10.1021/acs.jafc.5b00962)
15. Marilena E. Dasenaki, Nikolaos S. Thomaidis, "Multi-analyte method for the determination of pharmaceuticals in wastewater samples using solid-phase extraction and liquid chromatography-tandem mass spectrometry" *Analytical and Bioanalytical Chemistry*, 2015, 407, 4229-4245 (doi: 10.1007/s00216-015-8654-x)
  16. Pablo Gago-Ferrero, Viola L. Borova, Marilena E. Dasenaki and Nikolaos S. Thomaidis, "Simultaneous determination of 148 pharmaceuticals and illicit drugs in sewage sludge based on ultrasound assisted extraction and liquid chromatography-tandem mass spectrometry" *Analytical and Bioanalytical Chemistry*, 2015, 407, 4287-4297 (doi: 10.1007/s00216-015-8540-6)
  17. Marilena E. Dasenaki, Anna A. Bletsou, Nikolaos S. Thomaidis "ANTIBACTERIALS" (chapter 38) in "Handbook of Food Analysis, Third Edition" by Leo M.L. Nollet and Fidel Toldra (Eds), CRC Press, Boca Raton, FL (2015) Vol. II, 53- 85 (ISBN-13: 978-1466556546).
  18. Akinranti Ajibola, Pablo Gago-Ferrero, Viola L. Borova, Marilena E. Dasenaki, Anna A. Bletsou and Nikolaos S. Thomaidis "Benzosulfonamides in wastewater: method development, occurrence and removal efficiencies" *Chemosphere*, 2014, in press (doi: 10.1016/j.chemosphere.2014.04.003)
  19. Olga S. Arvaniti, Alexandros G. Asimakopoulos, Marilena E. Dasenaki, Elpida I. Ventouri, Athanasios S. Stasinakis, Nikolaos S. Thomaidis "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*, 2014, 6, 1341-1349 (doi:10.1039/C3AY42015A)
  20. Anna A. Bletsou, Ahmad H. Hanafi, Marilena E. Dasenaki, and Nikolaos S. Thomaidis "Development of specific LC-ESI-MS/MS methods to determine bifenthrin, lufenuron and iprodione residue levels in green beans, peas and chili peppers under Egyptian field conditions", *Food Analytical Methods*, 2013, 6, 1099-1112 (doi: 10.1007/s12161-012-9515-2)
  21. M.E. Dasenaki, N.S. Thomaidis "Multi-residue determination of seventeen sulfonamides and five tetracyclines in fish tissue using a multi-stage LC-ESI-MS/MS approach based on advanced mass spectrometric techniques" *Analytica Chimica Acta*, 2010, 672, 93-102 (doi: 10.1016/j.aca.2010.04.034)
  22. S. Drivelos, M.E. Dasenaki, N.S. Thomaidis "Determination of isoascorbic acid in fish tissue by hydrophilic interaction liquid chromatography - ultraviolet detection" *Analytical & Bioanalytical Chemistry*, 2010, 397, 2199-2210 (doi: 10.1007/s00216-010-3665-0)

## Conferences Presentations

1. Sofia K. Drakopoulou, Marilena E. Dasenaki, Reza Aalizadeh, Adamantia-Eleni G. Manola, Konstantinos N. Nikolakis, Nikolaos S. Thomaidis, "Un-Targeted Metabolomics Approach for the Characterization, Classification and Mapping of Bioactive Compounds in Greek Extra Virgin Olive Oil", 11th International Conference on "Instrumental Methods of Analysis" (IMA-2019), 22-25 September 2019, Ioannina, Greece
2. Katsianou P., Koulis G., Dasenaki M., Thomaidis N. "HRMS Study of Bioactivity Compounds During Edible Olive Processing", 11th International Conference on "Instrumental Methods of Analysis" (IMA-2019), 22-25 September 2019, Ioannina, Greece
3. A. Tzachristas, M.E. Dasenaki, K. Pasvanka, G. Koulis, S. Drakopoulou, R. Aalizadeh, N. S. Thomaidis and C. Proestos, "Development of a wine metabolomics approach for the varietal discrimination of selected Greek wines", 2nd Food Chemistry Conference: Shaping the Future of Food Quality, Safety, Nutrition and Health, 17-19 September, 2019, Seville, Spain
4. Marilena Dasenaki and Nikolaos Thomaidis, Target, Suspect and Non-Target HRMS Screening Approaches for Food Authenticity and Quality: from Research to Industrial Applications, Athens Conference on Advances in Chemistry (ACAC 2018), Athens, Greece, October 30 – November 2, 2018
5. Marilena Dasenaki, Alexandros Tzachristas, George Koulis, Charalampos Proestos and Nikolaos Thomaidis, "Targeted and Untargeted Mass Spectrometry-Based Metabolomics Approach for the Characterization of Greek Organic Wines", 11th Aegean Analytical Chemistry Days, AACD 2018, Chania, Crete, Greece, 25-29 Sept 2018.

