CURRICULUM VITAE

May 2026

NAME / MIDDLE / SURNAME: **CHRISTOS D. GEORGIOU**

TITLE: Emeritus Professor of Biochemistry

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ACADEMIC STUDIES

1. BSc in Natural Sciences, Department of Physiognostiks, Aristotelion University of Thessaloniki, Greece (1969-1974).
2. MSc (with Honors) in Biochemistry, Roosevelt University, USA (1976-1979).
3. Ph.D. (G.P.A. 3.95/4) in Biology-Biochemistry, Illinois Institute of Technology, USA (1980-1985).
4. Postdoctoral studies, Biochemistry Department, University of Illinois at Urbana-Champaign, USA (1985-87).

PROFESSIONAL/SCIENTIFIC POSITIONS

1. Professor Emeritus of Biochemistry in the Biology Department of the University of Patras, Greece (University Senate Decision 143 / 28-11-2018).
2. Professor of Biochemistry in the Biology Department of the University of Patras, Greece since 2008.
3. Associate Professor of Biochemistry in the Biology Department of University of Patras-Greece since June 2002.
4. Assistant Professor of Biochemistry in the Biology Department of University of Patras-Greece since October 1990.

5. Elected Assistant Professor of Biochemistry in the Biology Department of Aristotelion University of Thessalonica-Greece (March 20th 1989).
6. Holder of the specialty and title of Clinical Biochemist (issued on June 7, 1988) by the Greek Ministry of Health.
7. ARC-Associate, NASA Ames Research Center, Space Science and Astrobiology Division, SST, Moffett Field, CA, USA (christos.georgiou@nasa.gov).
8. Associate, Search for Extraterrestrial Intelligence Institute, Mountain View, California, USA.

SPACE PRODUCT-SERVICE ACTIVITIES

Chief of Science & Technology Innovations & Operations, and Co-founder of Stellar Discoveries P.C., https://stellardiscoveries.space, e-mail: christos.georgiou@stellardiscoveries.space

SCIENTIFIC INTERESTS

They cover the general area of the Biochemistry of oxidative stress, and of Astrobiology. They focus on:

1. Research on the biochemistry of oxidative stress in organisms, and its relationship with differentiation and, in general, with physiological and abnormal conditions of biological and medical interest. Effect of extra low frequency fields (ELF, 50 Hz) on the development of oxidative stress in organisms. Development of analytical biochemical methods for the *in vivo/vitro* quantification of various parameters of oxidative stress and other relevant biological parameters.

   Research on the biochemistry of oxidative stress (OS) is also translational in medicine, by the development of specific analytical methods for measuring OS key parameters, with indicative the following applications: development of ox-LDL-markers for assessing risk for atherosclerosis related disease, total antioxidant status for the nutritional evaluation of food/beverages, oxygen free radical detection, lipid, protein and DNA damage for pharmaceutical drug toxicity, prevention or treatment of one or more post-operative complications in orthopedic or vascular surgery, or for use in the prevention or treatment of compartment syndrome, crush syndrome, multiple trauma and/or their complications, etc

2. Research in Astrobiology: Origin and search for life in other planets. Identification of life inhibiting oxidative stress-inducing oxidants in the Mars-like deserts Atacama, Mojave, Antarctica etc. Collaborating partners: Christopher McKay (planetary geophysicist at *NASA Ames Research Center,* ARC, Space Science and Astrobiology Division, SST, Moffett Field, California, USA), Richard Quinn (planetary geochemist at *NASA ARC,* and *Search for Extraterrestrial Intelligence Institute***,** SETI, Mountain View, California, USA), Henry Sun (geo-microbiologist at *Desert Research Institute*, Las Vegas, Nevada, USA) and professor David Deamer (biochemist at Departments of Biomolecular Engineering, and Chemistry and Biochemistry, *University of California*, at Davis/Santa Cruz).

AUTHORSHIP (145 publications)

They are listed by publication year, by scientific subject areas, and in a separate section the ones in Astrobiology.

INTERNATIONAL SCIENTIFIC IMPACT

- **Scopus:** Public access site: https://www.scopus.com/authid/detail.uri?authorId=7005194635; **Articles with citation data = 129**; **Citations** (since 1985) **= 4905**; ***h* Index = 39**.
- **Web of Science:** Public access site: https://www.webofscience.com/wos/author/record/956101. Researcher ID B-8354-2013; Articles with citation data (since 1987) = **149**; **Citations = 4719**; ***h* Index = 38**; **Sum of Times Cited by Patents = 15; Citing Patents = 16. Verified peer reviewer: 187 articles, in 131 journals; verified editor records: 2 (editor in: Astrobiology, Nature Discover Space - Exploring Lunar and Planetary Environments-Impact on Materials, Testing, and Simulation).**
- **Google Scholar:** Public access site: http://scholar.google.gr/citations?hl=en&user=HUhpF3YAAAAJ; **Articles/books with citation data = 161**; **Citations** (since 1988) **= 6927**; ***h* Index = 48** (***i10-index*** = **105**).
- **ResearchGate:**. Public access site: https://www.researchgate.net/profile/Christos_Georgiou5/reputation & /stats. **Research items** = **173**; **Reads** = **72825**; **Recommendations** = **115**; **Followers = 153**; **RG Score = 41.75** (>97% of RG members); **Research Interest Score = 3138** (>97% of RG members); **Citations = 5865**; ***h* Index = 42**.

Last Updated: May 22, 2026.

I. ARTICLES IN PEER-REVIEWED SCIENTIFIC JOURNALS/BOOKS

A. Publications chronologically

1. **Georgiou, C. D.** (1985). Identification and characterization of membrane-bound cytochromes in *Vitreoscilla* (oxidase, peroxidase, respiration). Illinois Institute of Technology, ProQuest, UMI Dissertations Publishing No 8517575. Retrieved from http://search.proquest.com/docview/303390454?accountid=28375.
2. **Georgiou, C. D.**, Webster D. A. (1987). Identification of *b*, *c*, and *d* cytochromes in the membrane of *Vitreoscilla*. *Archives of Microbiology* 148: 328-333.
3. **Georgiou, C. D.**, Webster, D. A. (1987). Purification and partial characterization of the membrane-bound cytochrome *o* (561, 564) from *Vitreoscilla*. *Biochemistry* 26: 6521-6526.
4. **Georgiou, C. D.**, Fang, H., Gennis, R. B. (1987). Identification of the cy*dc* locus required for the expression of the functional form of the cytochrome *d* terminal oxidase complex in *Escherichia coli. Journal of Bacteriology* 169: 2107-2112.
5. **Georgiou, C. D.**, Cokic, P., Carter, K., Webster, D. A., Gennis, R. B. (1988). Relationships between membrane-bound cytochrome *o* from *Vitreoscilla* and that of *Escherichia coli*. *Biochimica et Biophysica Acta* 933: 179-183.
6. **Georgiou, C. D.**, Dueweke, T. J., Gennis, R. B. (1988). Regulation of expression of the cytochrome *d* terminal oxidase in *Escherichia coli* is transcriptional. *Journal of Bacteriology* 170: 961-966.
7. **Georgiou, C. D.**, Dueweke, T. J., Gennis, R. B. (1988). *Beta*-galactosidase gene fusions as probes for the cytoplasmic regions of subunits I and II of the membrane-bound cytochrome *d* terminal oxidase from *Escherichia coli*. *Journal of Biological Chemistry* 263: 13130-13137.
8. Green, N., Fang, H., Lin, R., Newton, G., Mather, M., **Georgiou, C. D.**, Gennis, R. B. (1988). The nucleotide-sequence of the cyd locus encoding the 2 subunits of the cytochrome-d terminal oxidase complex of *Escherichia coli*. *Journal of Biological Chemistry* 263: 13138-13143.
9. Lemieux, L., Chepuri, V., Dueweke, T., Fang, H., **Georgiou, C. D.**, Gennis, R. B. (1989). Recent studies on the structure of the two terminal oxidases of *Escherichia coli*. In *Highlights of Modern Biochemistry* (proceedings of the 14th International Congress of Biochemistry, Prague, Czechoslovakia, 10-15 July, 1988) vol. 1, Ed. Kotyk, A., VSP Utrecht, The Netherlands, pp. 829-836. ISBN: 9067641170, 9789067641173.
10. Minghetti, K. C., Goswitz, V. C., Gabriel, N. E., Hill, J. J., Barassi, C. A., **Georgiou, C. D.**, Chan, S. I., Gennis, R. B. (1992). Modified, large-scale purification of the

cytochrome-*o* complex (*bo*-type oxidase) of *Escherichia coli* yields a 2 heme/one copper terminal oxidase with high specific activity. *Biochemistry* 31: 6917-6924.

11. Hosler, J. P., Ferguson-Miller, S., Calhoun, M. W., Thomas, J. W., Hill, J., Lemieux, L., Ma, J., **Georgiou, C.**, Fetter, J., Shapleigh, J., Tecklenburg, M. M., Babcock, G. T., Gennis, B. R. (1993). Insight into the active-site structure and function of cytochrome oxidase by analysis of site-directed mutants of bacterial cytochrome aa_3 and cytochrome *bo*. *Journal of Bioenergetics and Biomembranes* 25: 121-136.
12. Kaysser, T. M., Ghaim, J. B., **Georgiou, C.**, Gennis, R. B. (1995). Methionine-393 is an axial ligand of the heme $b_{(558)}$ component of the cytochrome *bd* ubiquinol oxidase from *Escherichia coli*. *Biochemistry* 34: 13491-13501.
13. Hosler, P. J. Shapleigh, P. J., Michell, M. D., Kim, Y., Pressler, A. M., **Georgiou, C.**, Babcock, T. G., Alben, O. J., Ferguson-Miller, S., Gennis, B. R. (1996). Polar residues in helix VIII of subunit I of cytochrome *c* oxidase influence the activity and structure of the active site. *Biochemistry* 35: 10776-10783.
14. **Georgiou, C. D.** (1996). An apparatus (Georgiou-Petri dish) for growing fungi and other microorganisms on liquid media in a Petri dish. *Biotechnic & Histochemistry* 71: 295-297.
15. **Georgiou, C. D.** (1997). Lipid peroxidation in *Sclerotium rolfsii*: A new look into the mechanism of sclerotial biogenesis in fungi. *Mycological Research* 101: 460-464.
16. Salahas, G., Hatzidimitrakis, K., **Georgiou, C. D.**, Angelopoulos, K., Gavalas, A. N. (1997). Phosphate and sulfate activate the phosphoenolpyruvate carboxylase from the C-4 plant *Cynodon dactylon* L. *Botanica Acta* (new name: *Plant Biology*) 110: 309-313.
17. Salahas, G., Peslis, B., **Georgiou, C. D.**, Nikos A. Gavalas, A. N. (1997). Trehalose, an extreme temperature protector of phosphoenolpyruvate carboxylase from the C-4 plant *Cynodon dactylon*. *Phytochemistry* 46: 1331-1334.
18. Zervoudakis, G., **Georgiou, C. D.**, Mavroidis, M., Kokolakis, G. and Angelopoulos, K. (1997). Characterization of purified leaf cytosolic pyruvate kinase from the C-4 plant *Cynodon dactylon. Physiologia Plantarum* 101: 563-569.
19. Zervoudakis, G., Angelopoulos, K., Salahas, G., **Georgiou, C. D.** (1998). Differences in cold inactivation of phosphoenolpyruvate carboxylase among C-4 species: The effect of pH and of enzyme concentration. *Photosynthetica* 35: 169-175.
20. **Georgiou, C. D.**, Sideri, M. (2000). Colorimetric method for determining hydrogen peroxide production in liquid media by filamentous fungi. *Mycologia* 92: 835-840.

