Curriculum Vitae

Personal information

Surname / First names: **TSOTSOU, Georgia Eleni**

E-mail: georgiatsotsou@hotmail.com (personal address)

Teaching Experience

Dates	October 2008 to today
Occupation or position held	Department of Biomedical Sciences, University of West Attica
Main activities and responsibilities	**Lecturer of Clinical Chemistry Practicals** to 3rd year and 4th year students (equivalent to 198 hours/week for a semester), **Lecturer of Clinical Chemistry Theoretical Class** to 3rd and 4th year students (equivalent to 18 hours/week for a semester), **Lecturer of Biochemistry Practicals** (equivalent to 18 hours/week for a semester), **Lecturer of Organic and Inorganic Chemistry Practicals** (equivalent to 28 hours/week for a semester), **Lecturer of Cosmetology Practicals** (equivalent to 82 hours/week for a semester),
Occupation or position held	**Postgraduate Lecturer** have lectured on «HPLC principles and applications in clinical analysis « within the frame of the PostGraduate Course on « Biomedical Methods and Technology in Diagnosis» (3 semesters)
Occupation or position held	**Lifelong Training Course Lecturer** have lectured on «TLC principles and applications in clinical analysis» within the frame of a Lifelong Training Course (2 semesters)

Work experience

Dates	April 2012 to January 2019 (part-time)
Occupation or position held	**Research coordinator/ proposal writer and grant coordinator**
Main activities and responsibilities	Cosmetic formulation design and quality control, evaluation of new materials for cosmetics, writing research and investment proposals and coordinating research grants
Name and address of employer	Cosmetic S.P., Ioannou Metaxa 56, Koropi, GR-19400, Attica, Greece, http://www.cosmetic.com.gr
Type of business or sector	Small size company – Cosmetics, medical devices and food supplements formulation and production
Dates	October 2008 to December 2011
Occupation or position held	**In-licensing coordinator/ proposal writer and grant coordinator**
Main activities and responsibilities	Evaluating in-licensing/co-development/investment opportunities, writing research and investment proposals and coordinating research grants
Name and address of employer	Alapis S.A., Asklipiou 4, Kryoneri, GR-145 68, Attica, Greece http://www.alapis.eu
Type of business or sector	Large company – Pharmaceuticals and parapharmaceuticals
Dates	October 2007 to December 2007 and March 2008 to June 2008 (part-time)
Occupation or position held	**Senior Researcher**

Main activities and responsibilities	Worked part-time on cosmetic formulation design, stability/challenge testing of formulated cosmetics, microbiological control of finished cosmetic products
Name and address of employer	Cosmetic S.P., Kioutaheias 8-10, Vyronas GR-16231, Attica, Greece http://www.cosmetic.com.gr
Type of business or sector	Small size company – Cosmetics formulation and production
Dates	May 2005 to August 2007
Occupation or position held	**Project Manager/ proposal writer and grant coordinator**
Main activities and responsibilities	Set up a laboratory for basic cell culture and biocatalysis/biotransformation work, applied successfully for research grants, organised and carried out biocatalysis and biotransformation research projects (including QLK3-CT-2002-1930 grant)
Name and address of employer	Vioryl S.A., 28th km National Road Athens – Lamia, Afidnes GR-19014, Greece http://www.vioryl.gr
Type of business or sector	Medium size company – Fragrances, Flavors, Plant Protection, Biological Insect Control
Dates	March 2003 to October 2004
Occupation or position held	**Marie Curie Postdoctoral Fellow (HPMI_CT_2002_00209 grant)**
Main activities and responsibilities	- Expressed, purified, developed high-throughput activity assays, characterised and improved by directed evolution an enzyme for the production of antibiotics - Investigated a metabolic pathway for the production of a food aroma using LC/MS
Name and address of employer	Biocatalysis and Biotransformation group, Rhodia-Centre des Recherches de Lyon, Lyon, France http://www.rhodia.com
Type of business or sector	Worldwide Specialty Chemicals Group
Dates	June 2001 to January 2003
Occupation or position held	**Senior Project Specialist**
Main activities and responsibilities	Member of the assay development group. My work mainly involved setting up and running assays to follow transport, specific delivery and metabolism of potential pharmaceuticals and the development and implementation of LC/MS/MS-based assays to follow absorption, distribution, metabolism and excretion of novel chemical entities administered to experimental animals (lead identification and optimisation and preclinical phases).
Name and address of employer	Synovo GmbH (former Sympore GmbH), Paul Ehrlich Str. 15, D-72076 Tübingen, Germany
Type of business or sector	Startup company – Pharmaceutical Biotechnology

European Commission Expert Evaluator and Technical Advisor

Have participated in remote or on-site evaluations of about 300 research proposals and in monitoring or reviewing 4 funded-projects within the frame of **FP7 and H2020 calls**. I have also participated as Expert Evaluator in research proposal evaluations organized by relevant national bodies of Latvia, Germany and Cyprus.

