CURRICULUM VITAE

FOTIOS TSOPELAS

Assistant Professor of Analytical Chemistry

First Name:	Fotios
Last Name:	Tsopelas
Nationality:	Greek
Place of Birth:	Athens, Greece
Date of Birth:	February 12, 1976
Contact details:	School of Chemical Engineering, National Technical University of Athens, 9 Heroon Polytechniou Str., 157 73 Athens, Greece. Office: B1.106 Lab: B1. 108 E-mail: ftsop@central.ntua.gr
Personal webpage:	http://www.chemeng.ntua.gr/the_people/f.tsopelas
Orchid ID	https://orcid.org/0000-0001-6917-2028

EDUCATION

- 1999: Diploma in **Chemical Engineering**, National Technical University of Athens, Greece.
- 2004: BSc in **Pharmacy**, National and Kapodistrian University of Athens, Greece.
- 2007: Ph.D. thesis in **Analytical Chemistry**, "Separation and quantification of organometallic compounds in the environment- Speciation Analysis", NTUA, Greece.

WORKING EXPERIENCE

- 2019- Now: Assistant Professor in Analytical Chemistry.
- 2014- 2019: Lecturer in Analytical Chemistry, School of Chemical Engineering, NTUA, Greece.
- 2008-2014: Teaching staff in Technological Educational Institute of Athens and Technological Educational Institute of Piraeus.
- 1999-2014: Research and educational collaborator in Laboratory of Inorganic and Analytical Chemistry of NTUA.

TEACHING

Undergraduate courses

- *Analytical Chemistry*, School of Chemical Engineering, NTUA.
- *Instrumental Methods of Analysis*, School of Chemical Engineering, NTUA.
- *Pharmaceutical Chemistry and Technology*, School of Chemical Engineering, NTUA.
- *Modern Methods of Chemical Analysis*, School of Chemical Engineering, NTUA.

Postgraduate courses

Advanced Pharmaceutical Analysis I in Postgraduate Program "Pharmaceutical Analysis-Quality Control", Faculty of Pharmacy of the University of Athens.

Student Supervision:

Diploma Thesis:	56 (completed) + 5 (ongoing)
MSc Thesis	3 (completed) + 1 (ongoing)
Ph.D. (co-supervising).:	1 (completed)

RESEARCH AREAS

- Main fields: Analytical Chemistry: Liquid chromatography, Electroanalysis, Separation methods/ Sample pretreatment methods, Chemometrics.
- Biomimetic chromatographic techniques for the evaluation of pharmacokinetic properties (e.g. human oral absorption, protein binding, volume of distribution) and toxicological profile of candidate drugs as well as ecotoxicological profile of environmental pollutants (e.g. pesticides).
- Development of analytical methods for the detection and quantification of adulteration of foodstuffs (e.g. honey, olive oil) and identification of their geographical origin.

Publications in International Journals:	45
Contributions in Conferences	78 (64 International, 14 National)
Chapters in Books:	6