21. Sideri, M., **Georgiou, C. D.** (2000). Differentiation and hydrogen peroxide production in *Sclerotium rolfsii* are induced by the oxidizing growth factors, light and iron. *Mycologia* 92: 1033-1042.

22. **Georgiou, C. D.**, Tairis, N., Sotiropoulou, A. (2000). Hydroxyl radical scavengers inhibit sclerotial differentiation and growth in *Sclerotinia sclerotiorum* and *Rhizoctonia solani*. *Mycological Research* 104: 1191-1196.

23. **Georgiou, C. D.**, Tairis, N., Sotiropoulou, A. (2000). Hydroxyl radical scavengers inhibit lateral-type sclerotial differentiation and growth in phytopathogenic fungi. *Mycologia* 92: 825-834.

24. Zervoudakis, G., **Georgiou, C. D.**, Angelopoulos, K. (2001). Pyruvate kinase activity in crude extracts of leaves of *Cynodon dactylon* and other C-4 plants. *Russian Journal of Plant Physiology* 48: 171-175.

25. Salahas, G., Angelopoulos, K., Zervoudakis, G., **Georgiou, C. D.** (2001). Sulfate ion effect on stability and regulatory properties of PEP carboxylase from the C-4 plant *Cynodon dactylon*. *Russian Journal of Plant Physiology* 48: 176-180.

26. **Georgiou, C. D.**, Tairis, N., Polycratis, A. (2001). Production of *beta*-carotene by *Sclerotinia sclerotiorum* and its role in sclerotium differentiation. *Mycological Research* 105: 1110-1115.

27. **Georgiou, C. D.**, Zervoudakis, G., Tairis, N., Kornaros, M. (2001). *Beta*-carotene production and its role in sclerotial differentiation of *Sclerotium rolfsii*. *Fungal Genetics and Biology* 34: 11-20.

28. **Georgiou, C. D.**, Petropoulou, P. K. (2001). Effect of the antioxidant ascorbic acid on sclerotial differentiation in *Rhizoctonia solani*. *Plant Pathology* 50: 594-600.

29. **Georgiou, C. D.**, Petropoulou, P. K. (2001). Role of erythroascorbate and ascorbate in sclerotial differentiation in *Sclerotinia sclerotiorum. Mycological Research* 105: 1364-1370.

30. **Georgiou, C. D.**, Zees, A. (2001). Lipofuscins and sclerotial differentiation in phytopathogenic fungi. *Mycopathologia* 153: 203-208.

31. **Georgiou, C. D.**, Petropoulou, P. K. (2001). The role of ascorbic acid in the differentiation of sclerotia in *Sclerotinia minor. Mycopathologia* 154: 71-77.

32. **Georgiou, C. D.**, Zervoudakis, G., Petropoulou, P. K. (2003). Ascorbic acid might play a role in sclerotial differentiation of *Sclerotium rolfsii. Mycologia* 95: 308-316.

33. Zervoudakis, G., Tairis, N., Salahas, G., **Georgiou, C. D.** (2003). *Beta*-carotene production and sclerotial differentiation in *Sclerotinia minor*. *Mycological Research* 107: 624-631.

34. Patsoukis, N., **Georgiou, C. D.** (2004). Determination of the thiol redox state of organisms: New oxidative stress indicators. *Analytical and Bioanalytical Chemistry* 378: 1783-1792.

35. Patsoukis, N., Zervoudakis, G., Panagopoulos, T. N., **Georgiou, C. D.**, Angelatou, F., Matsokis, A. N. (2004). Thiol redox state (TRS) and oxidative stress in the mouse hippocampus after pentylenetetrazol-induced epileptic seizure. *Neuroscience Letters* 357: 83-86.

36. Assimakopoulos, S. F., Vagianos, C.E., Patsoukis, N., **Georgiou, C. D.**, Nikolopoulou, V., Scopa, C. D. (2004). Evidence for intestinal oxidative stress in obstructive jaundice-induced gut barrier dysfunction in rats. *Acta Physiologica Scandinavica* 180: 177-185.

37. Assimakopoulos, S. F., Scopa, C. D., Charonis, A., Spiliopoulou, I., **Georgiou, C. D.**, Nikolopoulou, V., Vagianos, C. E. (2004). Experimental obstructive jaundice disrupts intestinal mucosal barrier by altering occludin expression: Beneficial effect of bombesin and neurotensin. *Journal of the American College of Surgeons* 198: 748-757.

38. Alexandris, I., Assimakopoulos S. F., Vagianos, C., Patsoukis, N., **Georgiou, C.**, Nikolopoulou, V., Scopa, C. D. (2004). Oxidative state in intestine and liver after partial hepatectomy in rats. Effect of bombesin and neurotensin. *Clinical Biochemistry* 37: 350-356.

39. Assimakopoulos, F. S., Vagianos, E. C., Zervoudakis, G., Filos, S. F., **Georgiou, C.**, Nikolopoulou, V., Scopa, D. C. (2004). Gut regulatory peptides bombesin and neurotensin reduce hepatic oxidative stress and histological alterations in bile duct ligated rats. *Regulatory Peptides* 120: 185-93.

40. Papapostolou, I., Patsoukis, N., **Georgiou, C. D.** (2004). The fluorescence detection of superoxide radical using hydroethidine could be complicated by the presence of heme-proteins. *Analytical Biochemistry* 332: 290-298.

41. Patsoukis, N., Zervoudakis, G., **Georgiou, C. D.**, Angelatou, F., Matsokis, A. N., Panagopoulos, T. N. (2004). Effect of pentylenetetrazol-induced epileptic seizure on thiol redox state in the mouse cerebral cortex. *Epilepsy Research* 62: 65–74.

42. Assimakopoulos, S. F., Scopa, C. D., Zervoudakis, G., Mylonas, P., **Georgiou C.**, Nikolopoulou, V., Vagianos, C. E. (2005). Bombesin and neurotensin reduce endotoxemia, intestinal oxidative stress, and apoptosis in experimental obstructive jaundice. *Annals of Surgery* 241: 159-167.

43. Patsoukis, N., Papapostolou, I., Zervoudakis, G., **Georgiou, C. D.**, Matsokis, A. N., Panagopoulos, T. N. (2005). Thiol redox state and oxidative stress in midbrain and

striatum of weaver mutant mice, a genetic model of nigrostriatal dopamine deficiency. *Neuroscience Letters* 376: 24-28.

44. Patsoukis, N., Papapostolou, I., **Georgiou, C. D.** (2005). Interference of non-specific peroxidases in the fluorescence detection of superoxide radical by hydroethidine oxidation: a new assay for H_2O_2. *Analytical and Bioanalytical Chemistry* 381: 1065-1072.
45. Gartaganis, S. P., Georgakopoulos, C. D., Patsoukis, N. E., Gotsis S. S., Gartaganis, V. S., **Georgiou, C. D.** (2005). Glutathione and lipid peroxide changes in pseudoexfoliation syndrome. *Current Eye Research* 30: 647–651.
46. **Georgiou, C. D.**, Patsoukis, N., Papapostolou, I. (2005). Assay for the quantification of small-sized fragmented genomic DNA. *Analytical Biochemistry* 339: 223-230.
47. Patsoukis, N., Zervoudakis, G., **Georgiou, C. D.**, Angelatou, F., Matsokis, A. N., Panagopoulos, T. N. (2005). Thiol redox state and lipid and protein oxidation in the mouse striatum after pentylenetetrazol-induced epileptic seizure. *Epilepsia* 46: 1205-1211.
48. Assimakopoulos, F. S., Alexandris, H. I., Scopa, D. C., Mylonas, G. P., Thomopoulos, C. K., **Georgiou, C. D.**, Nikolopoulou, N. V., Vagianos, E. C. (2005). Effect of bombesin and neurotensin on gut barrier function in partially hepatectomized rats. *World Journal of Gastroenterology* 11: 6757-6764.
49**.** Patsoukis, N., **Georgiou, C. D.** (2005). Fluorometric determination of thiol redox state. *Analytical and Bioanalytical Chemistry* 383: 923-929.
50. **Georgiou, C. D.**, Papapostolou, I., Patsoukis, N., Tsegenidis, T., Sideris, T. (2005). An ultrasensitive fluorescent assay for the *in vivo* quantification of superoxide radical in organisms. *Analytical Biochemistry* 347: 144-151.
51. Chroni, E., Patsoukis, N., Karageorgos, N., Konstantinou, D., **Georgiou, C.** (2006). Brain oxidative stress induced by obstructive jaundice in rats. *Journal of Neuropathology and Experimental Neurology* 65: 193-198.
52. Assimakopoulos, F. S., Thomopoulos, C. K., Patsoukis, N., **Georgiou, C. D.**, Scopa, D. C., Nikolopoulou, N. V., C. E. Vagianos, E. C. (2006). Evidence for intestinal oxidative stress in patients with obstructive jaundice. *European Journal of Clinical Investigation* 36: 181-187.
53. Konstantinidis, T., Patsoukis, N., **Georgiou, C. D.**, Synetos, D. (2006). Translational fidelity mutations in 18S rRNA affect the catalytic activity of ribosomes and the oxidative balance of yeast cells. *Biochemistry-USA* 45: 3525-3533.

54. Karageorgos, N., Patsoukis, N., Chroni, E., Konstantinou, D., Assimakopoulos, F. S., **Georgiou, C.** (2006). Effect of *N*-acetylcysteine, allopurinol and vitamin E on jaundice-induced brain oxidative stress in rats. *Brain Research* 1111: 203–212.

55. **Georgiou, C. D.**, Papapostolou, I. (2006). Assay for the quantification of intact/fragmented genomic DNA. *Analytical Biochemistry* 358: 247–256.

56. **Georgiou, C. D.**, Patsoukis, N., Papapostolou, I., Zervoudakis, G. (2006). Sclerotial metamorphosis in filamentous fungi is induced by oxidative stress. *Integrative and Comparative Biology* 46: 691-712.

57. Bishop, D. C., Erezyilmaz, F. D., Flatt, T., **Georgiou, C. D.**, Hadfield, G. M., Heyland, A., Hodin, J., Jacobs, W. M., Maslakova, A. S., Pires, A., Reitzel, M. A., Santagata, S., Tanakay, K., and Youson, H. J. (2006). What is metamorphosis? *Integrative and Comparative Biology* 46: 655-661.

58. Gartaganis, P. S., Patsoukis, N., Nikolopoulos, K. D., **Georgiou, C. D.** (2007). Evidence for oxidative stress in lens epithelial cells in pseudoexfoliation syndrome. *Eye* 21: 1406-1411.

59. Patsoukis, N., **Georgiou, C**. **D.** (2007). Effect of sulfite-hydrosulfite and nitrite on thiol redox state, oxidative stress and sclerotial differentiation of filamentous phytopathogenic fungi. *Pesticide Biochemistry and Physiology* 88: 226–235.

60. Patsoukis, N., **Georgiou, C. D.** (2007). Effect of glutathione biosynthesis-related modulators on the thiol redox state enzymes and on sclerotial differentiation of filamentous phytopathogenic fungi. *Mycopathologia* 163: 335-347.

61. Patsoukis, N., **Georgiou, C. D.** (2007). Effect of thiol redox state modulators on oxidative stress and sclerotial differentiation of the phytopathogenic fungus *Rhizoctonia solani*. *Archives of Microbiology* 188: 225-233.

62. Assimakopoulos, F. S., Maroulis, I. Patsoukis, N., Scopa, D. C., **Georgiou, C. D.**, Vagianos, E. C. (2007). Effect of antioxidant treatments on the gut-liver axis oxidative status and function in bile duct ligated rats. *World Journal of Surgery* 31: 2023-2032.

