

Curriculum Vitae

Maria E. Tsoumani, Biologist, MSc, PhD

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Education and Training

Postdoctoral Researcher, Department of Pharmacy, National and Kapodistrian University of Athens

02/2017 – 02/2022

PhD in Chemistry (Biochemistry – Clinical Chemistry), University of Ioannina, with distinction
2012 – 2015

Thesis: Platelet activation in patients with cardiovascular disease. Investigation of novel markers for assessing the efficacy of antiplatelet agents.

MSc in Clinical Biochemistry and Immunochemistry – Microbial Biotechnology, University of Ioannina, with distinction

2009 – 2011

Thesis: Effect of ADP receptor P2Y₁₂ inhibitors on platelet activation in patients with coronary artery disease.

BSc in Biology, University of Patras, specialization in Genetics, Cellular-Molecular Biology and Physiology

2004 – 2009, Grade: Very Good

Thesis: Epidemiological study of dermatophytoses.

Professional Experience

Biology Teacher – Secondary Education

09/2023 – Present

Participation in ERASMUS program: European Challenges in Gene Editing by CRISPR

Research Associate, National and Kapodistrian University of Athens / Research Committee
2017 – 2022

Projects included:

- Valorization of wine-making by-products and vine parts for the development of an innovative dietary supplement targeting venous insufficiency.
- Exploitation of natural products of Greek biodiversity.
- Preparation and study of plant extracts. Analysis and identification of bioactive substances.

Research Associate, University of Ioannina – Atherothrombosis Research Centre
2012 – 2016

Projects included:

- Comparative study of the efficacy and safety of triflusal vs. aspirin in cardiovascular patients (ASTERIAS study).
- Incidence of atherothrombotic disease in Piraeus and island regions and its treatment (AEGEAN study).
- Usefulness of generic antiplatelet drugs in cardiovascular disease (SCIENCE study).
- Investigation of new biomarkers for antiplatelet drug resistance and development of novel agents.

Teaching Experience

Academic Fellow, Department of Biomedical Sciences, University of West Attica
2018 – 2023

Teaching in courses of Parasitology and Immunology, both lectures and laboratory practice.

Teaching Assistant, Department of Chemistry, University of Ioannina
2011 – 2015

Teaching support in Biochemistry and Clinical Chemistry laboratory courses.

Skills

- Expertise in laboratory techniques in Biochemistry, Immunology, Clinical Chemistry, Analytical Chemistry and Microbiology.
- Licensed animal experiment handler (LAS EU Functions Course A–D).
- Data statistical analysis.
- Grant writing and submission for funding.
- Administrative support of research projects.
- Training of undergraduate and postgraduate students.
- Clinical trials organization (Phase IV).

- Languages: English (Proficiency, teaching license), French (DELF).
- IT: Cambridge International Diploma in ICT.

Grants, Scholarships and Awards

- EU-Cardioprotection COST Program and DAAD scholarship for short-term research at Institute of Pathophysiology, Essen, Germany.
- 3-year PhD scholarship from the Hellenic Atherosclerosis Society.
- 2-year MSc scholarship from the Hellenic Atherosclerosis Society.
- Five Best Oral/Poster Presentation Awards in scientific conferences.
- Best Published Article Award (2011) for the study: 'Epidemiology of dermatophytoses in Southwestern Greece.'

Publications

46 peer-reviewed international publications (h-index: 22, citations: 1389)
7 publications in Greek biomedical journals
2 book chapters (1 monograph)
65 oral and poster presentations in national and international conferences
Invited speaker at one international and three national conferences

Memberships

- European Atherosclerosis Society
- Hellenic Atherosclerosis Society & Institute for Thrombosis and Antithrombotic Therapy (I.M.E.TH.A.)
- Panhellenic Union of Bioscientists
- Hellenic Society of Pharmacology and Clinical Pharmacology
- Hellenic Diabetes Association