Education and training

Dates	October 1997 to June 2001
Title of qualification awarded	**PhD in Biochemistry**: "Development of a rapid screening method for the activity of P450 BM3; directed evolution of P450 BM3 and screening for new substrates"'
Principal subjects/occupational skills covered	Enzymology, Biotechnology, Molecular Biology, Pharmacology, Biochemical Assay Development, Bioinformatics, Bioremediation
Name and type of organisation providing education and training	Section of Biomolecular Structure, Function and Bioinformatics, Department of Biochemistry, Imperial College London, London, UK (PhD supervisors: Dr G. Gilardi and Prof. A.E.G. Cass)
Level in national or international classification	3rd (academic ranking of European universities)
Dates	September 1996 to September 1997
Title of qualification awarded	**MSc in Environmental Science**. **Award with distinction**

Principal subjects/occupational skills covered	Ecology, Biodiversity and Sustainability, Environmental Modelling, Biotechnology and the Environment, Air and Water Pollution Management, Solid Waste Management, Environmental Impact Assessment
Name and type of organisation providing education and training	Graduate School of Environmental Studies, Strathclyde University, Glasgow, UK
Level in national or international classification	67th (academic ranking of UK universities)
Dates	September 1992 to September 1996
Title of qualification awarded	**First degree (Ptychio) in Chemistry (four-year program). Award with distinction** (1st rank in my year)
Principal subjects/occupational skills covered	Organic, Inorganic, Physical and Analytical Chemistry, Biochemistry, Environmental, Industrial and Food Chemistry. Specialisation in Biochemistry and Biotechnology (18 months). Final year research project in Bioinorganic Chemistry (12 months): "Synthesis and study of coordination compounds of Zn, Cd and Hg with anti-inflammatory drugs"
Name and type of organisation providing education and training	Department of Chemistry, Aristotle University of Thessaloniki, Thessaloniki, Greece

Personal skills and competences

Mother tongue(s): **Greek**

Self-assessment	Understanding				Speaking				Writing	
European level (*)	Listening		Reading		Spoken interaction		Spoken production			
English	C2	Proficient User	C2	Proficient User	C2	Proficient User	C2	Proficient User	C2	Proficient User
French	C1	Proficient User	C1	Proficient User	C1	Proficient User	C1	Proficient User	C1	Proficient User
German	A2	Basic User	A2	Basic User	A1	Basic User	A1	Basic User	A2	Basic User

(*) Common European Framework of Reference for Languages

Social skills and competences	-Flexibility and excellent ability to adapt to multinational/multicultural environments gained through my work experience in five European countries -Team spirit and excellent ability to work with people of various disciplines acquired through participating in research groups and collaborating strongly with other research teams, other professionals, providers, public officers all along my professional experience
Organisational skills and competences	-Good experience in project and people management (I have supervised >30 research projects of final year students or other staff members throughout my career) -Setting up a research laboratory (Vioryl S.A.) -Applying for fourteen research grants (Vioryl S.A, Alapis S.A., Cosmetic SP)- eight granted to the companies -Theoretical experience in team management gained through a **Short Course in Effective Management and Understanding Organisations** (School of Continuing Education, Birkbeck College, London, UK, from November 2003 to March 2004)
Technical skills and competences	- **Pharmacology**: Development of (fluorescent (FACS based-) and LC/MS based-) uptake assays of New Chemical Entities into yeast and blood cells. LC/MS -based DMPK analysis. Cytochrome P450 metabolism assays. ELISA. - **Molecular Biology**: Standard techniques including cloning and PCR in E.coli. Random mutant expression libraries in E.coli by error-prone PCR or by using a mutator strain. - **Protein Chemistry/Enzymology**: Standard techniques including protein expression in E.coli and in yeast; protein purification using chromatographic techniques, SDS-PAGE. Protein characterisation including enzyme affinity studies, enzyme kinetics, enzyme structure-activity relationship studies, enzyme inhibition studies.

