ANTHONY TSARBOPOULOS, Ph.D.

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EMPLOYMENT AND EDUCATION

Current Academic Position:

2013 - to date: Associate Professor, University of Athens Medical School, Department of Pharmacology, Athens 115 27, Greece.

Previous Positions:

2009 - 2013: Professor, University of Patras, Department of Pharmacy, Patras 265 04, Greece.
2003 - 2009: Associate Professor, University of Patras, Department of Pharmacy, Patras 265 04, Greece.
1998 - to date: Director of Bioanalytical Department, GAIA Research Center, The Goulandris Natural History Museum, Kifissia 145 62, Greece.
1987 - 1998: Group Leader in the Department of Structural Chemistry at Merck/Schering-Plough Research Institute, New Jersey, USA.
1985 - 1987: Senior Postdoctoral Fellow & Research Assistant Professor, Mayo Clinic, Mayo Graduate School of Medicine, Department of Pharmacology, MN, USA.

Education and Qualification:

1985: **Ph.D., Analytical Chemistry,** Michigan State University, Department of Chemistry, East Lansing, MI, USA.
1980: **BSc in Chemistry,** University of Athens, Department of Chemistry, Athens, Greece.

TRAINING – RESEARCH INTERESTS

2003 - to date: Drug Metabolism, Pharmacokinetic and Bioequivalence Studies of Pharmaceutical Compounds. Identification of candidate biomarkers by Metabolomics MS approaches and MALDI Imaging MS.
2003 - to date: Detection and monitoring of noncovalent protein-ligand and protein-protein interactions under physiological conditions, which are responsible for certain diseases such as Alzheimer's Disease (AD). Mapping of these noncovalent complexes, identification of binding sites and design of novel inhibitors for AD.
1998 - 2003: Analysis and structure identification of bioactive compounds derived from natural products with methods based on chromatography and mass spectrometry. Development of analytical methodology for the detection, identification and monitoring of Estrogen Disruptors.
1987 - 1998: Analysis of Pharmaceutical Compounds, Natural Products and Biotechnology molecules with methods based on chromatography and mass spectrometry. Drug Metabolism and Pharmacokinetic studies of pharmaceutical compounds. Structure validation of recombinant protein products as part of the drug's submission procedures for FDA approval (IND, NDA and structure certificate

files). Detection and identification of post-translational modifications in recombinant proteins.

1985 - 1987: Training in advanced analytical techniques and development of methodologies for solving biomedical problems (Mayo Medical School). Writeup and submission of research proposals to US funding agencies (NIH). Teaching undergraduate and graduate special courses to Mayo Medical School students.

TEACHING

2013 - to date: Undergraduate course in Pharmacology/Pharmacokinetics, University of Athens Medical School, Athens, Greece.

2003 - 2013: Postgraduate (MSc) courses in:
- Modern methods of macromolecules analysis,
- Applied pharmaceutical analysis,
- Drug level assessment in biological samples

MSc Program, Department of Pharmacy, University of Patras, Patras, Greece.

2009 - 2013: Postgraduate course in the inter-departmental postgraduate program "Medicinal Chemistry: Design and Development of Pharmaceutical Products",
MSc Program, University of Patras, Patras, Greece.

2003 - 2013: Undergraduate courses in:
- Instrumental Pharmaceutical Analysis
- Organic Spectroscopy and Mass Spectrometry,
- Separation Techniques and Electrochemical Analysis

BSc Program, Department of Pharmacy, University of Patras, Patras, Greece.

1985 - 1987: Undergraduate and Graduate courses for Mayo Medical School students from the Departments of Pharmacology and Biochemistry, Mayo Clinic & Graduate School of Medicine, MN, USA. *Title:* "Advanced analytical techniques for structural analysis of pharmaceuticals and measurement of drug levels in biological fluids".

RESEARCH ACTIVITIES

Research Grants:
Participation in 20 Research projects funded by EU, National as well as Private Funding Agencies.

Invited Presentations:
Invited Presentations in US and European Universities (16), and International Conferences (18).

Scientific Societies:
American Chemical Society, American Society for Mass Spectrometry, Protein Society, Hellenic Proteomics Society, Hellenic Mass Spectrometry Society (Founding Member, President 2010-2012), Hellenic Pharmacology Society.

Manuscript Reviewer:
Analytical Chemistry, Biochemistry, Journal of American Society for Mass Spectrometry, Journal of Mass Spectrometry, Bioanalysis, Journal of Pharmaceutical and Biomedical Analysis (JPBA), European Respiratory Journal, Journal of Agricultural and Food Chemistry, Journal of Pharmacology and Pharmaceutical Science (JPPS), and ACS Symposium Series.