Appendix: Full List of Publications

1. Tsoumani M, Jelastopulu E, Bartzavali C, Vamvakopoulou S, Dimitracopoulos G, Anastassiou ED, et al. Changes of Dermatophytoses in Southwestern Greece: An 18-Year Survey. *Mycopathologia*. 2011;172:63–7.
2. Tselepis A, Tsoumani ME, Kalantzi KI, Dimitriou AA, Tellis CC, Goudevenos IA. Influence of high-density lipoprotein and paraoxonase-1 on platelet reactivity in patients with acute coronary syndromes receiving clopidogrel therapy. *J Thromb Haemost*. 2011;9:2371–8.
3. Tsoumani ME, Kalantzi KI, Dimitriou AA, Ntalas IV, Goudevenos IA, Tselepis AD. Platelet-Mediated Inflammation in Cardiovascular Disease. Potential Role of Platelet-Endothelium Interactions. *Curr Vasc Pharmacol*. 2012;10:539–49.
4. Tsoumani ME, Kalantzi KI, Dimitriou AA, Ntalas IV, Goudevenos IA, Tselepis AD. Effect of clopidogrel besylate on platelet reactivity in patients with acute coronary syndromes. Comparison with clopidogrel hydrogen sulfate. *Expert Opin Pharmacother*. 2012;13.
5. Tsoumani ME, Kalantzi KI, Dimitriou AA, Ntalas IV, Goudevenos IA, Tselepis AD. Antiplatelet Efficacy of Long-Term Treatment With Clopidogrel Besylate in Patients With a History of Acute Coronary Syndrome: Comparison With Clopidogrel Hydrogen Sulfate. *Angiology*. 2011;63:547–51.
6. Kalantzi KI, Tsoumani ME, Goudevenos IA, Tselepis AD. Pharmacodynamic properties of antiplatelet agents: current knowledge and future perspectives. *Expert Rev Clin Pharmacol*. 2012;5:319–36.
7. Tzakos AG, Kontogianni VG, Tsoumani M, Kyriakou E, Hwa J, Rodrigues FA, et al. Exploration of the antiplatelet activity profile of betulinic acid on human platelets. *J Agric Food Chem*. 2012;60:6977–83.
8. Tsoumani ME, Kalantzi KI, Goudevenos IA, Tselepis AD. Clopidogrel generic formulations in the era of new antiplatelets: a systematic review. *Curr Vasc Pharmacol*. 2014;12:766–77.
9. Tsoumani ME, Ntalas IV, Goudevenos IA, Tselepis AD. Evaluating the bioequivalence of clopidogrel generic formulations. *Curr Med Res Opin*. 2015;31:861–4.
10. Ntalas IV, Kalantzi KI, Tsoumani ME, Vakalis J, Vasilakopoulos V, Vardakis K, et al. Generic Clopidogrel Besylate in the Secondary Prevention of Atherothrombotic Events: A 6-month Follow-up of a Randomised Clinical Trial. *Curr Vasc Pharmacol*. 2015;13:809–18.
11. Ntalas IV, Kalantzi KI, Tsoumani ME, Bourdakis A, Charmpas C, Christogiannis Z, et al. Salts of Clopidogrel: Investigation to Ensure Clinical Equivalence: A 12-Month Randomized Clinical Trial. *J Cardiovasc Pharmacol Ther*. 2016;21:516–25.

12. Tsoumani ME, Kontogianni VG, Kellici TF, Mavromoustakos T, Gerothanassis IP, Tselepis AD, et al. Deconvoluting the Dual Antiplatelet Activity of a Plant Extract. *J Agric Food Chem*. 2016;64:4511–21.
13. Tsoumani ME, Tatsidou PT, Ntalas IV, Goudevenos JA, Tselepis AD. Dynamic platelet adhesion in patients with an acute coronary syndrome: The effect of antiplatelet therapy. *Platelets*. 2016;27:812–20.
14. Tsoumani ME, Tselepis AD. Antiplatelet Agents and Anticoagulants: From Pharmacology to Clinical Practice. *Curr Pharm Des*. 2017;23:1279–93.
15. Stylos E, Chatziathanasiadou MV, Tsailanis A, Kellici TF, Tsoumani M, Kostagianni AD, et al. Tailoring naringenin conjugates with amplified and triple antiplatelet activity profile: Rational design, synthesis, human plasma stability and in vitro evaluation. *Biochim Biophys Acta*. 2017;1861:2609–18.
16. Tzimas P, Tsoumani M, Giannakis D, Kalantzi K, Petrou A, Chantzichristos V, et al. Clopidogrel Therapy in Patients with Cardiovascular Disease Undergoing Transurethral Resection of the Prostate: A Step Towards Individualization. *Drugs and Aging*. 2017;34:917–23.
17. Kouvari M, Patsourakos NG, Kotidis A, Chantanis S, Fousas S, Kalantzi K, Tsoumani M, et al. Recurrent events among Acute Coronary Syndrome patients: Gender-specific analysis from Aegean-Islands study. *Hell J Atheroscler*. 2018;9:80–9.
18. Kalantzi KI, Ntalas IV, Chantzichristos VG, Tsoumani ME, Adamopoulos D, Asimakopoulos C, et al. Comparison of Triflusal with Aspirin in the Secondary Prevention of Atherothrombotic Events; A Randomised Clinical Trial. *Curr Vasc Pharmacol*. 2018;17:635–43.
19. Tatsidou PT, Chantzichristos VG, Tsoumani ME, Sidiropoulou S, Ntalas IV, Goudevenos JA, et al. Circulating progenitor cells and their interaction with platelets in patients with an acute coronary syndrome. *Platelets*. 2019;30:314–21.
20. Efentakis P, Kremastiotis G, Varela A, Nikolaou PE, Papanagnou ED, Davos CH, Tsoumani M, et al. Molecular mechanisms of carfilzomib-induced cardiotoxicity in mice and the emerging cardioprotective role of metformin. *Blood*. 2019;133.
21. Ikonomidis I, Pavlidis G, Katsimbri P, Andreadou I, Triantafyllidi H, Tsoumani M, et al. Differential effects of inhibition of interleukin 1 and 6 on myocardial, coronary and vascular function. *Clin Res Cardiol*. 2019;108:1093–101.
22. Ikonomidis I, Frogoudaki A, Vrettou AR, Andreou I, Palaodimou L, Katogiannis K, Tsoumani M, et al. Impaired Arterial Elastic Properties and Endothelial Glycocalyx in Patients with Embolic Stroke of Undetermined Source. *Thromb Haemost*. 2019;119:1860–8.

