

Georgios Sotiroudis

MSc., Scientific Technical Personnel
Institute of Chemical Biology (ICB/NHRF)

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Professional Experience

2006-present Scientific Technical Personnel in the Institute of Chemical Biology (ICB) of the National Hellenic Research Foundation (NHRF).

Education

2005 NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS, SCHOOL OF PHARMACY, DIVISION OF PHARMACOGNOSY

MSc in Pharmacognosy

2001 NATIONAL AND KAPODISTRIAN UNIVERSITY OF ATHENS, SCHOOL OF PHARMACY

BSc in Pharmacy

Key Skills (Laboratory Experience)

- Specialized in the operation of the 3200 QTRAP mass spectrometer.
- Completed the official 3200 QTRAP training course at Applied Biosystems Training Facilities, Warrington, UK (July 31- August 2, 2007) and training in the use of 3200 QTRAP for several laboratory routines in the lab of Professor Margareta Törnqvist (Department of Materials and Environmental Chemistry, University of Stockholm, January 18-22, 2010).
- Participated in the 2012 "EMBO Practical Course on Solution Scattering from Biological Macromolecules" (EMBL, Hamburg, October 17-24, 2012).
- Liquid Chromatography -Mass Spectrometry (LC-MS),

- Gas Chromatography -Mass Spectrometry (GC-MS),
- Electron Paramagnetic Resonance (EPR),
- Small-angle X-ray Scattering (SAXS),
- Other: Confocal Microscopy, Dynamic Light Scattering (DLS), Capillary Electrophoresis, Gel Filtration Chromatography, Thin Layer Chromatography (TLC), Open Column Chromatography, UV-VIS Spectroscopy, Fluorescence Spectroscopy, Nuclear Magnetic Resonance (NMR), Viscometry, Lyophilization, Essential Oil Distillation, Optical Microscopy, Determination of Enzyme Activities, Culture of *Spirulina* Microalga.

Research publications

1. G. Ladika, P. Christodoulou, E. Kritsi, T. Tsiaka, **G. Sotiroudis**, D. Cavouras, V.J. Sinanoglou. *Metabolites* 2025, **15**(5), 321. "Exploring postharvest metabolic shifts and NOX2 inhibitory potential in strawberry fruits and leaves via untargeted LC-MS/MS and chemometric analysis." <https://doi.org/10.3390/metabo15050321>
2. K. Matskou, I. Matis, S. Demisli, K. Rigkos, E. Karandrea, K. Kourioti, **G. Sotiroudis**, V. Pletsa, A. Xenakis, M. Zoumpanioti. *Int. J. Mol. Sci.* 2025, **26**(8), 3805. "Co-encapsulation of phycocyanin and albumin-bound curcumin in biopolymeric hydrogels." <https://doi.org/10.3390/ijms26083805>
3. E. Kritsi, T. Tsiaka, A. Boroboka, G. Koletsou, S. Theofilatos, A. Maggenaki, P. Christodoulou, G. Ladika, K. Tsiantas, **G. Sotiroudis**, V.J. Sinanoglou. *Separations* 2024, **11**(9), 261. "Prediction of flavor potential of *Ocimum basilicum* L. side-stream phytoconstituents using LC-MS/MS analysis and in silico techniques." <https://doi.org/10.3390/separations11090261>
4. M. Moraitou, **G. Sotiroudis**, N. Papagiannakis, M.M.J. Ferraz, A. Xenakis, J.M.F.G. Aerts, et al. *PLoS ONE* 2023, **18**(2), e0277602. "α-Synuclein and lipids in erythrocytes of Gaucher disease carriers and patients before and after enzyme replacement therapy." <https://doi.org/10.1371/journal.pone.0277602>
5. L. Veličković, A. Simović, N. Gligorijević, A. Thureau, M. Obradović, T. Vasović, **G. Sotiroudis**, M. Zoumpanioti, A. Brûlet, T. Ćirković Veličković, S. Combet, M. Nikolić, S. Minić. *Food Chem.* 2023, **426**, 136669. "Exploring and strengthening the potential of R-phycocyanin from Nori flakes as a food colourant." <https://doi.org/10.1016/j.foodchem.2023.136669>