PUBLICATIONS IN SCIENTIFIC JOURNALS

1. K.M. Ochsenkühn, M. Ochsenkühn-Petropoulou, F. Tsopelas, L. Mendrinos, "Different behavior of organotin compounds by anodic stripping voltammetry and their quantification after partial ion-exchange separation", *Mikrochimica Acta*, 136 (2001) 129-135.
2. K.M. Ochsenkühn, M. Ochsenkühn-Petropoulou, F. Tsopelas, L. Mendrinos, "Separation of organotin compounds by ion-exchange chromatography and their determination by inverse voltammetry", *Fresenius Journal of Analytical Chemistry* 369 (2001) 633-637.
3. M. Ochsenkühn-Petropoulou, F. Tsopelas, "Speciation analysis of selenium using voltammetric techniques", *Analytica Chimica Acta* 467 (2002) 167-178.
4. M. Ochsenkühn-Petropoulou, F. Tsopelas, "Separation of organoselenium compounds and their electrochemical detection", *Analytical and Bioanalytical Chemistry* 379 (2004) 770-776.
5. F. Tsopelas, M. Ochsenkühn-Petropoulou, A. Tsantili-Kakoulidou, K.M. Ochsenkühn, "Study of the lipophilicity of selenium species", *Analytical and Bioanalytical Chemistry* 381 (2005) 420-426.
6. F. Tsopelas, M. Ochsenkühn-Petropoulou, I. Mergias, L. Tsakanika, "Comparison of ultra-violet and inductively coupled plasma- atomic emission spectrometry for the on-line quantification of selenium species after their separation by reversed-phase liquid chromatography", *Analytica Chimica Acta* 539 (2005) 327-333.
7. F. Tsopelas, A. Tsantili-Kakoulidou, M. Ochsenkühn-Petropoulou, "Investigation of the chromatographic behaviour of some selenium species- Comparison with their octanol-water partitioning", *Talanta* 73 (2007) 127-133.
8. F. Tsopelas, L.A. Tsakanika, M. Ochsenkühn-Petropoulou, "Extraction of arsenic species from airborne particulate filters- Application to an industrial area of Greece", *Microchemical Journal* 89 (2008) 165-170.
9. S. Gikas, F. Tsopelas, C. Giaginis, J. Dimitrakopoulos, T. Livadara, H. Archontaki, A. Tsantili- Kakoulidou, "Chromatographic behavior of zwitterionic enalapril-Exploring the conditions for lipophilicity assessment", *Journal of Pharmaceutical and Biomedical Analysis* 48 (2008) 739-743.
10. M. Ochsenkühn-Petropoulou, T. Lyberopoulou, R. Argyropoulou, F. Tsopelas, K.M. Ochsenkühn, "Chemical and structural characterization of airborne particulate matter in an industrial and an urban area in Greece", *Fresenius Environmental Bulletin* 18 (2009) 2210-2218.
11. F. Tsopelas, M. Ochsenkühn- Petropoulou, A. Tsantili- Kakoulidou, "Void volume markers in reversed-phase and biomimetic liquid chromatography", *Journal of Chromatography A* 1117 (2010) 2847-2854.
12. F. Tsopelas, A. Tsantili- Kakoulidou, M. Ochsenkühn- Petropoulou, "Biomimetic chromatographic analysis of selenium species: Application for the estimation of

their pharmacokinetic properties", *Analytical and Bioanalytical Chemistry* 397 (2010) 2171-2180.
13. F. Tsopelas, M. Ochsenkühn- Petropoulou, N. Zikos, E. Spyropoulou, I. Andreadou, A. Tsantili- Kakoulidou, "Electrochemical study of some non-steroidal anti-inflammatory drugs: Solvent effect and anti-oxidant activity", *Journal of Solid State Electrochemistry* 15 (2011) 1099-1108.
14. F. Tsopelas, M. Ochsenkühn-Petropoulou, A. Tsantili- Kakoulidou, "Exploring the elution mechanism of selenium species on liquid chromatography", *Journal of Separation Science* 34 (2011) 376-384.
15. M. Paraskevas, F. Tsopelas, M. Ochsenkühn- Petropoulou, "Determination of Pt and Pd in particles emitted from automobile exhaust catalysts using ion-exchange matrix separation and voltammetric detection", *Microchimica Acta* 176 (2012) 235-242.
16. O. Serifi, F. Tsopelas, A.M. Kypreou, M. Ochsenkühn- Petropoulou, P. Kefalas, A. Detsi, "Antioxidant behaviour of 2'-hydroxy-chalcones: a study of their electrochemical properties", *Journal of Physical Organic Chemistry* 26 (2013) 226-231.
17. F. Tsopelas, M. Ochsenkühn-Petropoulou, A. Tsantili- Kakoulidou, "Lipophilicity, biomimetic retention profile and antioxidant activity of selenium species", *Microchemical Journal* 110 (2013) 711-718.
18. F. Tsopelas, N. Malaki, Th. Vallianatou, M. Chrysanthakopoulos, D. Vrakas, M. Ochsenkühn- Petropoulou, A. Tsantili- Kakoulidou, "Insight into the retention mechanism on Immobilized Artificial Membrane Chromatography using two stationary phases", *Journal of Chromatography A* 1396 (2015) 25-33.
19. F. Tsopelas, Th. Vallianatou, A. Tsantili- Kakoulidou, "The potential of immobilized artificial membrane chromatography to predict human oral absorption", *European Journal of Pharmaceutical Sciences* 81 (2016) 82-93.
20. F. Tsopelas, Th. Vallianatou, A. Tsantili- Kakoulidou, "Advances in immobilized artificial membrane (IAM) chromatography for novel drug discovery", *Expert Opinion on Drug Discovery* 11 (2016) 473-488.
21. F. Tsopelas, C. Stergiopoulos, L.A. Tsakanika, M. Ochsenkühn- Petropoulou, A. Tsantili- Kakoulidou, "The use of immobilized artificial membrane chromatography to predict bioconcentration of pharmaceutical compounds", *Ecotoxicology and Environmental Safety* 139 (2017) 150-157.
22. F. Tsopelas, C. Giaginis, A. Tsantili- Kakoulidou, "Lipophilicity and biomimemtic properties to support drug discovery", *Expert Opinion on Drug Discovery* 12 (2017) 885-896.
23. F. Tsopelas, M. Tsagkrasouli, P. Poursanidis, M. Pitsaki, G. Vasios, P. Danias, I. Panderi, A. Tsantili- Kakoulidou, C. Giaginis, Retention behavior of flavonoids on immobilized artificial membrane chromatography and correlation with cell- based permeability, *Biomedical Chromatography* 32 (2018) 1-11.
24. K. Hatzilyberis, T. Lymperopoulou, L.A. Tsakanika, K.M. Ochsenkühn, P. Georgiou, N. Defteraios, F. Tsopelas, M. Ochsenkühn- Petropoulou, "Process design aspects for scandium- selective leaching of bauxite residue with sulfuric acid", *Minerals* 8 (2018) 79.

