



Penelope Ioannou

Title: Professor of Analytical Chemistry

Sector: Theoretical Chemistry, Physical Chemistry, Inorganic Analysis, Instrumental Analysis, Chemical Instrumentation and Chemical Engineering

Phone: +30 210 7274574 (office)

Fax: +30 210 7274750 (office); E-mail: ioannou@chem.uoa.gr;

<http://www.chem.uoa.gr/personel/Laboratories/AnalyticalChem/pdf/ioannou.pdf>

Academic Qualifications:

- Ph.D. in Chemistry (1973) Dept. of Chemistry, Leningrad University (Former USSR)
- M.Sc. in Chemistry, Tashkent University (Former USSR) (1969)

Appointments:

- April 2006 - 2013: Professor, Chemistry Department, University of Athens
- March 1999 - April 2006: Associate Professor, Chemistry Department, University of Athens
- February 1997 - September 1997: Visiting Researcher, Chemistry and Biochemistry Department, University of Windsor, Canada
- May 1990 – March 1999: Assistant Professor, Chemistry Department, University of Athens
- October 1982 - May 1990: Lecturer, Chemistry Department, University of Athens
- January 1982 – October 1982: Research Associate, Chemistry Department, University of Athens
- December 1973 - July 1980: Research Associate, Chemistry Department, University of Leningrad (former USSR)

Teaching Activities:

Undergraduate courses

- Analytical Chemistry I
- Analytical Chemistry II

Postgraduate courses

- Bioanalytical Techniques
- Molecular Diagnostics
- Molecular Emission Spectroscopy methods

Supervisor of 10 Ph.D. and 20 M.Sc. dissertations

Research Interests/Activities: (last 10 years)

- Nanotechnology and dry reagent rapid tests for nucleic acid analysis. Applications in molecular diagnostics
- Quantitative RT-PCR for the determination of molecular biomarkers
- Detection and quantitation of genetically modified organisms (GMOs) by means of PCR and hybridization assays
- Time-resolved fluorescence and chemiluminescence detection systems for nucleic acid high-throughput hybridization assays
- Expression and purification of recombinant photoproteins. Preparation of protein/protein and protein/DNA conjugates as labels in ultrasensitive hybridization assays

Scientific Publications/Citations:

- > 80 publications in refereed journals
- > 70 refereed conference publications
- > 1500 citations
- Co-author of two book chapters
- 5 National patents

Top five publications

- "Oligonucleotide-functionalized gold nanoparticles as probes in a dry-reagent strip biosensor for DNA analysis by hybridization", *Anal Chem*, 75 (2003) 4155, Glynou K, Ioannou PC, Christopoulos TK, Syriopoulou V.
- "Photoprotein Aequorin as a Novel Reporter for SNP Genotyping by Primer Extension – Application to the Variants of Mannose-Binding Lectin Gene", *Human Mutation*, 22 (2006) 166, Zerefos PG, Ioannou PC, Traeger-Synodinos J, Dimissianos G, Kanavakis E, Christopoulos TK.
- "Dry-Reagent Disposable Dipstick Test for Visual Screening of Seven Leukemia-Related Chromosomal Translocations", *Nucleic Acid Research*, 35 (2007):e23, Kalogianni DP, Bravou V, Christopoulos TK, Ioannou PC, and Zombos NC.
- "Quadruple-Analyte Chemiluminometric Hybridization Assay. Application to Double Quantitative Competitive Polymerase Chain Reaction", *Anal Chem*, 79 (2007) 9433, Elenis DS, Ioannou PC and Christopoulos TK.
- "Absolute Quantification of the Alleles in Somatic Point Mutations by Bioluminometric Methods based on Competitive Polymerase Chain Reaction in the Presence of a Locked Nucleic Acid Blocker or an Allele-Specific Primer", *Anal Chem*, 83(2011) 6545, Iliadi A, Petropoulou M, Ioannou PC, Christopoulos TK, Anagnostopoulos NI, Kanavakis E, Traeger-Synodinos J.

Other Activities:

- Participation in 14 research Projects
- Scientist in Charge in 10 Research Projects