

# MARILENA E. DASENAKI

ASSISTANT PROFESSOR

FOOD CHEMISTRY



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## EDUCATION

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- 2009 - 2015**      **Ph.D. in Analytical Chemistry**  
Department of Chemistry, National and Kapodistrian University of Athens
- 2006 - 2008**      **Master of Science in “Chemical Analysis-Quality Control”**  
Department of Chemistry, National and Kapodistrian University of Athens
- 2001 - 2006**      **Bachelor of Science in “Chemistry”**  
Department of Chemistry, National and Kapodistrian University of Athens

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## PROFESSIONAL EXPERIENCE

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- 2021 - present**      **Assistant Professor in Food Chemistry**  
Food Chemistry Laboratory, Department of Chemistry, National and Kapodistrian University of Athens
- 2015 - 2021**      **Post-Doctoral Researcher**  
Analytical Chemistry Laboratory, Department of Chemistry, National and Kapodistrian University of Athens
- 2009 - 2012**      **Chemist at Athens Analysis Laboratories**  
Athens Analysis Laboratories, 104 Vas. Sofias str, Athens

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## TEACHING EXPERIENCE

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- 2019 - 2020**      **National and Kapodistrian University of Athens, Department of Chemistry, Analytical Chemistry Laboratory, teaching:**  
Undergraduate, Course Title: **Current Analytical Techniques**, 7<sup>th</sup> semester. *Under the program entitled "Acquisition of Academic Teaching Experience in Young Scientists PhD Holders".*
- 2019 - 2020**      **National and Kapodistrian University of Athens, Department of Chemistry, Analytical Chemistry Laboratory, teaching:**  
Undergraduate, Course Title: **Analytical Chemistry**, 2<sup>nd</sup> semester. *Under the program entitled "Acquisition of Academic Teaching Experience in Young Scientists PhD Holders".*
- 2017 - 2020**      **National and Kapodistrian University of Athens, Department of**

**Chemistry, Analytical Chemistry Laboratory**, teaching:

Undergraduate, Course Title: **Quality Control and Quality Assurance – Accreditation**, 8<sup>th</sup> semester. *Under the program entitled "Acquisition of Academic Teaching Experience in Young Scientists PhD Holders"*.

**2016 - 2019** **National and Kapodistrian University of Athens, Department of Chemistry, Food Chemistry Laboratory**, teaching:

Undergraduate, Course Title: **Assessing Food Quality and Food Safety**, 7<sup>th</sup> semester. *Under the program entitled "Acquisition of Academic Teaching Experience in Young Scientists PhD Holders"*.

**2016 - 2019** **National and Kapodistrian University of Athens, Department of Chemistry, Food Chemistry Laboratory**, supervising:

Undergraduate students, Course Title: **Assessing Food Quality and Food Safety, Laboratory Exercises**

**2016-2017** **National and Kapodistrian University of Athens, Department of Chemistry, Analytical Chemistry Laboratory**, teaching:

Master, Course Title: **Food Safety and Quality Control**, Chemical Analysis – Quality Control Master

**2016-2017** **National and Kapodistrian University of Athens, Department of Pharmaceutical Technology**, supervising:

Undergraduate students, Course Title: **Analytical Chemistry II, Laboratory Exercises**

**2006 - 2013** **National and Kapodistrian University of Athens, Department of Chemistry, Analytical Chemistry Laboratory**, co-supervising:

Undergraduate students, Course Title: Analytical Chemistry, Laboratory Exercises

Undergraduate students, Course Title: Instrumental Analysis II, Laboratory Exercises

## LANGUAGES

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- **English:** Certificate of Proficiency in English of University of Cambridge (level C2)
- **French:** Diplôme d'études en langue française DELF (level B1)

## RESEARCH INTERESTS

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- **Food authenticity** research using HRMS and sophisticated chemometric tools.
- Application of **Metabolomics** in Food Research
- Identification of **food contaminants** using LC-MS, GC-MS and LC-HRMS

- **Food Analysis** - Development of novel methods for the determination of food nutritional value and food components and residues (antibiotics, NSAIDs, anthelmintics, hormones, tranquillizers, coccidiostats, pharmaceuticals, dyes, pesticides, mycotoxins, vitamins, biogenic amines, vitamins, nucleotides etc)

