



Athina N. Markou

Title: Assistant Professor of Analytical Chemistry

Sector: Analytical, Physical and Theoretical Chemistry (Sector I)

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Academic Qualifications:

- Postdoctoral researcher at the Laboratory of Analytical Chemistry (2009)
- Ph.D. in Chemistry (2008), Chemistry Dept., University of Athens (UoA)
- B.Sc. in Chemistry (2004), Chemistry Dept., UoA

Appointments:

- 2021: Assistant Professor, Chemistry Dept., UoA

Teaching Activities: (current)

Undergraduate courses :

- Instrumental Analysis II (course/lab), Dept of Chemistry
- Clinical Chemistry (course/lab), Dept of Chemistry and Pharmacy

Postgraduate courses

- Clinical Biochemistry-Molecular Diagnostics
- Oncology: From Oncogenesis to therapy
- Analytical Chemistry-Quality assurance

Research Interests/Activities: (last 10 years)

- Development and clinical applications of highly sensitive real time PCR methods for quantitative gene expression
- miRNAs detection
- Circulating Tumor Cells: Development of novel methods for their detection, numeration and molecular characterization
- Development of highly sensitive and specific assays for mutations detection
- Methylation of tumor suppressor genes
- Wastewater epidemiology
- Long non coding RNAs
- cfDNA: development of highly sensitive assays for mutations and methylation detection

Scientific Publications/Citations:

- 48 publications in refereed journals
- 6 book chapters
- 2249 citations (H-index =23)

Top five publications

- Zafeiriadou A, Kollias I, Londra T, Tsaroucha E, Georgoulis V, Kotsakis A, Lianidou E, Markou A. Metabolism-Related Gene Expression in Circulating Tumor Cells from Patients with Early Stage Non-Small Cell Lung Cancer. *Cancers (Basel)*. 2022 Jun 30;14(13):3237.
- Markou A, Londra D, Tserpeli V, Kollias I, Tsaroucha E, Vamvakaris I, Potaris K, Pateras I, Kotsakis A, Georgoulis V, Lianidou E. DNA methylation analysis of tumor suppressor genes in liquid biopsy components of early stage NSCLC: a promising tool for early detection. *Clin Epigenetics*. 2022 May 10;14(1):61. doi:10.1186/s13148-022-01283-x.
- Markou AN, Smilkou S, Tsaroucha E, Lianidou E. The Effect of Genomic DNA Contamination on the Detection of Circulating Long Non-Coding RNAs: The Paradigm of *MALAT1*. *Diagnostics (Basel)*. 2021 Jun 25;11(7):1160. doi:10.3390/diagnostics11071160.
- Markou A, Tzanikou E, Ladas I, Makrigiorgos GM, Lianidou E. Nuclease-Assisted Minor Allele Enrichment Using Overlapping Probes-Assisted Amplification- Refractory Mutation System: An Approach for the Improvement of Amplification-Refractory Mutation System-Polymerase Chain Reaction Specificity in Liquid Biopsies. *Anal Chem*. 2019 ;91:13105-13111.
- Markou A, Tzanikou E, Strati A, Zavridou M, Mastoraki S, Bournakis E, Lianidou E. *PIM-1* Is Overexpressed at a High Frequency in Circulating Tumor Cells from Metastatic Castration-Resistant Prostate Cancer Patients. *Cancers (Basel)*. 2020 ;12:1188.

Selected Distinctions:

- Award for one of the 5 most highly cited papers published in Lung Cancer. (2013)
- Award for one of the 10 most cited Articles in Clinical Chemistry (2013)
- Three awards in Annual Meeting of American Association of Cancer Research (2008,2011,2012)
- One national scholarship (IKY 2015)
- Funding for research project to support Postdoctoral researchers (HFRI 2017)

Projects and Academic Activities:

- Journal Referee for Analytical Chemistry, Clinical Chemistry and molecular Diagnostics Journal
- Guest editor in special issue of *Cancers*
- Principal Investigator in of the research project entitled: «Liquid biopsy for the early detection of clinical relapse in patients with operable early stage non-small cell lung cancer and evaluation of genetic heterogeneity»