6. T. Tsiaka, E. Kritsi, S.M. Bratakos, **G. Sotiroudis**, P. Petridi, I. Savva, P. Christodoulou, I.F. Strati, P. Zoumpoulakis, D. Cavouras, V.J. Sinanoglou. *Antioxidants* 2023, **12**(6), 1184. "Quality assessment of ground coffee samples from Greek market using various instrumental analytical methods, in silico studies and chemometrics." <https://doi.org/10.3390/antiox12061184>
7. E. Kritsi, T. Tsiaka, **G. Sotiroudis**, E. Mouka, K. Aouant, G. Ladika, P. Zoumpoulakis, D. Cavouras, V.J. Sinanoglou. *Life* 2023, **13**(2), 332. "Potential health benefits of banana phenolic content during ripening by implementing analytical and in silico techniques." <https://doi.org/10.3390/life13020332>
8. A. Tzani, I. Pitterou, F. Divani, T. Tsiaka, **G. Sotiroudis**, P. Zoumpoulakis, A. Detsi. *Sustain. Chem.* 2023, **4**(1), 8-25. "Green extraction of Greek propolis using natural deep eutectic solvents (NADES) and incorporation of the NADES-extracts in cosmetic formulation." <https://doi.org/10.3390/suschem4010002>
9. T. Tsiaka, D.Z. Lantzouraki, G. Polychronaki, **G. Sotiroudis**, E. Kritsi, V.J. Sinanoglou, D.P. Kalogianni, P. Zoumpoulakis. *Molecules* 2023, **28**(2), 518. "Optimization of ultrasound- and microwave-assisted extraction for the determination of phenolic compounds in peach byproducts using experimental design and LC–MS/MS." <https://doi.org/10.3390/molecules28020518>
10. S.A. Kleftaki, C. Amerikanou, A. Gioxari, D.Z. Lantzouraki, **G. Sotiroudis**, K. Tsiantas, T. Tsiaka, D. Tagkouli, C. Tzavara, L. Lachouvaris, G.I. Zervakis, N. Kalogeropoulos, P. Zoumpoulakis, A.C. Kaliora. *Antioxidants* 2022, **11**(11), 2113. "A randomized controlled trial on *Pleurotus eryngii* mushrooms with antioxidant compounds and vitamin D₂ in managing metabolic disorders." <https://doi.org/10.3390/antiox11112113>
11. P. Koukouraki, A. Tsoupras, **G. Sotiroudis**, C.A. Demopoulos, T.G. Sotiroudis. *Food Biosci.* 2020, **37**, 100686. "Antithrombotic properties of *Spirulina* extracts against platelet-activating factor and thrombin." <https://doi.org/10.1016/j.fbio.2020.100686>
12. E. Mitsou, V. Pletsa, **G. Sotiroudis**, P. Panine, M. Zoumpantioti, A. Xenakis. *Colloids Surf. B Biointerfaces* 2020, **190**, 110974. "Development of a microemulsion for encapsulation and delivery of gallic acid: The role of chitosan." <https://doi.org/10.1016/j.colsurfb.2020.110974>
13. E. Mitsou, A. Dupin, A.H. Sassi, J. Monteil, **G. Sotiroudis**, F. Leal-Calderon, A. Xenakis. *Colloids Surf. B Biointerfaces* 2019, **184**, 110482. "Hydroxytyrosol encapsulated in biocompatible water-in-oil microemulsions: How the structure affects in vitro absorption." <https://doi.org/10.1016/j.colsurfb.2019.110482>
14. V.J. Sinanoglou, A. Kavga, I.F. Strati, **G. Sotiroudis**, D. Lantzouraki, P. Zoumpoulakis. *Foods* 2019, **8**, 630. "Effects of infrared radiation on eggplant