## SCHOLARSHIPS - AWARDS

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2017-2021	<b>Post-Doctoral Research Scholarship</b> from the State Scholarships Foundation (IKY) funded by the "Supporting Post-Doctoral Researchers" Act of the Operational Programme "Human Resources Development, Education and Lifelong Learning, co-funded by the European Social Fund (ESF) and Greek National Resources.
2016-2020	<b>University Scholarship</b> under the program entitled "Acquisition of Academic Teaching Experience in Young Scientists PhD Holders". <b>Course Title: Food Safety and Quality Control</b>
2010-2014	<b>PhD Research Scholarship:</b> This research was 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
2011	<b>Agilent Best poster award:</b> Marilena E. Dasenaki and Nikolaos S. Thomaidis, "Multi residue determination of veterinary drugs and pharmaceutical residues in dairy products and egg using liquid chromatography - tandem mass spectrometry", 5th International Symposium on Recent Advantages in Food Analysis, Prague, CZ, November, 2011.
2009	<b>CAMO best poster award:</b> Marilena E. Dasenaki and Nikolaos 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 International Symposium on Recent Advantages in Food Analysis, Prague, CZ, November, 2009
2001	<b>Scholarship</b> from the State Scholarships Foundation (IKY) (1st position in admitting Chemistry Department, 2001)

## OTHER SCIENTIFIC ACTIVITIES

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- **ISO 17025 application, method development and validation**
- **Knowledge of International Standards (ISO 9001, 17025:2005, 14001 και HACCP)**

- **Research proposals composition**
- **Reviewer of international journals:** Analytica Chimica Acta, Food Chemistry, Comprehensive Reviews in Food Science and Food Safety, Journal of Chromatography A, Analytical and Bioanalytical Chemistry, Talanta, Journal of Agricultural and Food Chemistry, Food Analytical Methods, Metabolites, Foods, Journal of Mass Spectrometry, Analytical Methods, International Journal of Environmental Analytical Chemistry, Journal of Chromatographic Sciences, Chemosphere, Journal of Hazardous Materials, Analytical Letters, Journal of Chromatography B, Journal of Separation Sciences, Global NEST Journal
- **Conference Organization:**
- **Proficiency testing schemes**
- **Scientific Associations**
  1. Member of the Association of Greek Chemists
  2. Member of the American Chemical Society (ACS).
  3. Member of the Hellenic Mass Spectrometry Society (HMSS).

## RESEARCH PROJECTS

a/a	Title	Funding	Duration	
8	<b>GREEN POULTRY MEAT ANTIFREEE</b> - Develop a poultry meat system with reduced environmental footprint in complete absence of antibiotics.	EPANEK-NSFR	2019-2021	Research Associate
7	<b>ELAION:</b> Study and exploitation of olive oil as innovative raw material for special industrial applications to baby food products	Prefecture of Western Greece	2019-2021	Research Associate
6	<b>Foodomics-GR</b> – Molecular Characterization of Food	EPANEK-NSFR	2018-2022	Research Associate
5	Emblematic action “ <b>The Olive Road</b> ”	Ministry of Education	2018-2021	Research Associate
4	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	Prefecture of North Aegean	2018-2021	Research Associate
3	<b>Innovation Coupons:</b> Multi-analyte determination of pesticides in vegetables by GC-MS (2011 - 2012).	ESF-GSRT	2011 – 2012	Research Associate
2	<b>KAPODISTRIAS 2009:</b> «Development of new methods for the determination of sulfonamides in foodstuff of animal origin by liquid chromatography - mass spectrometry	University of Athens Research Fund	2009 – 2010	Research Associate

1	<b>AKMON:</b> Development of the laboratory infrastructure for providing advanced services of food control and environmental management to enterprises	ESF-GSRT	2006 – 2008	Research Associate
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## LIST OF PUBLICATIONS

### BOOK CHAPTERS

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1. Marilena E. Dasenaki, Sofia K. Drakopoulou, Panagiota A. Katsianou, Ioannis Martakos, Nikolaos S. Thomaidis “Authentication of Olive Products with Liquid Chromatographic techniques” in “Chromatographic and Related Separation Techniques in Food Integrity and Authenticity, Volume B: Relevant Applications” by Oscar Núñez and Guillem Campmajó (Eds), World Scientific Publishing, London, UK (2020).

2. 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)..

3. 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).

