

**Marianthi Basalekou**

Laboratory of Industrial Chemistry,
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Department of Chemistry

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Education**2019 PhD in Oenology**

Laboratory of Oenology and Alcoholic Beverages, Agricultural University of Athens. Thesis title:
«Monitoring wine maturation with alternative chemical analytical methods. Prospects and challenges»

2010 MSc in Viticulture and Oenology

Interdepartmental Postgraduate Program in Viticulture and Oenology, Department of Food Science & Human Nutrition, Department of Viticulture, Agricultural University of Athens. Thesis title:
«Determination of 3-alkyl-2-methoxypyrazines in Greek wines and must and the effect of temperature on these volatile compounds»

2007 Bachelor's degree/Integrated Master

Department of Food Science & Human Nutrition, Agricultural University of Athens. Thesis title:
«Identification and quantitative determination of Ochratoxin A in commercial raisin samples»

2007 Oenology certificate

N1697/ΦΕΚ 57/28.04.1987

Appointments**2024-today National and Kapodistrian University of Athens**

Assistant Professor in Oenology and Alcoholic Beverages, Industrial Chemistry Laboratory, Wine and Alcoholic Beverages group, Department of Chemistry, National and Kapodistrian University of Athens

2023-2024 University of Ioannina

Post-doctoral Researcher, Department of Chemistry, University of Ioannina

2020-2021 Agricultural University of Athens

Post-doctoral Researcher, Laboratory of Chemistry, Department of Food Science and Nutrition, Agricultural University of Athens

2019-2023 University of West Attica

Adjunct Professor, Department of Wine, Vine & Beverage Sciences, University of West Attica

2014-2016 Hellenic Mediterranean University

Lecturer, Department of Agriculture, Hellenic Mediterranean University

2013-2015 Hellenic Mediterranean University

Researcher, Department of Agriculture, Hellenic Mediterranean University

2012-2015 University of Crete

Researcher, Department of Chemistry, University of Crete

Research Fields

- Wine authentication using Fourier Transform Infrared Spectroscopy
- Wine quality assessment using High Pressure Liquid Chromatography

- Method development for the analysis of wine volatile and phenolic compounds
- Development of predictive models for the analysis of key wine compounds with an emphasis on green chemistry principles

Educational Experience

Undergraduate Courses

- Chemistry and technology of wine and alcoholic beverages (course and lab) (NKUA)
- Introduction to Wine, Vine, and Beverage Sciences (UNIWA)
- Non-Alcoholic Beverage Technology (UNIWA)
- Research Methodology (UNIWA)
- Biotechnology and Industrial Fermentations (UNIWA)
- Raw Materials of Alcoholic Beverages (UNIWA)
- Plant Biology (UNIWA)
- Vine Morphology and Physiology (UNIWA)
- Agricultural Industries (HMU)

Post-graduate Courses

- Wine Technology (MSc Viticulture, Oenology & Alcoholic Beverages, NKUA)
- Vine and Wine Products-Distillates-Alcoholic Beverages-Beer (MSc Viticulture, Oenology & Alcoholic Beverages, NKUA)
- Quantitative Analyses of Must and Wine (MSc Viticulture, Oenology & Alcoholic Beverages, NKUA)
- Sensory Evaluation of Wine, Beer and Alcoholic Beverages (MSc Viticulture, Oenology & Alcoholic Beverages, NKUA)
- Vine Ecophysiology (MSc Wine and Beer Science, UNIWA)
- Introduction to Research and Data Analysis Techniques (MSc Wine and Beer Science, UNIWA)
- Modern Instrumental Analysis Methods (MSc Wine and Beer Science, UNIWA)
- Modern Applied Viti-vinicultural Technology (Applied Science and Technology in Agriculture, HMU)
- Innovation in Agricultural Production (Applied Science and Technology in Agriculture, HMU)

Research Experience

- 2023-2024: Project: Development of research infrastructures for the design, production and promotion of the quality and safety characteristics of agri-food and bio-functional products "(EV-AGRO-NUTRITION)", implemented under the Action "Reinforcement of the Research and Innovation Infrastructure", funded by the Operational Programme "Competitiveness, Entrepreneurship and Innovation" (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund)
- 2020-2021: Emblematic research action of national scope for the exploitation of new technologies in the agri-food sector, specializing in genomic technologies and pilot application in the value chains of "olive", "grapevine", "honey", and "livestock", "The Vineyard Roads, Subproject 2: Chemical/organoleptic characterization of varieties—bio-synthetic paths—vinification"
- 2012-2015: "Thales": Evaluation and optimisation of the quality factors involved in the aging of red and white wines produced from Cretan grape varieties - production of high-quality wines
- 2013-2015: Investigation on Roussanne (*Vitis vinifera* L) cultivation characteristics— Qualitative characteristics of grapes and wine produced, funded by Nostos Ltd
- 2013-2015: Improving quality of table grapes from the varieties Crimson Seedless, Red Globe και Flame Seedless (*Vitis vinifera* L)", funded by Lampros – Giorgos S.A

Winemaking Experience

Among others:

➤ Indevin Partners, New Zealand.

2013 Vintage: Red Cellar team member (wine pump-over, delestage, plunging, pulse air, preparation of yeast starters, racking, must and wine additions, barrel topping and maintenance, general cellar operations)

2012 Vintage: White Cellar, flotation team member (flotation techniques -dosacom, continuous, mobile-, racking, must and wine additions, wine transfers and general cellar work)

➤ InVitis, Oenological Laboratory, Moires, Crete.