Publications in Refereed Scientific Journals: 85
Presentations in International Conferences: > 130
Independent Citations: >1400; h-index (ISI WOS®): **22**

SELECTED PUBLICATIONS

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1. E. Gikas, F.N. Bazoti, M. Katsimardou, D. Anagnostopoulos, K. Papanikolaou, I. Inglezos, A. Skoutelis, G. Daikos and **A. Tsarbopoulos**, "Determination of colistin A and colistin B in human plasma by UPLC-ESI high resolution tandem MS: Application to a pharmacokinetic study", *J. Pharm. Biomed. Analysis* **2013**, 83, 228-236.
2. F.N. Bazoti and **A. Tsarbopoulos**, "Post-translationally modified proteins: glycosylation and disulfide bond formation" chapter in the book entitled *"Characterization of Protein Therapeutics Using Mass Spectrometry"* (Chapter 4), Springer, New York, **2013**, 117-162.
3. E. Pittenauer, N.S. Koulakiotis, **A. Tsarbopoulos** and G. Allmaier, "In-Chain Neutral Hydrocarbon Loss from Crocin Apocarotenoid Ester Glycosides and the Crocetin Aglycon (*Crocus sativus L.*) by ESI Multistage MS", *J. Mass Spectrom.* **2013**, 48, 1299-1307.
4. **A. Tsarbopoulos** and F.N. Bazoti, "Post-Translationally Modified Proteins: Glycosylation, Phosphorylation, and Disulfide Bond Formation" in "*Protein and Peptide Mass Spectrometry in Drug Discovery*", Wiley, NY, **2012**, 321-369.
5. E. Gikas, F.N. Bazoti, P. Fanourgiakis, E. Perivolioti, A. Roussidis, A. Skoutelis and **A. Tsarbopoulos**, "Simultaneous Quantification of Daptomycin and Rifampicin in Plasma by Ultra Performance Liquid Chromatography: Application to a Pharmacokinetic Study", *J. Pharm. Biomed. Analysis* **2010**, 51, 901–906.
6. F.N. Bazoti, E. Gikas and **A. Tsarbopoulos**, "Simultaneous Quantification of Oleuropein and Its Metabolites in Rat Plasma by Liquid Chromatography Electrospray Ionization Tandem Mass Spectrometry", *Biomed. Chromatogr.* **2010**, 24, 506-515.
7. E. Gikas, F.N. Bazoti, P. Fanourgiakis, E. Perivolioti, A. Roussidis, A. Skoutelis and **A. Tsarbopoulos**, "Development and Validation of a UPLC-UV Method for the Determination of Daptomycin in Rabbit Plasma", *Biomed. Chromatogr.* **2010**, 24, 522-527.
8. F.N. Bazoti, J. Bergquist, K. Markides and **A. Tsarbopoulos**, "Localization of the Binding Site in the Non-Covalent Interaction between Amyloid-*β* Peptide (1-40) and Oleuropein Using Electrospray Ionization FTICR Mass Spectrometry", *J. Am. Soc. Mass Spectrom.* **2008**, 19, 1078-1085. (*Article illustrated in the cover page of the issue*).
9. F.N. Bazoti, J. Bergquist, K. Markides and **A. Tsarbopoulos***, "*Detection of the Non-Covalent Complex between Amyloid-*β* Peptide (1-40) and Oleuropein using Electrospray Ionization Mass Spectrometry", *J. Am. Soc. Mass Spectrom.* **2006**, 17, 568-575.
10. A.K. Ganguly, B.N. Pramanik, **A. Tsarbopoulos**, T.R. Covey, E. Huang and S.A. Fuhrman, "Mass Spectrometric Detection of the Noncovalent GDP-bound Conformational State of the Human H-Ras Protein", *J. Am. Chem. Soc.* **1992**, 114, 6559-6560. (*This publication was cited in the CHEMTRACKS-ORGANIC CHEMISTRY (**5**:386-388; 1992) as one of the **top** and most exciting, ground-breaking research articles).*
11. A.K. Ganguly, B.N. Pramanik, E. Huang, **A. Tsarbopoulos**, V.M. Girijavallabhan and S. Liberles, "Studies of the *Ras*-GDP and *Ras*-GTP Noncovalent Complexes by Electrospray Mass Spectrometry", *Tetrahedron* **1993**, 49 (36), 7985-7996. (*This paper was included in the special issue dedicated to Nobel Laureate Professor Sir Derek Barton).*