63. Papaefthymiou, H. **Georgiou, C. D.** (2007). Indoor radon levels in primary schools of Patras, Greece. *Radiation Protection Dosimetry* 124: 172–176.

64. Patsoukis, N., **Georgiou, C. D.** (2008). Thiol redox state and oxidative stress affect sclerotial differentiation of the phytopathogenic fungi *Sclerotium rolfsii* and *Sclerotinia sclerotiorum. Journal of Applied Microbiology* 104: 42–50.

65. Assimakopoulos, S. F., Grintzalis, K., Thomopoulos, K. C., Papapostolou, I., **Georgiou, C. D.**, Gogos, C., Vagianos, C. E. (2008). Plasma superoxide radical in jaundiced patients and role of xanthine oxidase. *American Journal of Medical Sciences*

336: 230-236.

66. Patsoukis, N., **Georgiou, C. D.** (2008). Thiol redox state and related enzymes in sclerotium-forming filamentous phytopathogenic fungi. *Mycological Research* 112: 602-610.

67. Patsoukis, N., **Georgiou, C. D.** (2008). Differentiation of *Sclerotinia minor* depends on thiol redox state and oxidative stress. *Canadian Journal of Microbiology* 54: 28-36.

68. **Georgiou, C. D.**, Papapostolou, I., Patsoukis, N., Grintzalis, K. (2008). Assays for the quantitative characterization of genomic, mitochondrial and plasmid DNA. Kimura, H., Suzuki, A. eds. In: *New Research on DNA damage*, Nova Science Publishers Inc, New York, pp. 183-195. ISBN: 978-1-60876-303-0.

69. Konstantinou, D., Mavrakis, A., Grintzalis, K., Papapostolou, I., Assimakopoulos, S. F., Chroni, E., **Georgiou, C.** (2008). Quantification of superoxide radical in the brain of rats with experimentally induced obstructive jaundice. *Neurochemical Research* 33:1101-1105.

70. **Georgiou, C. D.**, Grintzalis, K., Zervoudakis, G., Papapostolou, I. (2008). Mechanism of Coomassie brilliant blue G-250 binding to proteins: a hydrophobic assay for nanogram quantities of proteins. *Analytical and Bioanalytical Chemistry* 391: 391-403.

71. Patsoukis, N., **Georgiou, C. D.** (2008). The role of thiols on sclerotial differentiation of filamentous phytopathogenic fungi. *The Open Mycology Journal* 2: 1-8.

72. Assimakopoulos, S. F., Mavrakis, A. G., Grintzalis, K., Papapostolou, I., Zervoudakis, G., Konstantinou, D., Chroni, E., Vagianos, C. E., **Georgiou, C.** (2008). Superoxide radical formation in diverse organs of rats with experimentally induced obstructive jaundice. *Redox Report* 13: 179-184.

73. Pytharopoulou, S., Sazakli, E., Grintzalis, K., **Georgiou, C. D.**, Leotsinidis, M., Kalpaxis, D. L. (2008). Translational responses of *Mytilus galloprovincialis* to environmental pollution: Integrating the responses to oxidative stress and other biomarker responses into a general stress index. *Aquatic Toxicology* 89: 18-27.

74. Fakas, S., Papapostolou, I., Papanikolaou, S. **Georgiou, C. D.**, Aggelis, G. (2008). Susceptibility to peroxidation of the major mycelial lipids of *Cunninghamella echinulata*. *European Journal of Lipid Science and Technology* 110: 1062-1067.

75. **Georgiou, C. D.**, Papapostolou, I., Grintzalis, K. (2008). Superoxide radical detection in cells, tissues, organisms (animals, plants, insects, microorganisms), and soils. *Nature Protocols* 3: 1679-1692.

76. Assimakopoulos, S. F., Grintzalis, K., Papapostolou, I., Thomopoulos, K. C., **Georgiou, C. D.** (2008). Increased plasma superoxide radical in patients with non-metastatic colorectal cancer. *Gastroenterology Research* 1: 45-48.

77. **Georgiou, C. D.**, Papapostolou, I., Grintzalis, K. (2009). Protocol for the quantitative assessment of DNA concentration and damage (fragmentation and nicks). *Nature Protocols* 4: 125-131.

78. Grintzalis, K., Papapostolou, I., Assimakopoulos, S. F., Mavrakis, A., Faropoulos, K., Karageorgos, N., **Georgiou, C.**, Chroni, E., Dimitris Konstantinou, D. (2009). Time-related alterations of superoxide radical levels in diverse organs of bile duct-ligated rats. *Free Radical Research* 43: 803-808.

79. Chronidou, F., Apostolakis, E., Papapostolou, I., Grintzalis, K., **Georgiou, C. D.**, Koletsis, E. N., Karanikolas, M., Papathanasopoulos, P., Dougenis, D. (2009). Beneficial effect of the oxygen free radical scavenger amifostine (WR-2721) on spinal cord ischemia/reperfusion injury in rabbits. *Journal of Cardiothoracic Surgery* 4: 50.

80. Assimakopoulos, F. S., Konstantinou, D**., Georgiou, C.**, Chroni, E. (2010). Metabolism of polyamines and oxidative stress in the brain of cholestatic rats. *Amino Acids* 38: 973–974.

81. Papapostolou, I., **Georgiou, C. D.** (2010). Superoxide radical induces sclerotial differentiation in filamentous phytopathogenic fungi: a superoxide dismutase mimetics study. *Microbiology* 156: 960-966.

82. Papapostolou, I., **Georgiou, C. D.** (2010). Superoxide radical is involved in the sclerotial differentiation of filamentous phytopathogenic fungi: identification of a fungal xanthine oxidase. *Fungal Biology (*formerly *Mycological Research)* 114: 387-395.

83. Faropoulos, K., Chroni, E., Assimakopoulos, S. F., Mavrakis, A., Stamatopoulou, V., Toumpeki, C., Drainas, D., Grintzalis, K., Papapostolou, I., **Georgiou, C. D.**, Konstantinou, D. (2010). Altered occludin expression in brain capillaries induced by obstructive jaundice in rats. *Brain Research* 1325: 121-127.

84. Papapostolou, I., **Georgiou, C. D.** (2010). Hydrogen peroxide is involved in the sclerotial differentiation of filamentous phytopathogenic fungi. *Journal of Applied Microbiology* 109: 1929-1936.

85. **Georgiou, C. D.** (2010). Oxidative stress-induced biological damage by low-level EMFs: Mechanism of free radical pair electron spin polarization and biochemical amplification. *European Journal of Oncology* 5: 63-113 (In: *Non-thermal effects and mechanisms of interaction between electromagnetic fields and living* matter, Giuliani, L., Soffritti, M. Eds, *Ramazzini Institute European J. Oncology Library* 5, ISBN: 978-88-

6261-166-4).

86. Assimakopoulos, S., Tsamandas, A. C., **Georgiou, C. D.**, Vagianos, C. E., Scopa, C. D. (2010). Bombesin and neurotensin exert antiproliferative effects on oval cells and augment the regenerative response of the cholestatic rat liver. *Peptides* 31: 2294-2303.
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93. Papapostolou, I., Grintzalis, K., **Georgiou C. D.** (2013). Protocols for the quantification of dsDNA and its fragmentation status in fungi. In: *Laboratory Protocols in Fungal Biology: Current Methods in Fungal Biology*, Gupta, V. K., Tuohy, M. G., Ayyachamy, M., Turner, K. M., O'Donovan, A. (Eds.), Springer, N.Y, p. 501-504. ISBN: 978-1-4614-2356-0.
94. Assimakopoulos, S. F., Tsamandas, A. C., Tsiaoussis, G. I., Karatza, E., Zisimopoulos, D., Maroulis, I., Kontogeorgou, E., **Georgiou, C. D.**, Scopa, C. D., Thomopoulos, K. C. (2013). Intestinal mucosal proliferation, apoptosis and oxidative stress in patients with

liver cirrhosis. *Annals of Hepatology* 12: 301-317.

95. Pytharopoulou, S., Kournoutou, G. G., Leotsinidis, M., **Georgiou, C. D.**, Kalpaxis, D. L. (2013). Dysfunctions of the translational machinery in digestive glands of mussels exposed to mercury ions. *Aquatic Toxicology* 134-135: 23-33.
96. Grintzalis, K., Zisimopoulos, D., Grune, T., Weber, D., **Georgiou, C. D.** (2013). Method for the simultaneous determination of free/protein malondialdehyde and lipid/protein hydroperoxides. *Free Radical Biology Medicine* 59: 27-35.
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98. Alakhras, R. S., Stephanou, G., Demopoulos, N. A., Grintzalis, K., **Georgiou, C. D.**, Nikolaropoulos, S. S. (2014). DNA fragmentation induced by all-*trans* retinoic acid (ATRA) and its steroidal analogue EA-4 in C_2C_{12} mouse and HL-60 human leukemic cells *in vitro. Journal of Applied Toxicology* 34: 885-892.
99. Papapostolou, I., Sideri, M., **Georgiou, C. D.** (2014). Cell proliferating and differentiating role of H_2O_2 in *Sclerotium rolfsii* and *Sclerotinia sclerotiorum*. *Microbiological Research* 169: 527-532.
100. Grintzalis, K., Papapostolou, I., Zisimopoulos, D., Stamatiou, I., **Georgiou, C. D.** (2014). Multiparametric protocol for the determination of thiol redox state in the living matter. *Free Radical Biology Medicine* 74: 85-98.
101. Grintzalis, K., Vernardis, S., Klapa, M., **Georgiou, C. D.** (2014). Role of oxidative stress in sclerotial differentiation and aflatoxin B1 biosynthesis in *Aspergillus flavus*. *Applied and Environmental Microbiology* 80: 5561-5571.
102. **Georgiou, C. D.**, Grintzalis, K., Grune, T. (2014). *Determination of lipid and protein peroxidation: Quantification of free & protein malondialdehyde, and lipid & protein hydroperoxides*. Lambet Academic Publishing GmbH & Co. KG, p. 64. ISBN-10: 3659560359, ISBN-13 : 978-3659560354.
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104. Botsakis, K., Theodoritsi, S., Grintzalis, K., Angelatou, F., Antonopoulos, I., **Ceorgiou C. D**., Margarity, M., Matsokis, A. N., Panagopoulos, N. T. (2016). 17-beta-Estradiol/N-acetylcysteine interaction enhances the neuroprotective effect on dopaminergic neurons in the weaver model of dopamine deficiency. *Neuroscience* 320: 221-229.

105. Botsakis, K., Mourtzi, T., Panagiotakopoulou, V., Vreka, M., Stathopoulos, G. T., Pediaditakis, I., Charalampopoulos, I., Gravanis, A., Delis, F., Antoniou, K., Zisimopoulos, D., **Georgiou, C. D.**, Panagopoulos, N. T., Matsokis, N., Angelatou, F. (2017). BNN-20, a synthetic microneurotrophin, strongly protects dopaminergic neurons in the "Weaver" mouse, a genetic model of dopamine-denervation, acting through the TrkB neurotrophin receptor. *Neuropharmacology* 121: 140-157.

106. Karavassili, F., Valmas, A., Fili, S., **Georgiou, C. D.**, Margiolaki, I. (2017). In quest for improved drugs against diabetes: The added value of X-ray powder diffraction methods. *Biomolecules* 7(3). pii: E63.

Since 2018, year of retirement/awarding Emeritus Professor title: 33 articles, (including 9 articles in Astrobiology; see at the end of the next section *Publications listed by scientific subject*)

107. Taprantzi, D., Zisimopoulos, D., Thomopoulos, K. C., Spiliopoulou, I., **Georgiou, C. D.**, Tsiaoussis, G., Triantos, C., Gogos, C. A., Labropoulou-Karatza, C., Assimakopoulos, S. F. (2018). Propranolol reduces systemic oxidative stress and endotoxemia in cirrhotic patients with esophageal varices. *Annals of Gastroenterology* 31: 224-230.