- (*Solanum melongena* L.) greenhouse cultivation and fruits' phenolic profile." <https://doi.org/10.3390/foods8120630>
15. A. Kavga, I.F. Strati, V.J. Sinanoglou, C. Fotakis, **G. Sotiroudis**, P. Christodoulou, P. Zoumpoulakis. *J. Sci. Food Agric.* 2019, **99**(2), 781-789. "Evaluating the experimental cultivation of peppers in low-energy-demand greenhouses: An interdisciplinary study." <https://doi.org/10.1002/jsfa.9246>
 16. E. Mitsou, G. Tavantzis, **G. Sotiroudis**, D. Ladikos, A. Xenakis, V. Papadimitriou. *Colloid Surf. A* 2016, **510**, 69-76. "Food grade water-in-oil microemulsions as replacement of oil phase to help process and stabilization of whipped cream." <https://doi.org/10.1016/j.colsurfa.2016.07.001>
 17. M. Khemakhem, V. Papadimitriou, **G. Sotiroudis**, P. Zoumpoulakis, C. Arbez-Gindre, N. Bouzouita, T.G. Sotiroudis. *Food Chem.* 2016, **203**, 540-547. "Melanin and humic acid-like polymer complex from olive mill waste waters. Part I. Isolation and characterization." <https://doi.org/10.1016/j.foodchem.2016.01.110>
 18. M. Khemakhem, **G. Sotiroudis**, E. Mitsou, S. Avramiotis, T.G. Sotiroudis, N. Bouzouita, V. Papadimitriou. *J. Mol. Liq.* 2016, **222**, 480-486. "Melanin and humic acid-like polymer complex from olive mill waste waters. Part II. Surfactant properties and encapsulation in W/O microemulsions." <https://doi.org/10.1016/j.molliq.2016.07.065>
 19. N. Tsinisizeli, **G. Sotiroudis**, A. Xenakis, K. Lykeridou. *Chemosphere* 2015, **119**, 1200-1207. "Determination of nicotine and cotinine in meconium from Greek neonates and correlation with birth weight and gestational age at birth." <http://dx.doi.org/10.1016/j.chemosphere.2014.09.094>
 20. A.F. Zanette, I. Zampakidi, **G.T. Sotiroudis**, M. Zoumpantioti, I.C.R. Leal, R.O.M.A. de Souza, L. Cardozo-Filho, A. Xenakis. *J. Mol. Catal. B Enzym.* 2014, **107**, 89-94. "Chemo-enzymatic epoxidation catalyzed by *Candida antarctica* lipase immobilized in microemulsion-based organogels." <https://doi.org/10.1016/j.molcatb.2014.05.013>
 21. H. Damianakos, **G. Sotiroudis**, I. Chinou. *J. Nat. Prod.* 2013, **76**(10), 1829-1835. "Pyrrolizidine alkaloids from *Onosma erecta*." <https://doi.org/10.1021/np300785g>
 22. S.M. Zajdel, K. Graikou, **G. Sotiroudis**, K. Glowniak, I. Chinou. *Nat. Prod. Res.* 2013, **27**(24), 2263-2271. "Two new iridoids from selected *Penstemon* species – antimicrobial activity." <https://doi.org/10.1080/14786419.2013.825913>
 23. T.G. Sotiroudis, **G.T. Sotiroudis**. *J. Serb. Chem. Soc.* 2013, **78**(3), 395-405. "Health aspects of *Spirulina* (*Arthrospira*) microalga food supplement." <https://doi.org/10.2298/JSC121020152S>
 24. K. Graikou, S. Kapeta, N. Aligiannis, **G.T. Sotiroudis**, N. Chondrogianni, E.S. Gonos, I. Chinou. *Chem. Cent. J.* 2011, **5**, 33. "Chemical analysis of Greek pollen

- Antioxidant, antimicrobial and proteasome activation properties.”
<https://doi.org/10.1186/1752-153x-5-33>
- 25. **G.T. Sotiroudis**, E. Melliou, T.G. Sotiroudis, I. Chinou. *J. Food Biochem.* 2010, **34**(s1), 61-78. “Chemical analysis, antioxidant and antimicrobial activity of three Greek cucumber (*Cucumis sativus*) cultivars.”
<https://doi.org/10.1111/j.1745-4514.2009.00296.x>
- 26. C.C. Liolios, **G.T. Sotiroudis**, I. Chinou. *Plant Foods Hum. Nutr.* 2009, **64**, 52-61. “Fatty acids, sterols, phenols and antioxidant activity of *Phoenix theophrasti* fruits growing in Crete, Greece.” <https://doi.org/10.1007/s11130-008-0100-1>
- 27. T.G. Sotiroudis, **G.T. Sotiroudis**, N. Varkas, A. Xenakis. *J. Am. Oil Chem. Soc.* 2005, **82**, 415-420. “The role of endogenous amphiphiles on the stability of virgin olive oil-in-water emulsions.” <https://doi.org/10.1007/s11746-005-1086-1>
- 28. T.G. Sotiroudis, S.A. Kyrtopoulos, A. Xenakis, **G.T. Sotiroudis**. *Ital. J. Food Sci.* 2003, **15**, 169-185. “Chemopreventive potential of minor components of olive oil against cancer.”