6. Anastasia S. Kritikou, Marilena E. Dasenaki, Nikolaos S. Thomaidis, "Development Of A Multi-Residue Methodology For The Determination Of Thyreostats In Bovine Muscle Tissue By Hydrophilic Interaction Liquid Chromatography-Tandem Mass Spectrometry (HILIC-MS/MS)", 11th Aegean Analytical Chemistry Days , AACD 2018, Chania, Crete, Greece, 25-29 Sept 2018.
7. Marios Kostakis, Reza Aalizadeh, Marilena Dasenaki, Nikolaos Thomaidis, "Exploring data quality of multivariate HRMS data in food authenticity research", Eurachem 2018, 14-18 May, Dublin, Ireland, (Best poster award).
8. Marilena E. Dasenaki, Sofia K. Drakopoulou and Nikolaos S. Thomaidis, Targeted and Untargeted Metabolomics as an Enhanced Tool for the Detection of Juice-to-Juice Adulteration, 8th International Symposium on Recent Advances in Food Analysis, RAFA, November 7-10, 2017, Prague, Czech Republic, p.198
9. Georgios A. Koulis, Marilena E. Dasenaki and Nikolaos S. Thomaidis, Determination of hydrolyzed proteins molecular weight in fish feeds using size exclusion chromatography and UV detection, 9th International Conference on Instrumental Methods of Analysis-Modern Trends and Applications, IMA, 20-24 September, 2015, Kalamata, Greece, p.132.
10. Marilena E. Dasenaki, Anna A. Bletsou, Nikolaos S. Thomaidis, Tony Drury, Quantitative multi-residue method for 150 veterinary drugs and pharmaceuticals in meat using liquid chromatography quadrupole-time-of-flight mass spectrometry (LC-QToF-MS), 248th ACS National Meeting & Exposition, 2014, San Francisco
11. Anna A. Bletsou, Marilena E. Dasenaki, Nikolaos S. Thomaidis, Emmanouil I. Dasenakis, Tony Drury, Petra Decker "Screening of pesticides residues and their metabolites in envi-ronmental samples using liquid chromatography quadrupole-time-of-flight mass spectrometry with an accurate-mass database", 13th IUPAC International Congress of Pesticide Chemistry, 2014, San Francisco
12. Christina S. Michali, Marilena E. Dasenaki, Nikolaos S. Thomaidis, "Ionization study and chromatographic separation of aminoglycosides with HILIC-MS/MS", 8th International Conference on Instrumental Methods of Analysis Modern Trends and Applications, Thessaloniki, 2013
13. M. G. Kostakis, M. E. Dasenaki, C. E. Efstathiou and N. S. Thomaidis, "Determination of biogenic and volatile amines in fish by Hydrophilic Interaction Liquid Chromatography - Tandem Mass Spectrometry", 8th International Conference on Instrumental Methods of Analysis Modern Trends and Applications, Thessaloniki, 2013.
14. V.L. Borova, M.E. Dasenaki, N.C. Maragkou, A.S. Stasinakis N.S. Thomaidis "Trends in discharge of 160 pharmaceuticals, controlled psychoactive and illicit drugs and their me-tabolites into the sewage treatment plant of Athens, Greece" IWA 2013, Micropol & Eco hazard 2013, the 8th IWA Specialist Conference on Assessment and Control of Micropollutants /Hazardous Substances in Water method, 2013, Zurich, Switzerland
15. Marilena E. Dasenaki, Christina S. Michali, Nikolaos S. Thomaidis, "Determination of polar veterinary drugs and pharmaceuticals in food samples of animal origin by Hydrophilic Inter-action Liquid Chromatography - Tandem Mass Spectrometry (HILIC-MS/MS)", 6th Int. Symp. On Recent Advances in Food Analysis, 2013, Prague
16. Maria Mastrogiannopoulou, Anna Bletsou, Marilena Dasenaki, Nikolaos Thomaidis, "Simul-taneous Determination of water-soluble vitamins in baby food by LC-ESI-MS/MS", 6th Int. Symp. On Recent Advances in Food Analysis, 2013, Prague.
17. V.L.Borova, E.M. Chrisochou, M.E. Dasenaki, N.Alygizakis, G.Tsaganou, N.S.Thomaidis "Determination of pharmaceuticals, controlled psychoactive and illicit drugs and their metabolites in sewage sludge of the WWTP of Athens" CEST 2013, 13th International Conference on environmental science and technology, 5-7 September, 2013, Athens, Greece, p.435
18. V. Borova, M. Dasenaki, N. Thomaidis "Determination of 171 Pharmaceuticals, Controlled Psychoactive and Illicit Drugs and their Metabolites in wastewater and sludge by liquid chromatography - tandem mass spectrometry" 8th Aegean Analytical Chemistry Days (AACD 2012), 2012, Izmir. TR, p.66 (P1-24) **(Best Poster Presentation Award)**.
19. O. S. Arvaniti, M.E. Dasenaki, E. I. Ventouri, A. S. Stasinakis and N. S. Thomaidis "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 (AACD 2012), September 16-20, 2012, Izmir, p.64 (P1-22)