108. Apostolopoulou, K., Konstantinou, D., Alataki, R., Papapostolou, I., Zisimopoulos, D., Kalaitzopoulou, E., Bravou, V., Lilis, I., Angelatou, F., Papadaki, H., **Georgiou, C. D.**, Chroni, E. (2018). Ischemia–reperfusion injury of sciatic nerve in rats: Protective role of combination of vitamin C with E and tissue plasminogen activator. *Neurochemical Research* 43: 650-658.

109. **Georgiou, C. D.**, Zisimopoulos, D., Argyropoulou, V., Kalaitzopoulou, E., Salachas, G., Grune, T. (2018). Protein and cell wall polysaccharide carbonyl determination by a neutral pH 2,4-dinitrophenylhydrazine-based photometric assay. *Redox Biology* 17: 128-142.

110. **Georgiou, C. D.**, Zisimopoulos, D., Argyropoulou, V., Kalaitzopoulou, E., Ioannou, P. V., Salachas, G., Grune, T. (2018). Protein carbonyl determination by a rhodamine B hydrazide-based fluorometric assay. *Redox Biology* 17: 236-245.

111. Papadopoulou, G., Zisimopoulos, D., Kalaitzopoulou, E., Makri, O. E., Tsapardoni, F. N., Georgakopoulos, C. D., **Georgiou, C. D.** (2018). Age-related aqueous humor (AH) and lens epithelial cell/capsule protein carbonylation and AH protein concentration in cataract patients who have pseudoexfoliative diseases. *Molecular Vision* 24: 890-901.

112. Giannakopoulos, E., Salachas, G., Zisimopoulos, D., Barla, S. -A., Kalaitzopoulou, E., Papadea, P., Skipitari, M., **Georgiou, C. D.** (2020). Long-term preservation of total

phenolic content and antioxidant activity in extra virgin olive oil: A physico-biochemical approach. *Free Radicals and Antioxidants* 10(1): 4-9.

113. **Georgiou, C.D.**, Margaritis, L.H. (2021). Oxidative stress and NADPH oxidase: Connecting electromagnetic fields, cation channels and biological effects. *International Journal of Molecular Sciences* 22(18): 10041.

114. Kostopoulou, E., Kalaitzopoulou, E., Papadea, P., Skipitari, M., Gil, A. P. R., Spiliotis, B. E., **Georgiou, C. D.** (2021). Oxidized lipid-associated protein damage in children and adolescents with type 1 diabetes mellitus: new diagnostic/prognostic clinical markers. *Pediatric Diabetes* 22(8): 1135-1142.

115. Zisimopoulos, D. N., Kalaitzopoulou, E., Skipitari, M., Papadea, P., Panagopoulos, N. T., Salahas, G., **Georgiou, C. D.** (2022). Detection of superoxide radical in all biological systems by Thin Layer Chromatography. *Archives of Biochemistry and Biophysics* 716: 109110.

116. Grintzalis, K., Papapostolou, I., **Georgiou, C. D.** (2022). Assays for the quantification of antioxidant enzymes in fungi, Chapter 8. pp. 145-157. In *Laboratory Protocols in Fungal Biology - Current Methods in Fungal Biology,* Gupta, V. K., Tuohy, M. (Eds.), 2nd ed., 2022, Springer Nature Switzerland AG, Cham, Switzerland, ISBN 978-3-030-83748-8 ISBN 978-3-030-83749-5 (eBook), https://doi.org/10.1007/978-3-030-83749-5.

117. Grintzalis, K., Patsoukis, N., Papapostolou, I., Zervoudakis, G., Kalaitzopoulou, E., **Georgiou, C. D.**, Matsokis, N. A., Panagopoulos, N. T. (2022). Alterations in thiol redox state and lipid peroxidation in the brain areas of male mice during aging. *Advances in Redox Research* 6: 100043.

118. **Georgiou, C. D.**, Kalaitzopoulou, E., Skipitari, M., Papadea, P., Varemmenou, A., Gavriil, V., Sarantopoulou, E., Kollia, Z., Cefalas, A.-C. (2022). Physical differences between man-made and cosmic microwave electromagnetic radiation and their exposure limits, and radiofrequencies as generators of biotoxic free radicals. *Radiation 2*: 285-302.

119. Habeos, G. I., Filippopoulou, F., Habeos, E. E., Kalaitzopoulou, E., Skipitari, M., Papadea, P., Lagoumintzis, G., Niarchos, A., **Georgiou, C. D.**, Dionysios V. Chartoumpekis, D. V. (2022). Maternal calorie restriction during pregnancy induces the transcriptional activation of a cytoprotective response in embryonic liver, at least partially, in an Nrf2-dependent manner. *Antioxidants* 11: 2274.

120. Svarnas, P., Poupouzas, M., Papalexopoulou, K., Kalaitzopoulou, E., Skipitari, M., Papadea, P., Varemmenou, A., Giannakopoulos, E., **Georgiou, C. D.**, Georga, S.,

Krontiras, C. (2022). Water modification by cold plasma jet with respect to physical and chemical properties. *Applied Sciences* 12: 11950.

121. Lilimpakis, K., Tsepelaki, A., Kalaitzopoulou, E., Zisimopoulos, D., Papadea, P., Skipitari, M., Varemmenou, A., Aggelis, A., Vagianos, C., Constantoyannis, C., **Georgiou, C. D.** (2022).Time progression and regional expression of brain oxidative stress induced by obstructive jaundice in rats. *Laboratory Animal Research* 38: 35.
122. Skipitari, M., Kalaitzopoulou, E., Papadea, P., Varemmenou, A., Gavriil, V. E., Sarantopoulou, E., Cefalas, A.-C., Tsakas, S., Rosmaraki, E., Margiolaki, I., Grune, T., **Georgiou, C. D.** (2023). Titanium dioxide nanoparticle-based hydroxyl and superoxide radical production for oxidative stress biological simulations. *J. Photochem. Photobiol. A: Chem*. 435: 114290.
123. Papadea, P., Skipitari, M., Kalaitzopoulou, E., Varemmenou, A., Spiliopoulou, M., Papasotiriou, M., Papachristou, E., Goumenos, D., Onoufriou, A., Rosmaraki, E., Margiolaki, I., **Georgiou, C. D.** (2023). Methods on LDL particle isolation, characterization and component fractionation for the development of novel specific oxidized LDL status markers for atherosclerotic disease risk assessment. *Frontiers in Medicine* 9: 1078492.
124. Angelis, A., Kostakis, I. D., Lilimpakis, K., Kalaitzopoulou, E., Papadea, P., Skipitari, M., **Georgiou, C. D.**, Vagianos, C. (2023). Time-related evidence of intestinal oxidative stress in obstructive jaundice-induced rats. *European Surgical Research* 64(3): 323-333.
125. Papadea, P., Kalaitzopoulou, E., Skipitari, M., Varemmenou, A., Papasotiriou, M., Papachristou, E., Goumenos, D., Grune, T., **Georgiou, C. D.** (2023). Novel oxidized LDL-based clinical markers in peritoneal dialysis patients for atherosclerosis risk assessment. *Redox Biology* 64: 102762.
126. Kostopoulou, K., Varemmenou, A., Kalaitzopoulou, E., Papadea, P., Skipitari, M., Gil, A. P. R., Spiliotis, B. E., Fouzas, S., **Georgiou, C. D.** (2024). New clinical markers of oxidized lipid-associated protein damage in children and adolescents with obesity. *Children* 11: 314.
127. **Georgiou, C. D.**, Giannakopoulos, E., Salahas, G., Kalaitzopoulou, E., Varemmenou, A., Michail, E., Skipitari, M., Papadea, P. (2024). Extra Virgin Olive Oil long-term preservation evaluation by lipid hydroperoxides and malondialdehyde toxicological concern levels. *ACS Food Science & Technology* 4(7): 1673-1679.
128. Tatani, I., Kalaitzopoulou, E., Skipitari, M., Ntoukas, A., Tsaliki, E. A., Giakoumakis, S., Lakoumentas, J., Varemmenou, A., Michail, E., Papadea, P., Georgiou, C. D.

Panagiotopoulos. E. (2025) Reduction of oxidative stress in total knee arthroplasty using tourniquet with a novel pharmaceutical combination. SICOT (Société Internationale de Chirurgie Orthopédique et de Traumatologie)-J. 11: 47.

129. Betsos, T., Zemadanis, K., Papadea, P., Skipitari, M., Kalaitzopoulou, E., Varemmenou, A., Michail, E., Philippou, A., **Georgiou C. D.** (2025). Manual therapy reduces pain, disability and oxidative stress in patients with chronic non-specific neck pain; a double-blind, randomized pilot study. Journal of Manual & Manipulative Therapy, Sep 4: 1-9.
130. Varemmenou, A., Michail, E., Kalaitzopoulou, E., Papadea, P., Skipitari, M., Papasotiriou, M., Papachristou, E., Goumenos , D., **Georgiou, C. D.** (2026). Impact of a single hemodialysis session on oxidative stress-inducing and oxidative damage biomarkers in end-stage kidney disease patients. Curr. Issues Mol. Biol. 48(5): 482.

The total is 145 articles, including 15 articles in Astrobiology (listed at the end of the following section *Publications by scientific subject area*)

B. Publications by scientific subject area

Biochemistry of bioenergetics (PhD - Post-doc) (13 articles)

1. **Georgiou, C. D.** (1985). Identification and characterization of membrane-bound cytochromes in *Vitreoscilla* (oxidase, peroxidase, respiration). Illinois Institute of Technology, ProQuest, UMI Dissertations Publishing No 8517575. Retrieved from http://search.proquest.com/docview/303390454?accountid=28375.
2. **Georgiou, C. D.**, Webster D. A. (1987). Identification of *b*, *c*, and *d* cytochromes in the membrane of *Vitreoscilla*. *Archives of Microbiology* 148: 328-333.
3. **Georgiou, C. D.**, Webster, D. A. (1987). Purification and partial characterization of the membrane-bound cytochrome *o* (561, 564) from *Vitreoscilla*. *Biochemistry* 26: 6521-6526.
4. **Georgiou, C. D.**, Fang, H., Gennis, R. B. (1987). Identification of the cy*dc* locus required for the expression of the functional form of the cytochrome *d* terminal oxidase complex in *Escherichia coli. Journal of Bacteriology* 169: 2107-2112.
5. **Georgiou, C. D.**, Cokic, P., Carter, K., Webster, D. A., Gennis, R. B. (1988). Relationships between membrane-bound cytochrome *o* from *Vitreoscilla* and that of *Escherichia coli*. *Biochimica et Biophysica Acta* 933: 179-183.

6. **Georgiou, C. D.**, Dueweke, T. J., Gennis, R. B. (1988). Regulation of expression of the cytochrome *d* terminal oxidase in *Escherichia coli* is transcriptional. *Journal of Bacteriology* 170: 961-966.

7. **Georgiou, C. D.**, Dueweke, T. J., Gennis, R. B. (1988). *Beta*-galactosidase gene fusions as probes for the cytoplasmic regions of subunits I and II of the membrane-bound cytochrome *d* terminal oxidase from *Escherichia coli*. *Journal of Biological Chemistry* 263: 13130-13137.

8. Green, N., Fang, H., Lin, R., Newton, G., Mather, M., **Georgiou, C. D.**, Gennis, R. B. (1988). The nucleotide-sequence of the cyd locus encoding the 2 subunits of the cytochrome-d terminal oxidase complex of *Escherichia coli*. *Journal of Biological Chemistry* 263: 13138-13143.

