



## Dr. Ioannis C. Martakos

**Nationality:** Greek **Date of birth:** 20/09/1993 **Phone number:** (+30) 2107274938

**Email address:** [johnmrtk@chem.uoa.gr](mailto:johnmrtk@chem.uoa.gr)

**LinkedIn:** <http://linkedin.com/in/ioannis-c-martakos-86172a134>

**Website:** <http://foodomics.chem.uoa.gr>

**Website:** <http://trams.chem.uoa.gr>

**Work:** Anastasiou Christomanou, Panepistimiopolis Zographou, 15772 Athens (Greece)

### WORK EXPERIENCE

**National and Kapodistrian University of Athens** – Athens, Greece

City: Athens | Country: Greece

#### Post Doctoral Researcher in Foodomics

[ 14/11/2024 – Current ]

Supervisor: Prof. Nikolaos Thomaidis

e-mail: [ntho@chem.uoa.gr](mailto:ntho@chem.uoa.gr)

<http://trams.chem.uoa.gr/> & <http://foodomics.chem.uoa.gr>

- Analytical Methods Development and Validation in food and food by-products, beverages and pharmaceutical samples.
- Sample Pretreatment (SPE, microwave, ultrasonic, LLExtraction, SLExtraction)
- High Performance Liquid Chromatography (RP, HILIC)
- Mass Spectrometry (QqQ, QTOF,)
- Chemometric Techniques (PCA/FA, CA, PLS-DA)
- International Standards (ISO 9001, 17025:2005)
- Metabolomics
- Lipidomics

**Laboratory of Analytical Chemistry, Dep. of Chemistry, National & Kapodistrian University of Athens** – Athens, Greece

City: Athens | Country: Greece

#### Chemical Analyst - Member of Professor Nikolaos Thomaidis' Research Group

[ 08/2017 – Current ]

Supervisor: Prof. Nikolaos Thomaidis

e-mail: [ntho@chem.uoa.gr](mailto:ntho@chem.uoa.gr)

### EDUCATION AND TRAINING

#### PhD in Analytical Chemistry

**National and Kapodistrian University of Athens** [ 19/11/2019 – 13/11/2024 ]

Field(s) of study: Natural sciences, mathematics and statistics: • Chemistry

PhD Thesis: "**Chemical Characterization and Identification of new Bioactive Compounds in Food and Food by-products by High Resolution Mass Spectrometry and Advanced Chemometrics Technique**"

Supervisor: Nikolaos S. Thomaidis, Professor, email: [ntho@chem.uoa.gr](mailto:ntho@chem.uoa.gr)

#### Master of Science in Chemical Analysis and Quality Control

**National And Kapodistrian University of Athens** [ 2016 – 2018 ]

City: Αθήνα | Country: Greece | Field(s) of study: Natural sciences, mathematics and statistics: • Chemistry |

Final grade: 8.93/10

Analytical Method Development and Validation, HPLC, RP-HPLC, GC, Mass Spectrometry, Chemometrics, Foodomics, Olive oil and olive products

Master Thesis: "Development and Validation of a method for the simultaneous determination of pigments, tocopherols and squalene in olive oil by HPLC-DAD"

Supervisor: Professor Nikolaos Thomaidis

## Bachelor of Science in Chemistry

**National and Kapodistrian University of Athens** [ 2010 – 2016 ]

City: Αθήνα | Country: Greece

Analytical Chemistry, Inorganic Chemistry, Organic Chemistry, Physical Chemistry

Undergraduate Thesis: "Study of the phenolic imprint of olive oils based on the geographical altitude by LC-QToF-MS"

Supervisor: Prof. Nikolaos Thomaidis, NKUA

## General Certificate of Secondary Education

**Nea Genia Ziridis, Private School** [ 2010 ]

City: Athens | Country: Greece

## LANGUAGE SKILLS

**Mother tongue(s):** Greek

**Other language(s):**

### English

**LISTENING C1 READING C1 WRITING C1**

**SPOKEN PRODUCTION C1 SPOKEN INTERACTION C1**

### German

**LISTENING B1 READING B2 WRITING B2**

**SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2**

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## SKILLS

Gmail / Computer Hardware Installation / Computer Hardware Troubleshooting / Research and analytical skills / Team-work oriented / Responsibility / Good listener and communicator / Microsoft Office (Windows, Word,Power Point,Excel) / Video conferencing (Cisco webex Meetings, Zoom , Big Blue Button) / Organizational and planning skills