Participation in Research Programs

1. ANSO Project: Enhancing Phycobiliproteins via High-Pressure Processing (2022-2024)
Title: “Strengthening the potential of algal proteins (phycobiliproteins) for food colouring and fortification using high-pressure (HP) technology”. Budget NHRF: 12.000 €. (Coordinator NHRF: Dr. M. Zoumpanioti)
2. Program National Strategic Reference Framework, Action “RIS3-AGROFOOD” (2019-2021) “Study and exploitation of olive oil as innovative raw material for special industrial applications to baby food products (ELAION)” MIS 5040301, NSRF, Operational Program West Greece. Budget NHRF 65.000 €. (Coordinator NHRF: Dr. M. Zoumpanioti)
3. Operational Program Competitiveness, Entrepreneurship and Innovation (EYDE-ETAK), under the call RESEARCH – CREATE – INNOVATE (project code: T1EDK-02560). (2018-2021) “Utilization of agricultural by-products as new substrates for the production of *Pleurotus* mushrooms of high nutritional value – Development and clinical evaluation of an innovative multifunctional functional food (‘mushroom snack’) enriched in bioactive compounds (vitamin D and antioxidants)” Budget NHRF 161.401,50 € Coordinator NHRF: Dr. P. Zoumpoulakis).
4. National Strategic Reference Framework Program, Operational Program Competitiveness, Entrepreneurship and Innovation 2014-2020 (EPAnEK)

- "Nanoemulsions of plant oils with moisturizing and insect repellent properties" (QFytoTera) Budget: 629.780 € (Budget NHRF 289.900 €) (Coordinator NHRF: Dr. S. E. Zographos).
5. Program National Strategic Reference Framework, Action "Research-InnovationCreation" "CO₂ Biotransformation to high value bioproducts via sustainable microalgae cultures (CO₂-BioProducts)" Industrial Partners: Public Power Corporation (ΔΕΗ); Algae SA. Budget NHRF: 150.000 €. (Coordinator NHRF: Dr M. Zoumpanioti)
 6. Program National Strategic Reference Framework, Action "Developmental Projects of Research Organisations- Kripis"2015-2020: "STHENOS 2", Targeted therapeutic approaches against degenerative diseases, with special focus on cancer and ageing. Optimization of targeted bioactive compounds. Budget: 790.000,00 € (Biomimetics 83.968,39 €). (Coordinator Dr A. Pintzas)
 7. Program National Strategic Reference Framework, Action "Developmental Projects of Research Organisations- Kripis"2013-2015: "STHENOS", Targeted therapeutic approaches against degenerative diseases, with special focus on cancer and ageing. Budget: NHRF 1.500.000,00€ (Biomimetics 174.773€). (Coordinator Dr. A. Pintzas)
 8. Program CAPES, Ministry of Education, Brazil. 2010-2014. "Nanobiotechnology. Lipase activity" Budget: NHRF 40.000 €. (Coordinator NHRF, Dr. A. Xenakis).
 9. National Strategic Reference Framework (NSRF), Cooperation, Action I, 2010-2013, research program "Development of nanoemulsions as new materials for managing phytoprotective products to reduce the environmental charge" Budget: 449.040,00 € (NHRF 147.743€). (Coordinator NHRF, V. Papadimitriou).
 10. Joint Research and Technology Program Greece-Spain, ΕΠΑν.Μ.4.3(006-γ) (Hellenic General Secretariat of Research & Technology) "Antioxidant and Biomodulation Activities of *Spirulina* sp. (*Arthrospira* sp.) Bioactive Components" (2004-2006). (Coordinator NHRF, T.Sotiroudis) Budget: 11.740,00 €. Collaboration with the research group of Prof. C.Jimenez-Gamez, Department of Ecology, University of Malaga, Spain and the research groups of Prof. L. Skaltsounis and As.Prof. I. Chinou, University of Athens and Prof. E.Nerantzis, TEI Athens.
 11. Program EPET III, KA-81. Data Bases, National Information System (1998-2000) "Enzymes in Clinical Diagnosis and Therapy" (Coordinator NHRF, Dr. T.Sotiroudis). Budget 26.000.000 drs.