9. Lemieux, L., Chepuri, V., Dueweke, T., Fang, H., **Georgiou, C. D.**, Gennis, R. B. (1989). Recent studies on the structure of the two terminal oxidases of *Escherichia coli*. In *Highlights of Modern Biochemistry* (proceedings of the 14th International Congress of Biochemistry, Prague, Czechoslovakia, 10-15 July, 1988) vol. 1, Ed. Kotyk, A., VSP Utrecht, The Netherlands, pp. 829-836. ISBN: 9067641170, 9789067641173.

10. Minghetti, K. C., Goswitz, V. C., Gabriel, N. E., Hill, J. J., Barassi, C. A., **Georgiou, C. D.**, Chan, S. I., Gennis, R. B. (1992). Modified, large-scale purification of the cytochrome-*o* complex (*bo*-type oxidase) of *Escherichia coli* yields a 2 heme/one copper terminal oxidase with high specific activity. *Biochemistry* 31: 6917-6924.

11. Hosler, J. P., Ferguson-Miller, S., Calhoun, M. W., Thomas, J. W., Hill, J., Lemieux, L., Ma, J., **Georgiou, C.**, Fetter, J., Shapleigh, J., Tecklenburg, M. M., Babcock, G. T., Gennis, B. R. (1993). Insight into the active-site structure and function of cytochrome oxidase by analysis of site-directed mutants of bacterial cytochrome aa_3 and cytochrome *bo*. *Journal of Bioenergetics and Biomembranes* 25: 121-136.

12. Kaysser, T. M., Ghaim, J. B., **Georgiou, C.**, Gennis, R. B. (1995). Methionine-393 is an axial ligand of the heme $b_{(558)}$ component of the cytochrome *bd* ubiquinol oxidase from *Escherichia coli*. *Biochemistry* 34: 13491-13501.

13. Hosler, P. J. Shapleigh, P. J., Michell, M. D., Kim, Y., Pressler, A. M., **Georgiou, C.**, Babcock, T. G., Alben, O. J., Ferguson-Miller, S., Gennis, B. R. (1996). Polar residues in helix VIII of subunit I of cytochrome *c* oxidase influence the activity and structure of the active site. *Biochemistry* 35: 10776-10783.

Biochemistry of plants (6 articles)

1. Salahas, G., Hatzidimitrakis, K., **Georgiou, C. D.**, Angelopoulos, K., Gavalas, A. N. (1997). Phosphate and sulfate activate the phosphoenolpyruvate carboxylase from the C-4 plant *Cynodon dactylon* L. *Botanica Acta* (new name: *Plant Biology*) 110: 309-313.
2. Salahas, G., Peslis, B., **Georgiou, C. D.**, Nikos A. Gavalas, A. N. (1997). Trehalose, an extreme temperature protector of phosphoenolpyruvate carboxylase from the C-4 plant *Cynodon dactylon*. *Phytochemistry* 46: 1331-1334.
3. Zervoudakis, G., **Georgiou, C. D.**, Mavroidis, M., Kokolakis, G. and Angelopoulos, K. (1997). Characterization of purified leaf cytosolic pyruvate kinase from the C-4 plant *Cynodon dactylon. Physiologia Plantarum* 101: 563-569.
4. Zervoudakis, G., Angelopoulos, K., Salahas, G., **Georgiou, C. D.** (1998). Differences in cold inactivation of phosphoenolpyruvate carboxylase among C-4 species: The effect of pH and of enzyme concentration. *Photosynthetica* 35: 169-175.
5. Zervoudakis, G., **Georgiou, C. D.**, Angelopoulos, K. (2001). Pyruvate kinase activity in crude extracts of leaves of *Cynodon dactylon* and other C-4 plants. *Russian Journal of Plant Physiology* 48: 171-175.
6. Salahas, G., Angelopoulos, K., Zervoudakis, G., **Georgiou, C. D.** (2001). Sulfate ion effect on stability and regulatory properties of PEP carboxylase from the C-4 plant *Cynodon dactylon*. *Russian Journal of Plant Physiology* 48: 176-180.

Oxidative stress assays for reactive oxygen species (ROS) and antioxidant enzymes, and for ROS-oxidized lipids, proteins, DNA, ROS simulation (23 articles)

1. Patsoukis, N., **Georgiou, C. D.** (2004). Determination of the thiol redox state of organisms: New oxidative stress indicators. *Analytical and Bioanalytical Chemistry* 378: 1783-1792.
2. Papapostolou, I., Patsoukis, N., **Georgiou, C. D.** (2004). The fluorescence detection of superoxide radical using hydroethidine could be complicated by the presence of heme-proteins. *Analytical Biochemistry* 332: 290-298.
3. Patsoukis, N., Papapostolou, I., **Georgiou, C. D.** (2005). Interference of non-specific peroxidases in the fluorescence detection of superoxide radical by hydroethidine oxidation: a new assay for H_2O_2. *Analytical and Bioanalytical Chemistry* 381: 1065-1072.
4. **Georgiou, C. D.**, Patsoukis, N., Papapostolou, I. (2005). Assay for the quantification of small-sized fragmented genomic DNA. *Analytical Biochemistry* 339: 223-230.
5. Patsoukis, N., **Georgiou, C. D.** (2005). Fluorometric determination of thiol redox state. *Analytical and Bioanalytical Chemistry* 383: 923-929.

6. **Georgiou, C. D.**, Papapostolou, I., Patsoukis, N., Tsegenidis, T., Sideris, T. (2005). An ultrasensitive fluorescent assay for the *in vivo* quantification of superoxide radical in organisms. *Analytical Biochemistry* 347: 144-151.
7. **Georgiou, C. D.**, Papapostolou, I. (2006). Assay for the quantification of intact/fragmented genomic DNA. *Analytical Biochemistry* 358: 247–256.
8. **Georgiou, C. D.**, Papapostolou, I., Patsoukis, N., Grintzalis, K. (2008). Assays for the quantitative characterization of genomic, mitochondrial and plasmid DNA. Kimura, H., Suzuki, A. eds. In: *New Research on DNA damage*, Nova Science Publishers Inc, New York, pp. 183-195. ISBN: 978-1-60876-303-0.
9. **Georgiou, C. D.**, Grintzalis, K., Zervoudakis, G., Papapostolou, I. (2008). Mechanism of Coomassie brilliant blue G-250 binding to proteins: a hydrophobic assay for nanogram quantities of proteins. *Analytical and Bioanalytical Chemistry* 391: 391-403.
10. **Georgiou, C. D.**, Papapostolou, I., Grintzalis, K. (2008). Superoxide radical detection in cells, tissues, organisms (animals, plants, insects, microorganisms), and soils. *Nature Protocols* 3: 1679-1692.
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12. Grintzalis, K., Papapostolou, I., **Georgiou C. D.** (2013). Protocol for the *in vivo* quantification of superoxide radical in fungi. In: *Laboratory Protocols in Fungal Biology: Current Methods in Fungal Biology*, Gupta, V. K., Tuohy, M. G., Ayyachamy, M., Turner, K. M., O'Donovan, A. (Eds.), Springer, NY, p. 259-264. ISBN: 978-1-4614-2356-0.
13. Papapostolou, I., Grintzalis, K., **Georgiou C. D.** (2013). Protocols for the quantification of dsDNA and its fragmentation status in fungi. In: *Laboratory Protocols in Fungal Biology: Current Methods in Fungal Biology*, Gupta, V. K., Tuohy, M. G., Ayyachamy, M., Turner, K. M., O'Donovan, A. (Eds.), Springer, N.Y, p. 501-504. ISBN: 978-1-4614-2356-0.
14. Grintzalis, K., Zisimopoulos, D., Grune, T., Weber, D., **Georgiou, C. D.** (2013). Method for the simultaneous determination of free/protein malondialdehyde and lipid/protein hydroperoxides. *Free Radical Biology Medicine* 59: 27-35.
15. Grintzalis, K., Papapostolou, I., Zisimopoulos, D., Stamatiou, I., **Georgiou, C. D.** (2014). Multiparametric protocol for the determination of thiol redox state in the living matter. *Free Radical Biology Medicine* 74: 85-98.
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Biochemistry of oxidative stress in medicine (44 articles)

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Obstructive jaundice-esophageal varices

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Hepatectomy-cholestatic liver-cirrhosis

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Bile duct ligation

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Opthalmology-pseudoexfoliation syndrome

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Diabetes/obesity

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Caloric restriction

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Cancer

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1. Tatani, I., Kalaitzopoulou, E., Skipitari, M., Ntoukas, A., Tsaliki, E. A., Giakoumakis, S., Lakoumentas, J., Varemmenou, A., Michail, E., Papadea, P., Georgiou, C. D. Panagiotopoulos. E. (2025) Reduction of oxidative stress in total knee arthroplasty using tourniquet with a novel pharmaceutical combination. SICOT (Société Internationale de Chirurgie Orthopédique et de Traumatologie)-J. 11: 47.

Manual therapy

1. Betsos, T., Zemadanis, K., Papadea, P., Skipitari, M., Kalaitzopoulou, E., Varemmenou, A., Michail, E., Philippou, A., **Georgiou C. D.** (2025). Manual therapy reduces pain, disability and oxidative stress in patients with chronic non-specific neck pain; a double-blind, randomized pilot study. Journal of Manual & Manipulative Therapy, Sep 4: 1-9.

Hemodialysis

1. Varemmenou, A., Michail, E., Kalaitzopoulou, E., Papadea, P., Skipitari, M., Papasotiriou, M., Papachristou, E., Goumenos , D., **Georgiou, C. D.** (2026). Impact of a single hemodialysis session on oxidative stress-inducing and oxidative damage biomarkers in end-stage kidney disease patients. Curr. Issues Mol. Biol. 48(5): 482.

Oxidative stress in electrochemistry, radiation, environment (5 articles)

1. Papaefthymiou, H. **Georgiou, C. D.** (2007). Indoor radon levels in primary schools of Patras, Greece. *Radiation Protection Dosimetry* 124: 172–176.
2. **Georgiou, C. D.** (2010). Oxidative stress-induced biological damage by low-level EMFs: Mechanism of free radical pair electron spin polarization and biochemical amplification. *European Journal of Oncology* 5: 63-113 (In: *Non-thermal effects and mechanisms of interaction between electromagnetic fields and living* matter, Giuliani, L., Soffritti, M. Eds, *Ramazzini Institute European J. Oncology Library* 5, ISBN: 978-88-6261-166-4).
3. **Georgiou, C. D.**, Margaritis, L.H. (2021). Oxidative stress and NADPH oxidase: Connecting electromagnetic fields, cation channels and biological effects. *International Journal of Molecular Sciences* 22(18): 10041.
4. **Georgiou, C. D.**, Kalaitzopoulou, E., Skipitari, M., Papadea, P., Varemmenou, A., Gavriil, V., Sarantopoulou, E., Kollia, Z., Cefalas, A.-C. (2022). Physical differences between man-made and cosmic microwave electromagnetic radiation and their exposure limits, and radiofrequencies as generators of biotoxic free radicals. *Radiation 2*: 285-302.
5. Svarnas, P., Poupouzas, M., Papalexopoulou, K., Kalaitzopoulou, E., Skipitari, M., Papadea, P., Varemmenou, A., Giannakopoulos, E., **Georgiou, C. D.**, Georga, S., Krontiras, C. (2022). Water modification by cold plasma jet with respect to physical and chemical properties. *Applied Sciences* 12: 11950.