## PUBLICATIONS

### Selected Publications in scientific peer-reviewed Journals and book chapters

1. **Martakos, I.**, Tzavellas, I., Dasenaki, M., & Thomaidis, N. Food Lipidomics: Development and application of a cutting-edge untargeted 4D HRMS workflow for the lipid profiling of food of animal origin. *Journal of Food Composition and Analysis*
2. Serrano-García I, **Martakos IC**, Olmo-García L, et al. Application of Liquid Chromatography-Ion Mobility Spectrometry-Mass Spectrometry-Based Metabolomics to Investigate the Basal Chemical Profile of Olive Cultivars Differing in Verticillium dahliae Resistance. *J Agric Food Chem*. Published online November 22, 2024. doi:10.1021/acs.jafc.4c07155
3. **Martakos, I.**, Kostakis, M., Dasenaki, M., & Thomaidis, N. (2023). Authenticity & Chemometrics of Olive Oil. In *Olive Oil: Chemistry, Bioactive Compounds, and Health Benefits* (pp. 37-60). CRC Press
4. Koulis, Georgios A. et al. 2022. "Thorough Investigation of the Phenolic Profile of Reputable Greek Honey Varieties: Varietal Discrimination and Floral Markers Identification Using Liquid Chromatography–High-Resolution Mass Spectrometry." *Molecules* 27(14): 1–17.
5. **Martakos, I.**; Katsianou, P.; Koulis, G.; Efstratiou, E.; Nastou, E.; Nikas, S.; Dasenaki, M.; Pentogennis, M.; Thomaidis, N. Development of Analytical Strategies for the Determination of Olive Fruit Bioactive Compounds Using UPLC-HRMS and HPLC-DAD. Chemical Characterization of Kolovi Lesvos Variety as a Case Study. *Molecules* **2021**, 26, 7182.

6. Natasa P. Kalogiouri, Evangelia Kritikou, **Ioannis C. Martakos**, Constantina Lazarou, Michalis Pentogennis and Nikolaos S. Thomaidis. Characterization of the phenolic fingerprint of Kolovi extra virgin olive oils from Lesvos with regard to altitude and farming system analyzed by UHPLC-QTOF-MS. *Molecules*, **2021**, 26, 5634
7. Evangelia Kritikou, Natasa P. Kalogiouri, Marios Kostakis, Dimitrios–Christos Kanakis, **Ioannis Martakos**, Constantina Lazarou, Michalis Pentogennis and Nikolaos S. Thomaidis. Geographical Characterization of Olive Oils from the North Aegean Region Based on the Analysis of Biophenols with UHPLC-QTOF-MS. *Foods*, **2021**, 10, 2102
8. 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
9. Dasenaki, M.E.; Drakopoulou, S.K.; Katsianou, P.A.; **Martakos, I.C.**; Thomaidis, N.S. Authentication of Olive Products with Liquid Chromatographic Techniques. In *Chromatographic and Related Separation Techniques in Food Integrity and Authenticity*, 10.1142/9781786349972\_0003 pp. 43-94
10. **Ioannis Martakos**, Marios Kostakis, Marilena Dasenaki, Michalis Pentogennis, 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, 3

## NETWORKS AND MEMBERSHIPS

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[ 2016 – Current ]

**Association of Greek Chemists**

## DRIVING LICENCE

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**Driving Licence:** B

## CONFERENCES AND SEMINARS

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### Conferences

1st, 2nd & 3rd White Minds, by White Space

11th Aegean Analytical Chemistry Days , AACD 2018, Chania, Crete, Greece, 25-29 Sept 2018

69th ASMS, Pennsylvania Conference Centre, Philadelphia, USA 31 October – 4 November 2021 Athens Conference on Advances in Chemistry (acac2022)", June 26 – July 1, 2022

10th International Symposium on RECENT ADVANCES IN FOOD ANALYSIS, September 6–9, 2022, Prague, Czech Republic