20. M.E. Dasenaki and N.S. Thomaidis "Multi residue determination of veterinary drugs and pharmaceutical residues in dairy products and egg using liquid chromatography - tandem mass spectrometry", 5th Int. Symp. On Recent Advances in Food Analysis, 2011, Prague (**Agilent Best poster award**).
21. Anna Bletsou, Ahmad Hanafi, Marilena Dasenaki, Nikolaos Thomaidis, " Development of specific LC-ESI-MS/MS methods for the determination of Spinosad, Thiacloprid and Pyridalyl and study of the degradation rates and the pre harvest intervals in spring onions", 5th Int. Symp. On Recent Advances in Food Analysis, 2011, Prague.
22. Olga S. Arvaniti, Elpida I. Ventouri, Marilena E. Dasenaki, Athanasios S. Stasinakis and Nikolaos S. Thomaidis "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, September 8-10, 2011, Rhodes, Greece, p.16
23. Akinranti Ajibola, Andreas Androulakakis, Georgios Spyropoulos, Anna Bletsou, Marilena Dasenaki, Nikolaos Thomaidis "Determination of benzotriazoles and benzothiazoles in environmental water samples by HPLC-UV and LC-MS/MS" Proceedings of the 7th Analytical Chemistry Days, Lesvos, Greece, 29Sept.-3 Oct, 2010, p. 222
24. Anna Bletsou, Ahmad Hanafi, Marilena E. Dasenaki, Nikolaos S. Thomaidis "Development of specific LC-ESI-MS/MS methods to study the degradation rates and the Pre Harvest Intervals (PHI) of bifenthrin, lufenuron and iprodione in green beans and peas under the Egyptian field conditions" International Symposium on New Trends in Food Analyses - From LC MS Technologies to UPLC, AFSILAB – AOAC Int., 2009, Paris.
25. M.E. Dasenaki and N.S. Thomaidis "Multi-residue determination of seventeen sulfonamides and five tetracyclines in fish tissue using a multi-stage LC-ESI-MS/MS approach based on advanced mass spectrometric techniques" 4th Int. Symp. On Recent Advances in Food Analysis, 2009, Prague, (**CAMO best poster award**)
26. Spyros A. Drivelos , Marilena E. Dasenaki, Nikolaos S. Thomaidis, "Determination of isoascorbic acid in fish tissue by Hydrophilic Interaction Liquid Chromatography (HILIC) – Ultraviolet And Tandem Mass Spectrometric detection", Proceedings of the 6th International Conference of Analysis Modern Trends and Applications, Athens 2009.
27. Marilena E. Dasenaki, Niki C. Maragou and Nikolaos S. Thomaidis, "Multi-residue determination of eighteen sulfonamides in fish tissues by liquid chromatography. Comparison of ultraviolet and tandem mass spectrometric detection", Proceedings of the 6th Aegean Analytical Chemistry Days, 2008
28. Marilena E. Dasenaki, Maria V. Papatzani, Niki C. Maragou, Nikolaos S. Thomaidis, Dimitrios Skafidas, Development and validation according to the decision 2002/657/EC of an HPLC - UV method for the determination of 10 sulfonamides in fish tissue, Proceedings of the 5th Aegean Analytical Chemistry Days, 2006.

## Awards and Honors

1. Scholarship from the State Scholarships Foundation (IKY) for Post-Doctoral Research funded by the "Supporting Post-Doctoral Researchers" Act of the Operational Programme "Human Resources Development, Education and Lifelong Learning" (2017-2019)
2. University Scholarship under the program entitled "Acquisition of Academic Teaching Experience in Young Scientists PhD Holders" (2016-2019).
3. PhD Research Scholarship: This research was been co-financed by the European Union (European Social Fund – ESF) and Greek national funds through the Operational Program "Education and Lifelong Learning" of the National Strategic Reference Framework (NSRF) - Research Funding Program: Heracleitus II. Investing in knowledge society through the European Social Fund, 2011
4. Agilent Best Poster Award, poster presentation at the 5th Int. Symposium On Recent Advances in Food Analysis, RAFA 2011, Prague
5. CAMO Best Poster Award, poster presentation at the 4th Int. Symposium On Recent Advances in Food Analysis, RAFA 2009, Prague

- Scholarship from the State Scholarships Foundation (IKY) (1<sup>st</sup> position in admitting Chemistry Department, 2001)

### **Professional Affiliations**

Association of Greek Chemists, 2008-Present

Hellenic Mass Spectrometry Society, 2012-Present

American Chemical Society, 2010-Present

Global Network of Environmental Science and Technology, 2011-Present

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