Astrobiology: Planetary reactive oxygen species and extraterestrial life search: detection/methods/instrumentation (15 articles/book chapters/29 meetings)

1. **Georgiou, C. D.**, Papapostolou, I., Sun, H., McKay, C. P. (2007). Superoxide radical assays and applications in Mars-like Atacama soil. *Journal of Geophysical Research* 112: G04S13.
2. **Georgiou, C. D.**, Deamer, D. W. (2014). Lipids as universal biomarkers of extraterrestrial life. *Astrobiology* 14(6): 541-549.

3. **Georgiou, C. D.**, Sun, H. J., McKay, C. P., Grintzalis, K., Papapostolou, I., Zisimopoulos, D., Panagiotidis, K., Zhang, G., Koutsopoulou, E., Christidis, G. E., Margiolaki, I. (2015). Evidence for photochemical production of reactive oxygen species in desert soils. *Nature Communications* 6: 7100. DOI: **10.1038/ncomms8100**.
4. Deamer, D. W., **Georgiou, C. D.** (2015). Hydrothermal conditions and the origin of cellular life. *Astrobiology* 15: 1091-1095.
5. **Georgiou, C. D.**, Zisimopoulos, D., Panagiotidis, K., Grintzalis, K., Papapostolou, I., Quinn, R. C., McKay, C. P., Sun, H. (2016). Martian superoxide and peroxide O_2 release (OR) assay: A new technology for terrestrial and planetary applications. *Astrobiology* 16(2): 126-142 (posted on ***NASA Technical Reports Server*** - Providing Access to NASA's Technology, Research, and Science: http://ntrs.nasa.gov/search.jsp?R=20160000582).
6. **Georgiou, C. D.**, Zisimopoulos, D., Kalaitzopoulou, E., Quinn, R. C. (2017). Radiation driven formation of reactive oxygen species in oxychlorine containing Mars surface analogues. *Astrobiology* 17(4): 319-336.
7. **Georgiou, C. D.** (2018). Functional properties of amino acid side chains as biomarkers of extraterrestrial life. *Astrobiology* 18(11): 1479-1496.
8. **Georgiou, C. D.**, McKay, C., Quinn, R., Kalaitzopoulou, E., Papadea, P., Skipitari, M. (2019). The Oxygen Release Instrument: Space mission reactive oxygen species measurements for habitability characterization, biosignature preservation potential assessment, and evaluation of human health hazards. *Life (Basel)* 9: 70; doi:10.3390/life9030070.q
9. **Georgiou, C. D.** (2019). Intelligent equipment control for space applications in astrogeobiology: Oxidant detection on planetary surfaces. *Системная инженерия и информационные технологии* (*Systems Engineering and Information Technology*) Tom 1 2(2): 30-32 (ISSN 2658-5014; http://siit.ugatu.su/index.php/journal/article/view/19).
10. **Georgiou, C. D**., Deamer, D. W. (2021). Amphiphilic self-assembly and the origin of life in hydrothermal conditions, Ch 19, 12 p. In *Handbook of Lipid Membranes: Molecular, Functional, and Materials Aspects* (Ed Safinya, C. R., Radler, J.), 1st edition, CRT Press, Boca Raton, pp 376, eBook ISBN 9780429194078.
11. **Georgiou, C. D.**, Chatzitheodoridis, E., Kalaitzopoulou, E., Papadea, P., Skipitari, M., Varemmenou, A., Thoma, A., Stavrakakis, H. -A., Kapagiannidis, A., Markopoulos, I., Platanou, D., Alexandrou, A., Holynska, M. (2022). Reactive Oxygen Species (ROS) detection in planetary regoliths, soils and ices with the OxR device. *9th European*

Conference for Aeronautics and Space Sciences (EUCASS), Lille, France. DOI: 10.13009/EUCASS2022-7283.

12. **Georgiou, C. D.**, McKay, C., Reymond, J. L. (2023). Organic catalytic activity as a method for agnostic life detection. *Astrobiology* 23(10): 1118-1127.
13. Neveu, M., Quinn, R., Barge, L., Craft, K., German, C., Getty, S., Glein, C., Parra, M., Science Organizing Committee. Burton, A., Cary, F., Corpolongo, A., Fifer, L., Gangidine, A., Gentry, D., **Georgiou, C. D.**, Haddadin, Z., Herbold, C., Inaba, A., Jordan, S., Kalucha, H., Klier, P., Knicely, J., Li, A., McNally, P., Millan, M., Naz, N., Raj, C. G., Timm, J., Yang, Z. Workshop Report Contributors. (2024). Future of the search for life: Workshop report. *Astrobiology* 24: 114-129.
14. Chatzitheodoridis, E., **Georgiou, C. D.**, Ferus, M., Kalaitzopoulou, E., Stavrakakis, H. - A., Markopoulos, I., Holynska, M. (2024). Sensing technologies for the challenging Lunar environment. *Advances in Space Research* 74(7): 3407-3436.
15. Singh, T., **Georgiou, C. D.**, Jeffrey, C., Tucker, M., Philbin, C., Mahmud, T., McKay, C., Sun, H. (2025). UVC-intense exoplanets may not be uninhabitable: evidence from desert lichens. Astrobiology 25(6): 404-412.

Astrobiology meetings/seminars

1. **Georgiou C. D.** 2009. Invited speaker of the *Desert Research Institute* (Las Vegas, USA) in March 27: Speech title ‘Methodological approaches in the detection of oxidants in Mars and other planets’.
2. **Georgiou C. D.** 2009. Invited by Ames Research Center, Space Science Division (Dr. Christopher P. McKay) to participate as Lecturer/Researcher in the field astrobiology research program ‘Spaceward Bound’ (http://quest.nasa.gov/projects/spacewardbound/field.html), jointly sponsored by NASA Ames Research Center, Desert Research Institute, and California State University, which took place in the Mojave Desert and Death Valley during March 22-27.
3. **Georgiou C. D.** 2012. Seminar at NASA Ames Research Center (Astrobiology Division), titled "Lipids as Biomarkers in the Search for Life", on August 03.
4. **Georgiou C. D.** 2009, 2014. Invitations by Dr Chris McKay (Space Science Division) to NASA Ames Research Center, Astrobiology Division (Moffett Field, Mountain View, CA) for research collaboration, on April 25 1(to August 09) on May 05, 2012 (to August 05) and on March 25, **2014** (to August 6).

5. **Georgiou C. D.** 2015. Invited speaker (topic title “Oxidative Stress: From Biochemistry to Astrogeobiology”) in the 66th Annual meeting on Biochemistry & Molecular Biology, 1-13 December**,** Athens, Greece.
6. McKay, C. P., Davila, A., **Georgiou, C. D.**, Sun, H. (2015). Amino acids as evidence for life in the plumes of the outer solar system (abstract ID #3005). Workshop on the Potential for Finding Life in a Europa Plume. Convened by the *Planetary Science Division*, NASA Headquarters, Washington, DC, and co-hosted by *NASA Astrobiology Institute* and *Solar System Exploration Research Virtual Institute* at *NASA Ames Research Center*, Moffett Field, California, on February 18.
7. Sun, H. J., McKay, C. P., **Georgiou C. D.**, Daly, M. (2015). Origin of radiation resistance in terrestrial microorganisms. *Astrobiology Science Conference*, Chicago, Illinois, June 15-19 (abstract ID #7408).
8. **Georgiou C. D.** 2017. Invited speaker (topic title: Intelligent Equipment for Space Applications) in the *Russian – Greek Scientific Workshop*, 17 – 27 July, organized by the Ufa State Aviation Technical University (Laboratory for Automation and Robotics), Ufa, Russia, and the University of Patras, Patras, Greece.
9. **Georgiou, C. D.** (2020). Biosignatures for the search of extraterrestrial life: on Mars, Europa, and Enceladus. 4th Network of Researchers on Horizontal Gene Transfer and Last Universal Common Ancestor (NoR HGT & LUCA) Conference - Molecules to Microbes, November 4-6, 2018, Eugenides Foundation, Athens, Greece (Jheeta, S. NoR CEL conference report). ***Sci*** 2: 86; doi: 10.3390/sci2040086.
10. **Georgiou, C. D.** 2021. Planetary reactive oxygen species (ROS): from O_2 harvesting for Mars/Moon space stations, to astronaut health and the search for extraterrestrial life. *1st Athens Space & Satellite Industry Summit. Digital Conference*, July 7 & 8, 2021.
11. **Georgiou, C.D.**, Chatzitheodoridis, E. (2022). From reactive oxygen species (ROS) and astrobiology to the production of oxygen from planetary soils, *Singularity Talks: NoRCEL, Board, Astrobiology Society, The University of Manchester*, Live Event March 23, 2022 (https://www.youtube.com/watch?v=lKRwedjdX1A).
12. **Georgiou, C.D.**, Chatzitheodoridis, E., Kalaitzopoulou, E., Papadea, P., Skipitari, M., Varemmenou, A., Thoma, A., Stavrakakis, H. -A., Kapagiannidis, A., Markopoulos, I., Platanou, D., Alexandrou, A., Holynska, M. (2022). Reactive oxygen species (ROS) detection in planetary regoliths, soils and ices with the OxR device. Oral presentation EUCASS-9121871, Abstract-ID 7283 (Space Exploration – ISRU) *9th European Conference for Aeronautics and Space Sciences, EUCASS-3AF 2022*, 27th June το 1st July, Lille Grand Palais, France.

13. **Georgiou, C.D.**, Chatzitheodoridis, E., Kalaitzopoulou, E., Papadea, P., Skipitari, M., Varemmenou, A., Thoma, A., Stavrakakis, H. -A., Kapagiannidis, A., Markopoulos, I., Platanou, D., Alexandrou, A.[3], Holynska, M. (2022). OxR: An instrument to identify reactive oxygen species (ROS) on planetary regoliths, soils and ices. Oral presentation B0.2-0005-22, Abstract-ID 31430 (section: B0.2 Space Resources, presentation B0.2-0005-22). *44th COSPAR Scientific Assembly*, Athens, Greece, July 16 to 24, 2022 (https://cospar-assembly.org/uploads/documents/Finalprogram-2022.pdf).
14. Chatzitheodoridis, E., **Georgiou, C. D.** (2022). OxR: an instrument for measuring Reactive Oxygen Species in nature, NoRCE (https://norcel.net/oxr_instrument/), Sept 4, 2022.
15. Chatzitheodoridis, E., Jheeta, S., **Georgiou, C. D.**, Markopoulos, I., Holynska, M. (2022). New instruments, methods, and experiments in astrobiology research: Venus and Mars. The 13th Moscow Solar System Symposium 13M-S[3] (VN-12, oral), 10-14 October 2022, Space Research Institute, Moscow.
16. **Georgiou, D. C.**, Chatzitheodoridis, E., Kalaitzopoulou, E., Papadea, P., Skipitari, M., Varemmenou, A., Thoma, A., Stavrakakis, H. -A., Argyrou, D., Kapagiannidis, A., Markopoulos, I., Alexandrou, A., Holynska, M. (2023). OxR: A novel device for Reactive Oxygen Species (ROS) detection for astrobiology and planetary research **(**oral presentation by Stavrakakis, H. -A.)**,** Biennial European Astrobiology Conference (BEACON), European Astrobiology Institute (EAI), La Palma Island (Canary Islands, Spain), May, 8 to 12, 2023.
17. **Georgiou, C. D.** invited presentation, titled Organic catalytic activity as a method for agnostic life detection, *Young Researchers' Forum* meeting (June 21, 2023, 10:45-12:00, room Ba030), ESA - European Space Research and Technology Centre (ESTEC), Keplerlaan 1, Postbus 299, 2200 AG Noordwijk, The Netherlands.
18. Chatzitheodoridis, H., Ferus, M., **Georgiou, C. D.**, Holynska, M. (2024). Shooting stars: can their understanding provide insights to spacecraft re-entry atmospheric effects? *Understanding the Atmospheric Effects of Spacecraft Re-entry ESA ESTEC Workshop* (https://indico.esa.int/event/493/), Jan 10 – 11, 2024, The Netherlands.
19. **Georgiou C. D.** 2024. Invited interdisciplinary Scientific Seminar in Oxidative Astrobiology at European Space Research and Technology Centre (ESTEC) of European Space Agency (ESA), The Netherlands, on 18 April 2024 (room Ba030), titled "Planetary Reactive Oxidants: field and lab methods to monitor and counter their negative impact on space missions, astronaut health, and Earth's atmosphere" (https://esait.webex.com/webappng/sites/esait/recording/e0da30f4dfb1103cbebb92a8a

eacbde8/playback, https://www.cosmos.esa.int/web/space-science-faculty/events/seminars, posted for 6 months).