25. F. Tsopelas, D. Konstantopoulos, A. Tsantili- Kakoulidou, “Voltammetric fingerprinting of oils and its combination with chemometrics for the detection of extra virgin olive oil adulteration”, *Analytica Chimica Acta* 1015 (2018) 8-19.
26. F. Tsopelas, C. Stergiopoulos, A. Tsantili- Kakoulidou, “Immobilized artificial membrane chromatography: from medicinal chemistry to environmental sciences”, *ADMET & DMPK* 6 (2018) 225-241.
27. M. Ochsenkühn- Petropoulou, L.A. Tsakanika, T. Lymperopoulou, K.M. Ochsenkühn, K. Hatzilyberis, P. Georgiou, C. Stergiopoulos, O. Serifi, F. Tsopelas “Efficiency on Sulfuric Acid on selective scandium leachability from bauxite residue”, *Metals* 8 (2018) 915- 930.
28. C. Stergiopoulos, D. Makarouni, A. Tsantili- Kakoulidou, M. Ochsenkühn-Petropoulou, F. Tsopelas, “Immobilized artificial membrane chromatography as a tool for the prediction of ecotoxicity of pesticides”, *Chemosphere* 224 (2019) 128-139.
29. F. Tsopelas, A. Tsantili- Kakoulidou, “Advances with weak affinity chromatography for fragment screening”, *Expert Opinion on Drug Discovery* 14 (2019) 1125-1135.
30. P. Nikolaou, E. Deskoulidis, E. Topoglidis, A. Tsantili- Kakoulidou, “Application of chemometrics for detection and modeling of adulteration of fresh cow milk with reconstituted skim milk powder using voltammetric fingerprinting on a graphite/ SiO_2 hybrid electrode”, *Talanta* 206 (2020) 120223.
31. F. Tsopelas, P. Danias, A. Pappa, A. Tsantili-Kakoulidou, “Biopartitioning micellar chromatography under different conditions: Insight into the retention mechanism and the potential to model biological processes”, *Journal of Chromatography A* 1621 (2020) 461027.
32. K. Hatzilyberis, L.A. Tsakanika, T. Lymperopoulou, P. Georgiou, K. Kiskira, F. Tsopelas, K.M. Ochsenkühn, M. Ochsenkühn- Petropoulou, “Design of an advanced hydrometallurgy process for the intensified and optimized industrial recovery of scandium from bauxite residue”, *Chemical Engineering and Processing: Process Intensification* 155 (2020) 108015.
33. T. Kekes, M.C. Nika, F. Tsopelas, N.S. Thomaidis, C. Tzia, “Use of δ-manganese dioxide for the removal of acetaminophen from aquatic environment: Kinetic-thermodynamic analysis and transformation products identification”, *Journal of Environmental Chemical Engineering* 8 (2020) 104565.
34. C. Stergiopoulos, F. Tsopelas, K. Valko, “Prediction of hERG of drug discovery compounds using biomimetic HPLC measurements”, *ADMET and DMPK* 9(3) (2021) 191-207.
35. A. Katopodi, E. Tsotsou, T. Iliou, G.E. Deligiannidou, E. Pontiki, C. Kontogiorgis, F. Tsopelas, A. Detsi, “Synthesis, bioactivity, pharmacokinetic and biomimetic properties of multi-substituted coumarin derivatives”, *Molecules* 26(19) (2021) 5999.
36. C. Stergiopoulos, F. Tsopelas, K. Valko, M. Ochsenkühn- Petropoulou, “The use of biomimetic chromatography to predict acute aquatic toxicity of pharmaceutical compounds”, *Toxicological and Environmental Chemistry* 104 (2022) 1-19.