10th Greek Lipid Forum, November 25, 2022, Athens, Greece

1st Food Authenticity Workshop, November 2023, Athens, Greece

## PROJECTS

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[ 2017 – 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)**

<https://evoo-pvaigaiou.gr/>

[ 2017 – 2020 ]

**Emblematic action - The Olive Road (funding: Ministry of Education)**

[ 2018 – 2021 ]

**ELAION – Study and Exploitation of olive oil as innovative raw material for special industrial applications to baby food products**

[ 2019 – 2024 ]

**Omega 3-Nutricare – Research and development of high nutritional value anti-inflammatory functional foods, enriched in n-3 fatty acids sourced from Greek fisheries and farming byproducts.**

## PRESENTATIONS

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### Poster Presentations

1. Martakos, I. (2023, November). Utilizing Untargeted 4-D Lipidomics in combination with Chemometrics: A Robust Approach for Meat Cut Classification - Pork and Chicken Meat as a case study. Food Authenticity Workshop, Athens.
2. Martakos, I., Tzavellas, I., Dasenaki, M., Skoufos, I., Tzora, A., Proestos, C., & Thomaidis, N. (2022, November 25). Untargeted 4D Lipidomics combined with Chemometrics, as a reliable tool for the classification of pork meat cuts. Oral presentation at the 10th Greek Lipid Forum, Athens, Greece.
3. Martakos, I., Tzavellas, I., Dasenaki, M., Skoufos, I., Tzora, A., Proestos, C., & Thomaidis, N. (2022, September 6–9). Untargeted 4D Lipidomics combined with Chemometrics, as a reliable tool for the classification of pork meat cuts. 10th International Symposium on RECENT ADVANCES IN FOOD ANALYSIS, Prague, Czech Republic.
4. Tzavellas, I., Martakos, I., Skoufos, I., Tzora, A., Dasenaki, M., Gikas, E., & Thomaidis, N. (2022, September 6–9). Classification of Poultry Meat Cuts Based on Approach of Untargeted Lipidomic Analysis and Advanced Chemometrics. 10th International Symposium on RECENT ADVANCES IN FOOD ANALYSIS, Prague, Czech Republic.
5. Voudouri, A., Martakos, I., Thomaidis, N., & Dasenaki, M. (2022, June 26 – July 1). Method Development and Validation for The Determination of Phytosterols in Edible Oils. Athens Conference on Advances in Chemistry (acac2022).
6. Koulis, G. A., Katsianou, P. A., Martakos, I., Gialouris, P.-L., Aalizadeh, R., Dasenaki, M. E., Proestos, C., Thomaidis, N. S., & Baessman, C. (2021, October 31 – November 4). Botanical Type Discrimination Of Well-Known Greek Honey Varieties By Targeted And Untargeted Metabolomics Making Use of UPLC-QToF MS. 69th ASMS, Pennsylvania Conference Centre, Philadelphia, USA.
7. Martakos, I., Kanakis, D., Kostakis, M., Kalogiouri, N. P., Pentogennis, M., & Thomaidis, N. S. (2018, September 25-29). Development and comparison of two HPLC-DAD methodologies for the analysis of extra virgin olive oil's quality characteristics. 11th Aegean Analytical Chemistry Days (AACD 2018), Chania, Crete, Greece.
8. Kanakis, D., Martakos, I., Kostakis, M., Kalogiouri, N. P., Pentogennis, M., & Thomaidis, N. S. (2018, September 25-29). Development of Method for Determination of 1.2 Diacylglycerols in Extra Virgin Olive Oil with GC-MS/MS. 11th Aegean Analytical Chemistry Days (AACD 2018), Chania, Crete, Greece.

## PROFESSIONAL SKILLS

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### Professional Skills

Multi-tasking

Guidance and Teaching/Training Skills

## COMMUNICATION AND INTERPERSONAL SKILLS

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### Communication Skills

Excellent Communication skills

Communication skills acquired by Teaching and Training Undergraduate Students (Laboratory of Analytical Chemistry)

## ORGANISATIONAL SKILLS

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### Organisational and Leadership skills

Excellent team-working and leading

Problem Solving

Multi-tasking