20. **Georgiou, C. D.**, Chatzitheodoridis, E., McKay, C. P. (2024). Lunar dust chemical reactivity: A methodological assessment on astronaut health, Lunar station oxygen supply, and other applications (No. 3065; https://www.hou.usra.edu/meetings/lunarsurface24/pdf/5018.pdf). NASA Lunar Surface Science Workshop 24: Science Drivers and Capabilities for Lunar Surface Habitat Research Facilities (https://www.hou.usra.edu/meetings/lunarsurface2020/, https://lunarscience.arc.nasa.gov/lssw/), August 20, Houston, USA.
21. Chatzitheodoridis, E., **Georgiou, C. D.**, Kalaitzopoulou, E., Stavrakakis, H. -A., Markopoulos, I., Holynska, M. (2024). Microfluidic instruments to assess biotoxicity from Reactive Oxygen Species (ROS) of planetary regoliths tested on high-fidelity simulants. Abstract EANA2024-118, EANA 2024 conference, September 3-6, 2024, “Alte Technik”, Graz University of Technology, Graz, Austria.
22. **Georgiou, C. D.**, Chatzitheodoridis, E., Holynska, M., Tighe, A. P. (2024). Instrumental methods to monitor and counter planetary oxidants in space applications, abstract 543050, ISMSE16 conference, Saint-Raphaël, France-Oct 2024.
23. Chatzitheodoridis, E., **Georgiou, C. D.**, Holynska, M., Tighe, A. P. (2024). The significance of producing activated Lunar and Martian dust simulants of high-fidelity for planetary exploration and habitability purposes, abstract 543067, ISMSE16 conference, Saint-Raphaël, France-Oct 2024.
24. **Georgiou, D. C.**, Chatzitheodoridis, E. (2025). Instrument proposals for astronaut health monitoring and protection (oral presentation by G.D.C.), Deutsches Zentrum für Luft- und Raumfahrt (DLR; German Aerospace Center), ESA European Astronaut Center (EAC), Room 012, Linder Höhe, 51147 Köln, Germany, March 17, 2025.
25. **Georgiou, D. C.**, Chatzitheodoridis, E. (2025). Modelling, sensing and managing solar oxidants that influence the success of space missions: manned, for alien life search to sample return (oral presentation by G.D.C.), Deutsches Zentrum für Luft- und Raumfahrt (DLR; German Aerospace Center), ENVIHAB building, Room M8, Linder Höhe, 51147 Köln, Germany, March 19, 2025.
26. **Georgiou C. D.**, Chatzitheodoridis, E. (2025). Sensing and modelling planetary dust Reactive Oxygen Species (ROS) and their effects on space missions by high-fidelity ROS-activated dust simulants (oral presentation by G.D.C.). Planetary Dust Contamination Workshop 2025, 4th–5th June 2025, ESA-ESTEC, The Netherlands.

27. **Georgiou C. D.** 2025, Presentation of Stellar Discoveries (start-up of ESA BIC Greece – Business Incubation Centre), Greek Space Tech Forum 2025 “The Greek Space Ecosystem in an International Challenging Environment”, Athens Conservatory, 01-02/07/2025.
28. Chatzitheodoridis, E., **Georgiou, D. C.**, Kalaitzopoulou, E., Stavrakakis, H. -A., Michail, E., Varemmenou, A., Tighe, A. -P., Holynska, M. (2025). Ultra-high-fidelity planetary dust simulants for modelling and sensing reactive oxygen species (ROS)-activated terrestrial and extraterrestrial environments (abstract). 14th International Conference on Instrumental Methods of Analysis (IMA): Modern Trends and Applications, Kefalonia, Greece, 14-17 September 2025 (https://ima2025.gr).
29. Chatzitheodoridis, E., **Georgiou, C. D.**, Tolentino, E., Borgersen, Ø. R., Holynska, M., Tighe, A. (2026). Simulation of the Lunar surface environment (LSE) and production of high to ultra-high fidelity oxidatively activated Lunar dust simulants for payload testing and biotoxicity experiments. Abstract - Luxemboutg Space Resources Week (SRW) 04-07 May 2026.

II. NATIONAL & INTERNATIONAL SCIENTIFIC PRESENTATIONS/MEETINGS

It consists of **115** scientific presentations (not listed) from a corresponding number of scientific meetings, **37** of which are international. From the **37** international scientific presentations, **12** are published in peer-reviewed journals.

III. BOOK AUTHOR

1. *Experimental Biochemistry*, 1993 (Publisher: University of Patras).
2. *Research and Experiments in Biochemistry*, 1994 (Publisher: University of Patras).
3. *Biotechnology: Applications of Biocatalysts*, 1996 (Publisher: University of Patras).
4. *Biotechnology*, 2006 (as coauthor (Publisher: University of Patras).
5. *Biotechnology in Greece: Teaching & Research Activities*, 1998 (as coauthor. Editor: Rubelaki-Aggelaki, K. A., Dept of Biology, University of Crete, Greece).
6. Biochemistry: Experiment & Theory, 2001, 2003, 2012 (Publisher: University of Patras).

IV. BOOK TRANSLATOR (FROM ENGLISH TO GREEK LANGUAGE)

1. Noble, Denis, Dance to the Tune of Life - Biological Relativity and Systems Biology, 1st edition 2025, Broken Hil Publishers LTD, Nicosia, Cyprus (Greek Translation Electra Kalaitzopoulou, Scientific Editing Christos Georgiou), ISBN: 978-9925-35-087-2,

Eudoxus Code: 11269180. The Greek translation of the book is posted by Denis Noble on the website (https://www.denisnoble.com/greek/).

2. Edited translation of the books *Biochemistry* (Lubert Stryer, Jeremy M. Berg, John L. Tymoczko, ISBN 9789925563333, Broken Hill Publishers Ltd, 2018), και *Lehninger's Lehninger Principles of Biochemistry*, 2nd edition (David L. Nelson, Michael M. Cox, ISBN 9789925563203, Broken Hill Publishers Ltd, 2018).
3. Kitcher, Philip, *The Lives to Come: The Genetical Revolution and Human Possibilities*, New York: Simon and Schuster, 1996 (as sole translator. Publisher: University of Patras, Patras, 2000).
4. Kolata, Jena, *Clone: The Road to Dolly and the Path Ahead*, New York: William Morrow, 1998 (as co-translator. Publisher: Travlos Publications, Athens 1999).
5. Darvin, Charles, *The Origin of Species*, 6th edition, 1872 (as co-translator. Publisher: University of Patras, Patras, 1998).

DISTINGUISHED SCIENTIFIC PUBLICATIONS

- Publications in scientific journals of ***Nature***:

  Georgiou, C. D., Papapostolou, I., Grintzalis, K. (2008). Superoxide radical detection in cells, tissues, organisms (animals, plants, insects, microorganisms), and soils. *Nature Protocols* 3: 1679-1692. **IF: 10.032** (2017)

  Georgiou, C. D., Papapostolou, I., Grintzalis, K. (2009). Protocol for the quantitative assessment of DNA concentration and damage (fragmentation and nicks). *Nature Protocols* 4: 125-131. **IF: 10.032** (2017).

  Georgiou, C. D., Sun, H. J., McKay, C. P., Grintzalis, K., Papapostolou, I., Zisimopoulos, D., Panagiotidis, K., Zhang, G., Koutsopoulou, E., Christidis, G. E., Margiolaki, I. (2015). Evidence for photochemical production of reactive oxygen species in desert soils. *Nature Communications* 6: 7100. **IF: 12.124** (2017).

- Publications in the leading scientific journals of Biochemistry of Oxidative Stress ***Free Radical Biology Medicine*** και ***Redox Biology***:

  Grintzalis, K., Papapostolou, I., Zisimopoulos, D., Stamatiou, I., **Georgiou, C. D.** (2014). Multiparametric protocol for the determination of thiol redox state in the living matter. *Free Radical Biology Medicine* 74: 85-98. **IF: 5.606** (2017).

  Grintzalis, K., Zisimopoulos, D., Grune, T., Weber, D., **Georgiou, C. D.** (2013). Method for the simultaneous determination of free/protein malondialdehyde and

lipid/protein hydroperoxides. *Free Radical Biology Medicine* 59: 27-35. **IF: 5.606** (2017).

Georgiou, C. D., Zisimopoulos, D., Argyropoulou, V., Kalaitzopoulou, E., Salachas, G., Grune, T. (2018). Protein and cell wall polysaccharide carbonyl determination by a neutral pH 2,4-dinitrophenylhydrazine-based photometric assay. *Redox Biology* 17: 128-142. **IF: 6.337** (2017).

Georgiou, C. D., Zisimopoulos, D., Argyropoulou, V., Kalaitzopoulou, E., Ioannou, P. V., Salachas, G., Grune, T. (2018). Protein carbonyl determination by a rhodamine B hydrazide-based fluorometric assay. *Redox Biology* 17: 236-245. **IF: 6.337** (2017). This method became a commercial kit by *Cayman Chemical Co, USA* (Protein Carbonyl Fluorometric Assay Kit Item No. 701530: https://www.caymanchem.com/product/701530/protein-carbonyl-fluorometric-assay-kit, last accessed August 6 , 2020), as also certified by the users-manual (https://www.caymanchem.com/pdfs/701530.pdf, last accessed August 6, 2020).

- Tribute to the following publication by the news magazine for the European Life Sciences ***Lab Times*** (March 2009, p. 56)**,** under the title "**Bradford assay goes Hellenic**" [URL http://www.labtimes.org/labtimes/issues/lt2009/lt03/lt_2009_03_56_56.pdf, last access August 24, 2018]:

  Georgiou, C. D., Grintzalis, K., Zervoudakis, G., Papapostolou, I. (2008). Mechanism of Coomassie brilliant blue G-250 binding to proteins: a hydrophobic assay for nanogram quantities of proteins. *Analytical and Bioanalytical Chemistry* 391: 391-403.

- Tribute to the following publications by the USA science news magazine ***Science Trends*** (August 2018)**,** under the title "**Methods to examine oxidatively carbonylated proteins and cell walls**" [http://doi.org/10.31988/SciTrends.28552; URL https://sciencetrends.com/methods-to-examine-oxidatively-carbonylated-proteins-and-cell-walls/, last access November 07, 2021]:

  Georgiou, C. D., Zisimopoulos, D., Argyropoulou, V., Kalaitzopoulou, E., Salachas, G., Grune, T. (2018). Protein and cell wall polysaccharide carbonyl determination by a neutral pH 2,4-dinitrophenylhydrazine-based photometric assay. *Redox Biology* 17: 128-142.

  Georgiou, C. D., Zisimopoulos, D., Argyropoulou, V., Kalaitzopoulou, E., Ioannou, P. V., Salachas, G., Grune, T. (2018). Protein carbonyl determination by a rhodamine B hydrazide-based fluorometric assay. *Redox Biology* 17: 236-245.