	- **Biotechnology**: Improvement/modification of enzyme activity through directed evolution. Development of biotransformation/biocatalysis methods for the production of aromas. - **Chemistry/Chemical Analysis**: Simple inorganic and organic synthesis; inorganic nanocatalysis, compound purification and isolation techniques, UV/Vis, CD and IR spectroscopy, TLC, GC, qualitative and quantitative LC/MS/MS. Setup of a LC/MS system (Ion Trap). - **Cosmetics Formulation Design**: Formulation, stability and challenge testing of cosmetics. New ingredients evaluation (preservation efficacy, stability, antimicrobial spectrum, sensorial properties). **- Clinical Chemistry**: Elisas, Endpoint and Kinetic photometric methods for clinical molecules analysis (metabolites, hormones, xenobiotics). Use of Clinical Chemistry Automated Analysers. LC-UV analysis. -**Environmental Science**: Bioremediation tests. Improvement/modification of enzyme activity through directed evolution for bioremediation purposes. - **Functional Genomics**: Optimisation of heterologous protein expression in *E.coli,* investigation of protein activity. -Excellent **communication/writing and dissemination skills**
Other skills and competences	Tutoring: - Laboratory Demonstrator in Enzyme Kinetics and Protein Engineering Undergraduate Practicals (Biochemistry Department of Imperial College London) - Metabolism and Enzymology Tutorials (Biochemistry Department of Imperial College London)

List of publications

Journal Articles

https://scholar.google.com/citations?user=ZGp5ObgAAAAJ&hl=en

- Mazarakis A.P. and Tsotsou G.E. (2024). Smartphone-Based Colourimetric Detection of Methyl Red, Co (II), Uric Acid, and Topotecan after Pre-concentration onto a Hectorite Clay-Hydroxyethylcellulose Hybrid. *Curr. Anal. Chem.* 20 (6), 429-437 **Impact Factor= 2.37**

Tsotsou G.E. (2024).Extraction-free analysis in cosmetics by digital image colorimetry, illustrated by the quantification of urea, *Heliyon* 10 (3) **Impact Factor= 4.00**

- Tsotsou G.E, Tsara A.K. (2023). Extraction-free, in situ Analysis of Glucose in Cosmetic Formulations based on Digital Image Colourimetry by Smartphone. *J. Cosm. Sci.* 74
Impact Factor= 0.73

- Tsotsou GE, Mazarakis, AP (2023). Prospects and limitations of a clay-enabled pre-concentration method for spectrophotometric quantification. *Applied Clay Science* 233, 106829
Impact Factor= 5.91

- Tsotsou GE, Mavroeidis P, Georgiou JS (2022). Adsorption onto hybrid hectorite-hydroxyethyl cellulose composite as a pre-concentration method for the spectrophotometric quantification of a cationic organic molecule, irinotecan, *Applied Clay Science* 230, 106694 **Impact Factor= 5.91**

- Tsotsou GE, Potiriadi I (2022). A UV/Vis spectrophotometric methodology for quality control of stevia-based extracts in the food industry, *Food Control* 137, 108932 **Impact Factor= 6.65**

-Tsotsou GE, Gkotzamani P, Petro V, Argyropoulou A, Karkalousos P (2021). A simple, rapid and low-cost spectrophotometric method for irinotecan quantification in human plasma and in pharmaceutical dosage forms, *Analytical Methods* 13 (2), 258-266 **Impact Factor=3.53**

- Baccile N, Babonneau F, Banat IM, Ciesielska K, Cuvier AS, Devreese B, Everaert B, Lydon HL, Marchant M, Mitchell CA, Roelants R, Six L, Theeuwes E, Tsatsos G, Tsotsou G.E., Vanlerberghe B, Van Bogaert INA, and Wim Soetaert W (2017). Development of a Cradle-to-Grave Approach for Acetylated Acidic Sophorolipid Biosurfactants, *ACS Sustainable Chem. Eng*. 5, 1186.
Impact Factor=9.22

- Sideri A., Goyal A., Di Nardo G., Tsotsou G.E., and Gilardi G. (2013). Hydroxylation of non-substituted polycyclic aromatic hydrocarbons by cytochrome P450 BM3 engineered by directed evolution. *J. Inorg Biochem.* 120, 1. **Impact Factor=4.34**