## INTERNATIONAL SCIENTIFIC JOURNALS WITH PEER

### REVIEW (*selected*)

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- Alexandros Tzachristas, Marilena E. Dasenaki\*, Reza Aalizadeh, Nikolaos S. Thomaidis, Charalampos Proestos “LC-MS Based Metabolomics for the Authentication of Selected Greek White Wines”, **Microchemical Journal**, 2021, accepted.
- Evangelos Karagiannis, Michail Michailidis, Christina Skodra, George Stamatakis, Marilena Dasenaki, Ioannis Ganopoulos, Martina Samiotaki, Nikolaos S.Thomaidis, Athanassios Molassiotis, Georgia Tanou, “Proteo-metabolomic journey across olive drupe development and maturation”, **Food Chemistry**, 2021, accepted.
- Alexandros Tzachristas, Marilena E. Dasenaki\*, Reza Aalizadeh, Nikolaos S. Thomaidis, Charalampos Proestos “Development of a Wine Metabolomics Approach for the Authenticity Assessment of Selected Greek Red Wines”, **Molecules**, 2021, 26, 283, (doi: 10.3390/molecules26102837)
- Georgios A. Koulis, Aristeidis S. Tsagkaris, Reza Aalizadeh, Marilena E. Dasenaki\*, Eleni I. Panagopoulou, Spyros Drivelos, Michał Halagarda, Constantinos A. Georgiou, Charalampos Proestos, Nikolaos S. Thomaidis “Honey Phenolic Compound Profiling and Authenticity Assessment Using HRMS Targeted and Untargeted Metabolomics”, **Molecules** 2021, 26, 2769 (doi: 10.3390/molecules26092769)
- Aristeidis S. Tsagkaris, Georgios A. Koulis, Georgios P. Danezis, Ioannis Martakos, Marilena Dasenaki Constantinos A. Georgiou, Nikolaos S. Thomaidis “Honey authenticity: analytical techniques, state of the art and challenges”, **RSC Advances**, 2021, 11, 11273-11294 (doi: 10.1039/D1RA00069A)

6. Natasa P Kalogiouri, Reza Aalizadeh, Marilena E Dasenaki, Nikolaos S Thomaidis "Application of High Resolution Mass Spectrometric methods coupled with chemometric techniques in olive oil authenticity studies - A review", **Analytica Chimica Acta**, 2020, 1134, 150-173 (doi: 10.1016/j.aca.2020.07.029)
7. Natasa P Kalogiouri, Reza Aalizadeh, Marilena E Dasenaki, Nikolaos S Thomaidis "Authentication of Greek PDO Kalamata Table Olives: A Novel Non-Target High Resolution Mass Spectrometric Approach", **Molecules**, 2020, 25(12), 2919, (doi: 10.3390/molecules25122919)
8. Ioannis Martakos, Marios Kostakis, Marilena Dasenaki\*, Michalis Pentogennis and Nikolaos Thomaidis "Simultaneous Determination of Pigments, Tocopherols, and Squalene in Greek Olive Oils: A Study of the Influence of Cultivation and Oil-Production Parameters", **Foods**, 2020, 9, 31 (doi: 10.3390/foods9010031).
9. Marilena E. Dasenaki\*, Sofia K. Drakopoulou, Reza Aalizadeh and 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).
10. Marilena E. Dasenaki\* and Nikolaos S. Thomaidis "Quality and Authenticity Control of Fruit Juices-A Review", **Molecules**, 2019, 24, 1014 (doi: 10.3390/molecules24061014).
11. 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).
12. Marilena E. Dasenaki\*, Nikolaos S. Thomaidis "Multi-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).
13. 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)
14. 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)
15. 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)
16. 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)
17. 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)
18. 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)
19. Marilena 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

## CONFERENCE PRESENTATIONS (*selected*)

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1. Marilena Dasenaki, Sofia Drakopoulou, Reza Aalizadeh, Nikolaos Thomaidis, “Assessment of fruit juice authentication using UPLC-QTOF/MS: Mass spectrometry-based metabolomics approaches for the detection of pomegranate juice adulteration”, 9th International Symposium on RECENT ADVANCES IN FOOD ANALYSIS, November 5–8, **2019**, Prague, Czech Republic
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. 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
4. 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
5. 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**.
6. 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**.
7. 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**.
8. 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**).
9. 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)”, 248<sup>th</sup> ACS National Meeting & Exposition, **2014**, San Francisco.
10. Marilena E. Dasenaki, Christina S. Michali, Nikolaos S. Thomaidis, “Determination of polar veterinary drugs and pharmaceuticals in food samples of animal origin by Hydrophilic Interaction Liquid Chromatography – Tandem Mass Spectrometry (HILIC-MS/MS)”, RAFA, **2013**, Prague, Czech Republic.
11. C.S. Michali, M.E. Dasenaki and N.S. Thomaidis “Ionization study and chromatographic separation of aminoglycosides with hydrophilic interaction liquid chromatography - tandem mass spectrometry (HILIC-MS/MS)” 8th International Conference on Instrumental Methods of Analysis – Modern Trends and Applications, September 15-19, **2013**, Thessaloniki, Greece, P1-17.
12. 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, 1-4 November, **2011**, Prague, p. 390 (P27) (**Agilent Best poster award**)
13. A. A. Bletsou, A. Hanafi, M.E. Dasenaki and N.S. Thomaidis “ Development of specific LC-ESI-MS/MS methods for the determination of spinosad, thiachloprid 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, 1-4 November, **2011**, Prague, p. 354 (O-15).

14. 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, 4-6 November, 2009, Prague, p. 345. **(CAMO Best poster award)**

## Contact Details

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