37. T. Vallianatou, F. Tsopelas, A. Tsantili- Kakoulidou, "Prediction Models for Brain Distribution based on biomimetic chromatographic data", *Molecules* 27 (2022) 3668.

38. K. Kiskira, T. Lymperopoulou, I. Lourentzatos, L.A. Tsakanika, C. Pavlopoulos, K. Papadopoulou, K.M. Ochsenkühn, F. Tsopelas, E. Chatzitheodoridis, G. Lyberatos, M. Ochsenkühn- Petropoulou, "Bioleaching of Scandium from Bauxite Residue using Fungus Aspergillus Niger", *Waste and Biomass Valorization* 14 (2023) 3377-3390.

39. C. Stergiopoulos, L.A. Tsakanika, M. Ochsenkühn-Petropoulou, A. Tsantili-Kakoulidou, F. Tsopelas, "Application of micellar chromatography to model ecotoxicity of pesticides. Comparison with immobilized artificial membrane chromatography and n-octanol- water partitioning", *Journal of Chromatography A* 1696 (2023) 463951.

40. T. Lymperopoulou, K. Balta- Brouma, L.A. Tsakanika, C. Tzia, A. Tsantili-Kakoulidou, "Identification of lentils (Lens culinaris Medik) from Eglouvi (Lefkada, Greece) based on rare earth elements profile combined with chemometrics", *Food Chemistry* 447 (2024) 138965.

41. A. Isleyen, S. Can, O. Cankur, M. Tunk J. Vogl, M. Koenig, M. Horvat, R. Jacimovic, T. Zuliani, V. Fajon, A. Jotanovic, L. Gazevic, M. Ochsenkühn-Petropoulou, F. Tsopelas, T. Lymberopoulou, L.A. Tsakanika, O. Serifi, K.M. Ochsenkühn, E. Bulska, A. Tomiak, E. Kurek, Z. Cakilbahce, G. Aktas, H. Altuntas, E. Basaran, B. Kisacik, Z. Gumus, "Certification of the total element mass fractions in UME EnvCRM 03 soil sample via a joint research project", *Accreditation and Quality Assurance* 29 (2024) 293-301.

42. O. Zografou, M. Gini, P. Fetfatzis, K. Granakis, R. Foskinis, M.I. Manousakas, I. Manousos, F. Tsopelas, E. Diapouli, E. Dovrou, C.N. Vasilakopoulou, A. Papayiannis, S.N. Pandis, A. Nenes, K. Eleftheriadis, "High-altitude aerosol chemical characterization and source identification: insights from the CALISHTO campaign", *Atmospheric Chemistry and Physics* 24 (2024) 8911-8926.

43. F. Tsopelas, T. Vallianatou, A. Tsantili- Kakoulidou, "Recent developments in the application of immobilized artificial membrane (IAM) chromatography to drug discovery", *Expert Opinion on Drug Discovery* 19 (2024) 1087-1098.

44. C. Stergiopoulos, F. Tsopelas, M. Ochsenkühn-Petropoulou, K. Vako, "Predicting the acute aquatic toxicity of organic UV filters used in cosmetic formulations", *ADMET and DMPK* 12 (2024) 781-796.

45. M. Liveri, A. Tsantili- Kakoulidou, F. Tsopelas, "Identification of white wine adulteration with apple juice and apple cider using cyclic voltammetry on a screen-printed electrode aided by chemometric analysis", *Journal of Food Composition and Analysis* 136 (2024) 106751.

CHAPTERS IN BOOKS

1. M. Chrysanthakopoulos, F. Tsopelas, A. Tsantili- Kakoulidou, "Biomimetic chromatography a useful tool in the drug discovery process" in E. Grunshka, N.

Grinberg (ed) “Advances in Chromatography”, Volume 51, pp. 91-126, 2013 (Print ISBN: 978-1-4665-6965-2, DOI: 10.1201/b15308-3.