- Tsotsou GE, Di Nardo G., Sadeghi S.J., Fruttero R., Lazzarato L., Bertinaria M., and Gilardi G. (2013). A Rapid Screening for Cytochrome P450 Catalysis on New Chemical Entities: Cytochrome P450 BM3 and 1,2,5-Oxadiazole Derivatives. *J. Biomol Screen.* 18, 211. **Impact Factor=2.11**

- Tsotsou,G.E., Sideri A., Goyal, A., Di Nardo,G. and Gilardi, G. (2012). Identification of mutant Asp251Gly/Gln307His of Cytochrome P450 BM3 for the generation of metabolites of Diclofenac, Ibuprofen and Tolbutamide, *Chem. Eur. J.* 18, 3582. **Impact Factor=5.02**

-Karousis, N., Tsotsou, G.E., Evangelista F., Rudolf, P., Ragoussis, N. and Tagmatarchis, N. (2008). Carbon nanotubes decorated with palladium nanoparticles: Synthesis, characterization and catalytic activity. *J. Phys. Chem. C* 112, 13463. **Impact Factor=4.18**

-Karousis, N., Tsotsou, G.E., Ragoussis, N. and Tagmatarchis, N. (2008). Catalytic activity of surfactant solubilised multi-walled carbon nanotubes decorated with palladium nanoparticles. *Diam. Relat. Mater.* 17, 1582. **Impact Factor=3.81**

- Tsotsou, G.E. and Barbirato, F. (2007). Biochemical characterisation of a recombinant Streptomyces pristinaespiralis L-Lysine cyclodeaminase. *Biochimie* 89, 591 **Impact Factor=4.37**

- Tsotsou, G.E., Cass, A.E.G. and Gilardi, G. (2002). High-throughput assay for cytochrome P450 BM3 for screening libraries of substrates and combinatorial mutants. *Biosens. Bioelectron.* 17, 119
Impact Factor= 12.55

- Gilardi, G., Meharrena,Y., Tsotsou, G.E. *et al*., (2002). Molecular Lego: Design and molecular assemblies of P450 enzymes for nanobiotechnology. *Biosens. Bioelectron.* 17, 133
Impact Factor= 12.55

- Dendrinou-Samara, C., Tsotsou, G.E. *et al*., (1998). Anti-inflammatory drugs interacting with Zn(II), Cd(II) and Pt(II) metal ions. *J. Inorg. Biochem.* 71, 171 **Impact Factor=4.34**

Total citations: 969
h-index=12
i-index=13

Books

- Sadeghi, S., Tsotsou, G.E. *et al*., (2001). Rational design of P450 enzymes for biotechnology. In: Focus on biotechnology: physics and chemistry basis of biotechnology. Vol VI, Kluwer academic publisher

- -Καρκαλούσος, Π., Γεωργίου, Ζ., Κρούπης, Χ., Παπαϊωάννου, Ά., Πλαγεράς, Π., Σπυρόπουλος, Β., Τσότσου, Γ.Ε., Φούντζουλα, Χ. 2015. Εργαστηριακές ασκήσεις κλινικής χημείας. (**Clinical chemistry Practicals (e-book**)).[ηλεκτρ. βιβλ.] Αθήνα: Σύνδεσμος Ελληνικών Ακαδημαϊκών Βιβλιοθηκών. Available at: http://hdl.handle.net/11419/5382

Patents

- Sympore GmbH (2003) International Patent No. WO03070173: Conjugates of biologically active compounds, methods for their preparation and use, formulation and pharmaceutical applications thereof

- Sympore GmbH (2003) International Patent No. WO03070174: Conjugates of biologically active compounds, methods for their preparation and use, formulation and pharmaceutical applications thereof

- Sympore GmbH (2002) International Patent No. WO03038092: Method for identifying transport proteins

- Tsotsou G.E. et al., (2001) International Patent No. WO0157236: Development of an assay for NAD(P)H-dependent oxidoreductase activity

Supervision Experience

- Supervision of twenty (20) diploma/graduate theses during my work at the University of West Attica as a Laboratory/Research Associate or Academic Scholar. Among them there were six (6) research dissertations that led to the publication of four (4) articles in peer-reviewed international scientific journals, one (1) article in a non-peer-reviewed Greek scientific journal and the presentation of two (2) posters in Greek conferences.

