Curriculum Vitae - Dr. Theodora Nikou

Personal Information

Surname: Nikou

First name: Theodora

Academic position: Post-doctoral researcher

Date of Birth: 22/07/1990

Place of birth: Athens

Professional address: Panepistimioupoli, Zografou, 15771, Athens,Greece

e-mail: th-nikou@pharm.uoa.gr

Tel: +302107274103

Educational Qualifications

PhD in Pharmaceutical Sciences (2019). Department of Pharmacognosy and Natural Products Chemistry, Faculty of Pharmacy, National and Kapodistrian University of Athens. Thesis title: *"Mass spectrometry based metabolomics for mapping and quality control of Extra Virgin Olive Oil (EVOO). Evaluation of EVOO marker compounds in animal and human studies."*

M.Sc. in Pharmacognosy and Chemistry Natural Products (2016). Department of Pharmacognosy and Natural Products Chemistry, Faculty of Pharmacy, National and Kapodistrian University of Athens. Thesis title: *"Development and application of analytical methodologies for quality control and mapping of Greek virgin olive oils".*

B.Sc. in Agricultural Biotechnology (2013). School of Biotechnology, Agricultural University of Athens. Thesis title: "*Characterization of selectivity to the substrate of the enzyme haloalkane dehalodenase*".

Publications

1. Frontiers in public health, 2020. *"Olive oil quality control aspects employing high resolution mass spectrometry (HRMS) metabolomic approaches".* Theodora Nikou, Matthias Witt, Aiko Barch, Leandros A. Skaltsounis, Maria Halabalaki.

2. Phytochemistry, 2020, 177, 112438. "*UPLC-MS/MS-based Molecular Networking and NMR structural determination for the untargeted phytochemical characterization of the fruit of Crescentia cujete (Bignoniaceae).* Andrés Rivera-Mondragón, Emmy Tuenter, Orlando Ortiz, Maria E. Sakavitsi, Theodora Nikou, Maria Halabalaki, Catherina Caballero-George, Sandra Apers, Luc Pieters and Kenn Foubert

3. PLOS ONE, 2019, 14(12). "*Dual pathway for metabolic engineering of E. coli metabolism to produce the highly valuable hydroxytyrosol".* Emmanouil Trantas, Eleni Navakoudis, Theofilos Pavlidis, Theodora Nikou, Maria Halabalaki, Leandros Skaltsounis, Filippos Ververidis. *https://doi.org/10.1371/journal.pone.0212243*

4. Food and Chemical toxicology,2019, 125: 403-412. *"Comparison survey of EVOO polyphenols and exploration of healthy aging-promoting properties of oleocanthal and oleacein".* Theodora Nikou, Vasiliki Liaki, Panagiotis Stathopoulos, Aimilia D. Sklirou, Eleni N. Tsakiri, Thomas Jakschitz, Günther Bonn, Ioannis P. Trougakos, Maria Halabalaki, Leandros A. Skaltsounis. *https://doi.org/10.1016/j.fct.2019.01.016*

5. **Redox Biology, 2018, 16: 169-178.** "*Selective cytotoxicity of the herbal substance acteoside against tumor cells and its mechanistic insights*". Christina Cheimonidi, Pinelopi Samara, Panagiotis Polychronopoulos, Eleni N. Tsakiri, Theodora Nikou, Vassilios Myrianthopoulos, Theodore Sakellaropoulos, Vassilis Zoumpourlis, Emmanuel Mikros, Issidora Papassideria, Aikaterini Argyropoulouc, Maria Halabalaki, Leonidas G. Alexopoulos, Alexios-Leandros Skaltsounis, Ourania E. Tsitsilonis, Nektarios N. Aligiannisc, Ioannis P. Trougakos. *https://doi.org/10.1016/j.redox.2018.02.015*

6. Application note, Bruker Daltonics, 11-2017. *"Mapping of Greek olive oil using magnetic resonance mass spectrometry flow injection analysis and multivariate data analysis".* Matthias Witt, Aiko Barsch, Theodora Nikou, Maria Halabalaki, Christopher J. Thompson.

7. Journal of Chromatography A, 2017, 1491:126–136. "*An integrated process for the recovery of high added-value compounds from olive oil using solid support free liquid-liquid extraction and chromatography*". Apostolis Angelis, Mahmoud Hamzaoui, Nektarios Aligiannis, Theodora Nikou, Dimitris Michailidis, Panagiotis Gerolimatos, Aikaterini Termentzi, Jane Hubert, Maria Halabalaki, Jean-Hugues Renault, Alexios-Léandros Skaltsounis. *DOI: 10.1016/j.chroma.2017.02.046*

Presentations in conferences

Oral presentations

66th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA), Shanghai, China, 2018. "*Integrated FIA-FT-ICR MS and LC-HRMS metabolomics as a novel holistic workflow for quality control of Exrta Virgin Olive Oil (EVOO)".*

Poster presentations

67th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA), Innsbruck, Austria. *"Integrated UPLC-HRMS based metabolomics investigating hydroxytyrosol effect in human obesity".*

30th International Symposium on the Chemistry of Natural Products, Athens, Greece, 2018. "*Identification of quality marker compounds in Greek EVOOs using integrated LC-HRMS & FIA FTICR MS platforms and chemometrics*".

65th American Society for Mass Spectrometry, Indianapolis, America, 2017. "*Mapping of Greek olive oil using FT-ICR mass spectrometry flow injection analysis and multivariate data analysis*".

3rd International Conference on Natural Products Utilization: from Plant to Pharmacy Shelf, Bansko, Bulgaria, 2017. *"Integrated FT-ICR MS and LC-HRMS metabolomics studied on Extra Virgin Olive Oil (EVOO) biophenols"* and "*Dual pathway for metabolic engineering of E. coli metabolism to produce the highly valuable hydroxytyrosol"*.

9th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA), Copenhagen, Denmark, 2016 - Olive bioactives: application and prospects. Orleans, France, 2016 - 12th European Fourier Transform Mass Spectrometry Conference. Matera, Italy, 2016. *"Aspects of metabolic profiling and quality control of olive oil using Flow Injection Analysis (FIA) FT-ICRMS*". – Financially supported by Bruker Daltonics

Recent Advances in Food Analysis. Prague, Czeck republic, 2015. *"Metabolic profiling and quality control aspects of olive oil using an FT-ICR direct infusion method".*

17º Pan-Hellenic Pharmaceutical Conference. Athens, Greece, 2015 - Mediterranean Sea Region Countries Mass Spectrometry Workshop (MEDMSIII), Athens, Greece, 2015. *"Biophenols-based mapping of Greek Extra Virgin Olive Oil (EVOO)"*.

Research interests

- Quantitative and qualitative methods for the characterization of plant extracts using chromatographic methods, HPLC-UV & LC-MS.
- Separation, isolation and purification of natural products using chromatographic techniques Structure elucidation of natural products using NMR and LC-HRMS^n techniques.
- Analytical dereplication methods (LC/UPLC-DAD-HRMS&HRMS^n) using metabolic approaches (profiling, fingerprinting) for the targeted isolation and identification of bioactive natural products.

- Characterization and quantitation of olive and olive oil constituents using UPLC-DAD, and HRMS techniques. Development of analytical methods for the quantitation of biophenols in extra virgin olive oil.
- LC-MS-based methodologies for the qualitative and quantitative analysis of plasma and urine from animal and human studies.
- Pharmacokinetic and metabolisation studies of bioactive natural compounds and food ingredients using different LC-MS platforms.