2014-2017 Wine consulting for small-scale producers, wine quality evaluation

➤ Ktima Roussos, Paros

Support in the installation and initial operation of the winery, including equipment setup and first production run.

➤ Brintzikis Estate, Lantzoi, Ilia

2009-2011 Oenologist (ripeness control, harvest timing selection, inoculation, fermentation monitoring, operation of wine presses, crusher, destemmer and pumps, oenological additions, filtration, bottling, basic oenological analyses, use of VinPilot software)

➤ Katogi Averoff, Metsovo.

2008 Internship (oenological analyses, fermentation monitoring)

Participation in Decision-Making Bodies

-Member of the Greek Delegation to the Viticulture and Oenology Commission of the International Organisation of Vine and Wine (OIV) in 2014 and 2015

-Member of the Association of Greek Oenologists

-Member of the Geotechnical Chamber of Greece

Mobility

2017 P.L. Teissedre Laboratory of Enology, Institute of Wine and Vine Sciences, University of Bordeaux, France, as an Erasmus PhD student

14 May 2012 AWRI (Australian Wine Research Institute), Adelaide. Oral presentation:

«Determination of 3-alkyl-2-methoxypyrazines in greek wines and must and the effect of temperature on these volatile compounds»

Reviewer of Scientific Journals

Food Chemistry, Processes (SSN 2227-9717)

Beverages

Fermentation (ISSN 2311-5637)

Foods

Oeno One

Book Chapters in Collective Volumes

1.Basalekou M*, Kyraleou M., Kallithraka S. Authentication of wine and other alcohol-based beverages—Future global scenario. In Future Foods, Chapter 38 (pp. 669-695). Academic Press.

2.Basalekou M., Kallithraka, S., & Kyraleou, M. (2023). Wine bioactive compounds. In Functional Foods and Their Implications for Health Promotion, Chapter 13 (pp. 341-363). Academic Press.

Selected Publications

- Basalekou M*.Using IR spectroscopy as a holistic monitoring approach in winemaking: A review. Vol. 59 No. 3, OENO One, (2025)
- Basalekou M*, Tataridis P., Georgakis K., Tsintonis C. Measuring wine quality and typicity. 9, 41, Beverages, (2023)
- Basalekou M., Pappas C., Tarantilis P., Kallithraka S. Wine authenticity and traceability with the use of FT-IR, Beverages, 2020, 6(2), pp. 1-13, 30
- Basalekou M., Kyraleou M., Pappas C., Tarantilis P., Kotseridis Y., Kallithraka S. Proanthocyanidin content as an astringency estimation tool and maturation index in red and white winemaking technology. Food Chemistry, 299 (2019): 125135
- Basalekou M., Pappas C., Tarantilis P.A., Kyraleou M., Cotea V., Kallithraka S. 42nd World Congress of Vine and Wine, 15-19 July 2019, Geneva, Switzerland Astringency estimation of wines maturing in different types of containers
- Basalekou M., Kallithraka S., Tarantilis P.A., Kotseridis Y., Pappas C. Ellagitannins in wines: Future prospects in methods of analysis using FT-IR spectroscopy LWT-Food Science and. Technology, 101 (2019): 48-53.
- Philippidis A., Poulakis E., Basalekou M., Strataridaki A., Kallithraka S., Velegrakis M. Characterization of Greek Wine by Ultraviolet-Visible Absorption Spectrometry and Statistical Multivariate Methods (2017) Analytical Letters, 50(12), pp. 1950-1963
- Basalekou M., Pappas C., Tarantilis P., Kotseridis Y., Kallithraka S. Wine authentication with Fourier Transform Infrared Spectroscopy: a feasibility study on variety, type of barrel wood and ageing time classification (2017) International Journal of Food Science and Technology, 52 (6), pp. 1307-1313.
- Basalekou M., Pappas C., Kotseridis Y., Tarantilis P. A., Kontaxakis E., Kallithraka S. Red Wine Age Estimation by the Alteration of Its Color Parameters: Fourier Transform Infrared Spectroscopy as a Tool to Monitor Wine Maturation Time. Journal of analytical methods in chemistry, vol. 2017, Article ID 5767613, 9 pages, 2017.
- Basalekou M., Strataridaki A., Pappas C., Tarantilis P.A., Kotseridis Y., Kallithraka S. Authenticity determination of greek-cretan mono-varietal white and red wines based on their phenolic content using attenuated total reflectance fourier transform infrared spectroscopy and chemometrics (2016) Current Research in Nutrition and Food Science, 4 (Special Issue 2), pp. 54-62.
- Pappas, C., Basalekou, M., Konstantinou, E., Proxenia, N., Kallithraka, S., Kotseridis, Y., & Tarantilis, P. Evaluation of a Raman spectroscopic method for the determination of alcohol content in Greek spirit Tsipouro. (2016) Current Research in Nutrition and Food Science Journal, 4(Special-Issue-October), 01–09.
- Loupassaki S., Abouzer M., Basalekou M., Fyssarakis I., Makris D.P. Evolution pattern of wood-related volatiles during traditional and artificial ageing of commercial red and white wines: Association with sensory analysis (2016) International Food Research Journal, 23 (4), pp. 1459-1465.
- Kyraleou, M. Pappas, C., Voskidi, E. Kotseridis, Y. Basalekou, M. Tarantilis, P. A., Kallithraka, S. Diffuse reflectance Fourier transform infrared spectroscopy for simultaneous quantification of total phenolics and condensed tannins contained in grape seeds. (2015) Industrial Crops and Products, 74(2003), 784–791.