23. Makavos G, Ikonomidis I, Andreadou I, Varoudi M, Kapniari I, Loukeri E, Theodoropoulos K, Pavlidis G, Triantafyllidi H, Thymis J, Parissis J, Tsoumani M, et al. Effects of Interleukin 17A Inhibition on Myocardial Deformation and Vascular Function in Psoriasis. *Can J Cardiol*. 2020;36:100–11.
24. Patsourakos NG, Kouvari M, Kotidis A, Kalantzi KI, Tsoumani ME, Anastasiadis F, et al. The incidence of recurrent cardiovascular events among acute coronary syndrome patients treated with generic or original clopidogrel in relation to their sociodemographic and clinical characteristics. The Aegean study. *Arch Med Sci*. 2020;16:1013–21.
25. Tsoumani ME, Kantarakia C, Galanos A, Mathioudakis AG, Giannoulaki E, Beloukas A, et al. Comparison of the level of awareness about the transmission of echinococcosis and toxocariasis between pet owners and non-pet owners in Greece. *Int J Environ Res Public Health*. 2020;17:1–13.
26. Ikonomidis I, Katogiannis K, Kyriakou E, Taichert M, Katsimaglis G, Tsoumani M, et al. β -Amyloid and mitochondrial-derived peptide-c are additive predictors of adverse outcome to high-on-treatment platelet reactivity in type 2 diabetics with revascularized coronary artery disease. *J Thromb Thrombolysis*. 2020;49:365–76.
27. Nikolaou PE, Efentakis P, Abu Qourah F, Femminò S, Makridakis M, Kanaki Z, Varela A, Tsoumani M, et al. Chronic Empagliflozin Treatment Reduces Myocardial Infarct Size in Nondiabetic Mice through STAT-3-Mediated Protection on Microvascular Endothelial Cells and Reduction of Oxidative Stress. *Antioxid Redox Signal*. 2021;34:551–71.
28. Ikonomidis I, Katogiannis K, Kostelli G, Kourea K, Kyriakou E, Kypraiou A, Tsoumani M, et al. Effects of electronic cigarette on platelet and vascular function after four months of use. *Food Chem Toxicol*. 2020;141:111389.
29. Ikonomidis I, Pavlidis G, Katsimbri P, Lambadiari V, Parissis J, Andreadou I, Tsoumani M, et al. Tocilizumab improves oxidative stress and endothelial glycocalyx: A mechanism that may explain the effects of biological treatment on COVID-19. *Food Chem Toxicol*. 2020;145:111694.
30. Andreadou I, Tsoumani M, Vilahur G, Ikonomidis I, Badimon L, Varga ZV, et al. PCSK9 in Myocardial Infarction and Cardioprotection: Importance of Lipid Metabolism and Inflammation. *Front Physiol*. 2020;11:1–11.
31. Tsoumani M, Georgoulis A, Nikolaou PE, Kostopoulos IV, Dermintzoglou T, Papatheodorou I, et al. Acute administration of the olive constituent, oleuropein, combined with ischemic postconditioning increases myocardial protection by modulating oxidative defense. *Free Radic Biol Med*. 2021;166:18–32.
32. Triantafyllou C, Nikolaou M, Ikonomidis I, Bamias G, Kouretas D, Andreadou I, Tsoumani M, et al. Effects of anti-inflammatory treatment and surgical intervention on endothelial glycocalyx,

peripheral and coronary microcirculatory function and myocardial deformation in inflammatory bowel disease patients: A two-arms two-stage clinical trial. *Diagnostics*. 2021;11:1–20.

33. Ikonomidis I, Vlastos D, Kostelli G, Kourea K, Katogiannis K, Tsoumani M, et al. Differential effects of heat-not-burn and conventional cigarettes on coronary flow, myocardial and vascular function. *Sci Rep*. 2021;11:1–14.