2. M. Ochsenkühn- Petropoulou, F. Tsopelas, “Speciation analysis especially of tin and selenium in environmental matrices” (pp. 131-151) in B. Michalke “Metallomics: Analytical Techniques and Speciation Methods”, Wiley- VCH Publications, 2016 (ISBN: 978-3-527-33969-3).
3. G. Lambrinidis, F. Tsopelas, C. Giaginis, A. Tsantili- Kakoulidou, “QSAR/ QSPR modeling in the design of drug candidates with balanced pharmacodynamics and pharmacokinetic properties” In: K. Roy (ed) “Advances in QSAR modeling”, Springer, 2017 (ISBN: 978-3-319-56849-2).
4. C. Giaginis, F. Tsopelas, A. Tsantili- Kakoulidou, “The impact of lipophilicity in drug discovery: Rapid measurements by means of reversed- phase HPLC”, In: Th. Mavromoustakos, T.F. Kellici (ed) “Rational Drug Design”, Methods and Protocols, Springer Science+Business Media, Humana Press, New York, NY, pp. 217-228, 2018 (Print ISBN: 978-1-4939-8629-3, DOI: 10.1007/978-1-4939-8630-9).
5. T. Vallianatou, F. Tsopelas, A. Tsantili- Kakoulidou, “Modeling ADMET properties based on biomimetic chromatographic data” In: K.Roy (Editor) “Cheminformatics, QSAR and Machine Learning Applications for novel drug development”, Academic Press, Elsevier, 2023.
6. F. Tsopelas, A. Tsantili- Kakoulidou, “The QSAR paradigm to explore and predict aquatic toxicity”, In: K. Roy, “Chemometrics and Cheminformatics in Aquatic Toxicity”, J. Wiley and Sons publications, 2021, pp. 201-225, https://doi.org/10.1002/9781119681397.ch11.

RESEARCH PROJECTS

I. International Projects

- AEROMET II: Advanced aerosol metrology for atmospheric science and air quality (2020-2024).
- SCALE: Production of scandium compounds and scandium aluminum alloys from European metallurgical by-products (EC, Horizon 2020) (2016-2021).
- AEROMET: Aerosol Metrology for Atmospheric Science and Air Quality (EC, EURAMET) (2017-2020).
- Matrix Reference Material for Environmental Analysis, EMPIR, EURAMET (2015-2018).

II. National Projects

- ProtBioTox: Investigation of protein-drug interactions and their relation to aquatic toxicity and bioconcentration tendency in aquatic organisms, Basic Research Funding Program N.T.U.A. (2020- 2023).
- Chemical Analysis and Quality control of products, NTUA (2014-2017).

CONFERENCE ORGANIZATION

- *14th International Conference on Instrumental Methods of Analysis- Modern Trends and Applications, IMA 2023*, 17-20 September 2023, Chania, Greece (Chair).
- *12th International Conference on Instrumental Methods of Analysis- Modern Trends and Applications, IMA 2021*, Virtual Conference, 20-23 September 2021, Thessaloniki, Greece (Co-Chair).

Member of organizing and scientific committee

- *9th International Conference on Instrumental Methods of Analysis- Modern Trends and Applications, IMA 2015*, 20-24 September 2015, Kalamata, Greece.
- *10th International Conference on Instrumental Methods of Analysis- Modern Trends and Applications, IMA 2017*, 17-21 September 2017, Heraklion, Greece.
- *11th International Conference on Instrumental Methods of Analysis- Modern Trends and Applications, IMA 2019*, 22-25 September 2019, Ioannina, Greece.

REVIEW SERVICES

2020-2023: Associate Editor in *Microchimica Acta*, Springer

Reviewer of the Journals: Analytica Chimica Acta (Elsevier), Analytical and Bioanalytical Chemistry (Springer), Analytical Letters (Taylor & Francis), Atmospheric Chemistry and Physics (Copernicus), Central European Journal of Chemistry (Versita), Current Pharmaceutical Analysis (Bentham Science), Disease Markers (Hindawi), Electroanalysis (Wiley), Energy and Fuels (American Chemical Society), International Journal of Environmental Analytical Chemistry (Taylor & Francis), International Journal of Food Sciences and Nutrition (Informa), Journal of Separation Science (Wiley), Journal of Serbian Chemical Society (Serbian Chemical Society), Microchimica Acta (Springer).