- Supervision of a two-month summer internship of two (2) undergraduate students of Princeton University, US, during my employment at the University of West Attica as a Laboratory/Research Associate or Academic Scholar. One (1) article publication in an international peer-reviewed scientific journal resulted.

- Supervision of about ten (10) visiting students during my employment in the industrial and academic sector in various European countries.

Research Grants

- Have actively participated in several EU-funded projects (contracts HPMI_CT_2002_00209, QLK3-CT-2002-1930, FP7-KBBE-2007-212239, FP7-NMP-2011-280676, FP7-NMP-2011-280604, FP7-KBBE-2011-289219), one of which as a Marie Curie Industrial Fellow, and in two national research projects (PAVET 2005).
- Have applied for fourteen research grants for Vioryl S.A., Alapis S.A, Cosmetic SP – The following eight have been granted to the companies:

- Vioryl S.A. (2005) Production of aliphatic linear lactones, food aroma components, via microbial and/or enzymatic pathways (General Secretariat of Research and Technology, Greece – PAVET 2005)

- Vioryl S.A. (2005) Use of peptides for the production of metal nanoparticles and study of their catalytic properties (General Secretariat of Research and Technology, Greece – PAVET 2005)

- Alapis S.A. (2009) A systems approach into the production of plant and algal diterpenes with high industrial and pharmaceutical value (General Secretariat of Research and Technology, Greece – SYNERGASIA 2009)

- Alapis S.A. (2009) Targeted diagnosis of prostate cancer by using nanoparticles and Magnetic Resonance Tomography (General Secretariat of Research and Technology, Greece – SYNERGASIA 2009)

- Alapis S.A. (2009) Synthesis of polymeric nanocarriers for targeted delivery of antigens into dendritic cells (General Secretariat of Research and Technology, Greece – SYNERGASIA 2009)

- Alapis S.A. (2009) Development of novel molecules for treating Alzheimer's disease (General Secretariat of Research and Technology, Greece – SYNERGASIA 2009)

- Alapis S.A. (2011) Design, development and application of new carriers for multi-targeted inhibitors in human glioblastoma cells, disease (General Secretariat of Research and Technology, Greece – SYNERGASIA 2011)

- Alapis S.A. (2011) Development of novel biodegradable and multifunctional packages by nanotechnology: improvement of structural and barrier properties, smart features and sustainability- still under negotiation (FP7-NMP4-LA-2012-280676)

Scholarships

March 2003 to October 2004: **Post-Doctoral Marie Curie Industrial Host Fellowship (European Union)**

September 1997-September 2000: **National Foundation of Scholarships (of Greece) 4-year Scholarship** for conducting postgraduate studies abroad.

September 1993-September 1996: **National Foundation of Scholarships (of Greece) 3 individual Scholarships** for having acquired the highest mark among peers for each successive year of graduate studies

Conferences

KRAKÓW 2024,

- International Congress on natural products research **poster presentation**, July 13-17 2024, Krakow, Polland

- 17th Panhellenic Clinical Chemistry Conference **poster presentation**, 21-23 November 2019, Athens, Greece **Best poster award**

- 16th Panhellenic Clinical Chemistry Conference -**poster presentation**, 11-13 October 2018, Alexandroupolis, Greece

- DIAMOND 2007 - 18th European Conference on Diamond, Diamond-Like Materials, Carbon Nanotubes and Nitrides – **poster presentation**, 9-14 September 2007, Berlin, Germany.

- 2nd Panhellenic Organic Chemistry Symposium – poster presentation, 19-21 April 2007, Athens, Greece

– 'BIOTRANS 2005 - 7th International Symposium on Biocatalysis and Biotransformations- **poster presentation**, 3-8 July 2005, Delft, Netherlands

- ''Biocatalysis in Industrial Synthesis and in Fine Chemistry'' meeting – passive participation- CPE Lyon, 3 November 2003, Lyon, France.

- 18th European Workshop on Drug Metabolism – passive participation, University of Valencia, 16-20 September 2002, Valencia, Spain.

- Biotechnology Young Entrepreneurs Scheme Competition- **presentation of a biotechnology-based business idea**, November 2000, Nottingham, UK.

- Retreat of the Department of Biochemistry of Imperial College – **poster presentation,** Imperial College, 30 March 2000, London, UK. **Best poster award among 200 PhD students of biochemistry Department, Imperial College, London**

- International Conference on Protein Engineering and Electron Transfer- **poster presentation,** Science Museum and Imperial College, 5 November 1997, London, UK.