34. Lambadiari V, Mitrakou A, Kountouri A, Thymis J, Katogiannis K, Korakas E, Varlamos C, Andreadou I, Tsoumani M, et al. Association of COVID-19 with impaired endothelial glycocalyx, vascular function and myocardial deformation four months after infection. *Eur J Heart Fail*. 2021.

35. Lambadiari V, Thymis J, Kouretas D, Skaperda Z, Tekos F, Kousathana F, Kountouri A, Balampanis K, Parissis J, Andreadou I, Tsoumani M, et al. Effects of a 12-Month Treatment with Glucagon-like Peptide-1 Receptor Agonists, Sodium-Glucose Cotransporter-2 Inhibitors, and Their Combination on Oxidant and Antioxidant Biomarkers in Patients with Type 2 Diabetes. *Antioxidants*. 2021;10(9):1379.

36. Englezopoulos KV, Stathopoulou EM, Moussis V, Chantzichristos VG, Papamichael ND, Tatsidou PT, Roussa VD, Tsoumani ME, et al. The administration of the synthetic peptide YMESRADR with a low aspirin dose significantly augments its antiplatelet effect. *Hellenic J Cardiol*. 2022.

37. Tsoumani M, Nikolaou PE, Argyropoulou A, Tseti I, Mitakou S, Andreadou I. Novel Evidence-Based Combination of Plant Extracts with Multitarget Mechanisms of Action for the Elimination of Hot Flashes during Menopause. *Molecules*. 2022;27(4).

38. Raphael Lieder H, Tsoumani M, Andreadou I, Schrör K, Heusch G, Kleinbongard P. Platelet-Mediated Transfer of Cardioprotection by Remote Ischemic Conditioning and Its Abrogation by Aspirin But Not by Ticagrelor. *Cardiovasc Drugs Ther*. 2022.

39. Voyiatzaki C, Papailia SI, Venetikou MS, Pouris J, Tsoumani ME, Papageorgiou EG. Climate Changes Exacerbate the Spread of *Ixodes ricinus* and the Occurrence of Lyme Borreliosis and Tick-Borne Encephalitis in Europe. *Int J Environ Res Public Health*. 2022;19(11):6516.

40. Ikonomidis I, Pavlidis G, Tsoumani M, Kousathana F, Katogiannis K, Tsilivarakis D, Thymis J, et al. Endothelial Dysfunction Is Associated with Decreased Nitric Oxide Bioavailability in Dysglycaemic Subjects and First-Degree Relatives of Type 2 Diabetic Patients. *J Clin Med*. 2022;11(12):3299.

41. Papachristoforou E, Kountouri A, Maratou E, Kouretas D, Skaperda Z, Tsoumani M, et al. Association of Hypoglycemia with Biomarkers of Oxidative Stress and Antioxidants: An Observational Study. *Healthcare*. 2022;10(8):1509.

42. Ikonomidis I, Katogiannis K, Chania C, Iakovis N, Tsoumani M, Christodoulou A, Brinia E, Pavlidis G, Thymis J, et al. Association of hydroxytyrosol enriched olive oil with vascular function in chronic coronary disease. *Eur J Clin Invest*. 2023;53(7):e13983.
43. Tsoumani ME, Voyiatzaki C, Efstathiou A. Malaria Vaccines: From the Past towards the mRNA Vaccine Era. *Vaccines*. 2023;11(9):1452.
44. Christodoulou A, Nikolaou PE, Symeonidi L, Katogiannis K, Pechlivani L, Nikou T, Varela A, Chania C, Zerikiotis S, Efentakis P, Vlachodimitropoulos D, Katsoulas N, Agapaki A, Dimitriou C, Tsoumani M, et al. Cardioprotective potential of oleuropein, hydroxytyrosol, oleocanthal and their combination. *Redox Biol*. 2024;76:103311.
45. Voyiatzaki C, Zare Chormizi AD, Tsoumani ME, Efstathiou A, Konstantinidis K, Chaniotis D, Chrysos G, Argyraki A, Papastamopoulos V, Kotsianopoulou M. Seroprevalence of *Toxoplasma gondii* among HIV Positive Patients in Greece. *Pathogens*. 2024;13(5):375.
46. Voyiatzaki C, Zare Chormizi AD, Tsoumani ME, Efstathiou A, Konstantinidis K, Chrysos G, Argyraki A, Papastamopoulos V, Papageorgiou EG, Kotsianopoulou M. Serological Screening and Risk Factors Associated with *Leishmania infantum* Positivity in Newly Diagnosed HIV Patients in Greece. *Microorganisms*. 2024;12(7):1397.