- The following research study was featured as *Key Scientific Article* by *Global Medical Discovery* “as being of special interest to the drug development sector and advancing biomedical research” [Grintzalis, K., Zisimopoulos, D., Grune, T., Weber, D., **Georgiou, C. D.** (2013). Method for the simultaneous determination of free/protein malondialdehyde and lipid/protein hydroperoxides. *Free Radical Biology Medicine* 59: 27-35 - http://globalmedicaldiscovery.com/key-scientific-articles/method-simultaneous-determination-freeprotein-malondialdehyde-lipidprotein-hydroperoxides/]. *Global Medical Discovery* [ISSN 1929-8536: http://globalmedicaldiscovery.com] is a prominent research news organization that selects a handful of the latest innovative discoveries in the scientific, medical, and pharmaceutical communities “from over 20,000 published articles each week from most peer-reviewed journals”.
- The following research study was used by the **International Agency for Research on Cancer** (IARC) for drafting its report, titled “Non-Ionizing Radiation, Part 2: Radiofrequency Electromagnetic Fields, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, No. 102, 2011” (https: //www.ncbi.nlm.nih.gov/books/NBK304630/pdf/Bookshelf_NBK304630.pdf), which was used by the **World Health Organization** (WHO) to classify the RF-EMF’s as potential carcinogens (Group 2B). The following research study is referred by the IARC-WHO report on pages 101, 103, 121.

  Georgiou, C. D. (2010). Oxidative stress-induced biological damage by low-level EMFs: Mechanism of free radical pair electron spin polarization and biochemical amplification. *European Journal of Oncology* 5: 63-113 (In: *Non-thermal effects and mechanisms of interaction between electromagnetic fields and living* matter, Giuliani, L., Soffritti, M. Eds, *Ramazzini Institute European J. Oncology Library* 5, ISBN: 978-88-6261-166-4).

INTERNATIONAL/NATIONAL RANKING OF SCIENTIFIC WORK

1. Ranking in the top 100,000 scientists worldwide from all scientific fields for 2020, in 2% of the top scientists in my scientific field ("Updated science-wide author databases of standardized citation indicators" https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6), and in 66 (in total over 700 faculty members of the University of Patras) from the 839 top Greek scientists worldwide from all scientific fields (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3, ranking version 2).

2. Ranking at top % percentage: **I.** In the combined field of Biochemistry / Astrobiology / Oxidative Stress: 0.38% among European scientists (2,440 out of 650,381), 0.4% among scientists worldwide (8,892 out of 2,221,143). **II.** In general ranking: 4.4% among scientists of the University of Patras (44 out of 1,006), 5% among Greek scientists (657 out of 12,980), 5.5% among European scientists (35,696 out of 650,381), 4.5% among scientists worldwide (99,727 out of 2,221,143). Source: *Scientific Index 2024* (https://www.adscientificindex.com/scientist/christos-d-georgiou/1840002).
3. Ranked in the top 2% of the world's top scientists, University of Patras International Classification Committee, Secretariat of the Rectorate, 26 September 2024 2024 (https://www.upatras.gr/wp-content/uploads/2024/09/Συνημμένο_2.pdf).
4. ScholarGPS (ID: 67873892695643) ranking (2024 Top Scholar): Overall 0.85%. Specialties (indicative): Oxidative stress 0.19%, Analytical chemistry 3.4%, Biosynthesis 5.74%, Lipid peroxidation 2.35%, Hydroxyl radical 4.84%, Antioxidant 7.73%, Vitamin C 1.46%, Biomarker 0.74%, Lipid 1.35%, Biological membrane 4.11%, DNA 7.33% (https://scholargps.com/scholars/67873892695643/christos-d-georgiou).
5. Ranked in the top 2% of scientists worldwide in 2024: Ioannidis, John P.A. (2025), August 2025 data-update for "Updated science-wide author databases of standardized citation indicators", Elsevier Data Repository, V8, doi: https://dx.doi.org/10.17632/btchxktzyw.8, file “Table_1_Authors_singleyr_2024_pubs_since_1788_wopp_extracted_202508”.

REVIEWER/EDITOR IN SCIENTIFIC JOURNALS - EXTERNAL EVALUATOR OF PROFESSOR CANDIDATES IN INTERNATIONAL RESEARCH INSTITUTIONS

Reviewer in the following **131** scientific journals (Web of Science verified): *ACS Applied Materials & Interfaces, ACS Medicinal Chemistry Letters, Advances in Agricultural Science, Advances in Redox Research, African Journal of Agricultural Research, African Journal of Biotechnology, African Journal of Microbiology Research, AIMS Microbiology, American Mineralogist, Analytical and Bioanalytical Chemistry, Analytical Biochemistry, Analytical Chemistry, Annals of Biomedical Engineering, Annals of Microbiology, Antioxidants, Applied and Environmental Microbiology, Applied Microbiology and Biotechnology, Applied Sciences, Astrobiology, Biocell, Biochemistry and Biophysics Reports, Biochimica et Biophysica Acta (BBA) - Molecular Cell Research, Biogeochemistry, BioMed Research International, Biomedicines, Biophysical Chemistry, BioTechniques, BMC Gastroenterology, BMC Genomics, Canadian Journal of*

Microbiology, Cell Biochemistry and Biophysics, Cells, Chemical Engineering Journal, Chemical Papers, Chromatography, Clinical Biochemistry, Clinical Nutrition, Colloids and Surfaces B: Biointerfaces, Comparative Biochemistry and Physiology, Crystals, Current Diabetes Reviews, Current Eye Research, Current Genetics, Drugs of Today, Electromagnetic Biology and Medicine, Entropy, Environmental and Experimental Botany, Environmental Microbiology, Environmental Science & Technology, FEMS Microbiology Letters, Foods, Free Radical Biology and Medicine, Free Radical Research, Frontiers in Microbiology, Fungal Biology, Fungal Genetics and Biology, Gastroenterology Research and Practice, Gene, Genes, Geosciences, Icarus, Insights in Biology and Medicine, International Journal of Aerospace Engineering, International Journal of Developmental Neuroscience, International Journal of Molecular Science, International Journal of Radiation Biology, Journal of Agricultural and Food Chemistry, Journal of Agricultural Science and Technology, Journal of Applied Microbiology, Journal of Basic Microbiology, Journal of Clinical Microbiology and Biochemical Technology, Journal of Coastal Life Medicine, Journal of Food Processing and Preservation, Journal of Fungi, Journal of Geophysical Research: Earth Surface, Journal of Hazardous Materials, Journal of Industrial and Engineering Chemistry, Journal of Ophthalmology, Journal of Personalized Medicine, Journal of Pharmaceutical and Biomedical Analysis, Journal of Physical Chemistry Letters, Journal of Phytopathology, Journal of Proteome Research, Journal of Proteomics, Journal of Separation Science, Journal of Signal Transduction, Journal of Visualized Experiments, Journal of Zhejiang University SCIENCE B, Life, Life Sciences, Marine Drugs, Metabolites, Microbial Biotechnology, Microbial Ecology, Microbiology, Microbiology Spectrum, Micron, Microorganisms, Molecular Biotechnology, Molecular Vision, Molecules, Mycologia, Mycopathologia, Mycoscience, Nanomaterials, Nature Protocols, Ocular Immunology and Inflammation, Online International Journal of Medicinal Plants Research, Oxidative Medicine and Cellular Longevity, PeerJ, Pharmaceuticals, Pharmaceutics, Photochem, Physiological and Molecular Plant Pathology, Phytochemistry, Plant Pathology Journal, Planta, Plants, Plos One, Polish Journal of Microbiology, Preparative Biochemistry and Biotechnology, Processes, Sci, Scientific Reports, Separations, Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Sustainability, The Neuroscientist, The Open Mycology Journal, Toxins, Viruses

Editorial positions in the following **22** scientific journals: ***Astrobiology*** (https://home.liebertpub.com/publications/astrobiology/99/editorial-board), *AIMS Microbiology* (http://www.aimspress.com/news/131.html), *Endocrine & Metabolic Drugs*

(http://benthamscience.com/journals/clinical-immunology-endocrine-and-metabolic-drugs/editorial-board/#top), ***Frontiers in Aging, Metabolism and Redox Biology*** (https://www.frontiersin.org/journals/aging/sections/aging-metabolism-and-redox-biology/editors), ***Frontiers in Public Health - Radiation and Health*** *(https://www.frontiersin.org/journals/public-health/editors), HSOA Journal of Cell Biology & Cell Metabolism* (http://www.heraldopenaccess.us/journals/Cell-Biology-&-Cell-Metabolism), *Jacobs Journal of Plant Biology* (http://plantbiology.jacobspublishers.com), *Journal of Astrobiology & Outreach* (http://www.esciencecentral.org/journals/astrobiology-and-outreach.php), *Journal of Biology and Medicine* (http://www.peertechz.com/Biology-Medicine/editorialboard.php), *Journal of Cellular and Molecular Pharmacology* (https://www.omicsonline.org/editorialboard-journal-cellular-molecular-pharmacology.php), *Journal of Cellular Toxicology and Cell Biology* (http://norcaloa.org/index.php/CTCB/about/editorialTeam), *Insights in Biology and Medicine* (https://www.heighpubs.org/hjbm/editors.php), *International Journal of Cell & Systems Developmental Biology* (http://scidoc.org/IJCSDB.php), *Journal of Coastal Life Medicine*, *Journal of Gene Therapy for Genetic Disorders* (http://heraldopenaccess.org/herald/eb/Genetics/), *Journal of Infectious Diseases and Pathogenesis* (http://www.scholarenajournals.org/journals/journal-of-infectious-diseases-and-pathogenesis/editorial-board.php), *Journal of Novel Physiotherapy & Rehabilitation* (http://www.omicsonline.org/editorialboard-physiotherapy-physical-rehabilitation.php), *Molecular Enzymology and Drug Targets* (http://www.medt.com.es/editors.php), ***Nature's Discover Space - Exploring Lunar and Planetary Environments-Impact on Materials (Guest Editor)***, ***Purification (IF 4.3)*** *(https://www.mdpi.com/journal/purification/editors), Reactive Oxygen Species* (http://www.aimsci.com/ros/index.php/ros/about/editorialTeam), *Separations* (https://www.mdpi.com/journal/separations/editors), *SRL Bioanalysis & Biomedicine* (http://scireslit.com/Bioanalysis/editorsJ.php).

Editorial Board (indicative)

1. ***Astrobiology***
2. ***Nature Discover Space*** (Exploring Lunar and Planetary Environments-Impact on Materials, Testing, and Simulation) **Guest Editor**
3. ***Frontiers in Aging, Metabolism and Redox Biology***

SCIENTIFIC/ACADEMIC MEMBERSHIPS

1. Fellow of the *American Heart Association* and member of the *American Chemical Society*, *American Association for the Advancement of Science*, *American Phytopathological Society*, *European Society for Free Radical Research* (also the Hellenic section), Society for Redox Biology & Medicine, *Society of Integrative and Comparative Biology*, *Hellenic Societies of Biological Sciences and Biochemistry and Molecular Biology*, *International Commission for Electromagnetic Safety* (member of the Scientific Secretariat), *Committee for Skeptical Inquiry*, Sigma Xi - The Scientific Research Honor Society since 2023 (founded in 1886: https://www.sigmaxi.org/home). Founding member, and member of the first Board of Directors of the *Hellenic Society of Free Radicals and Oxidative Stress* (a member of the *European Society for Free Radical Research*).
2. Member of the Ethics Committee of the University of Patras (substitute member from 31-3-2011 until 13/11/2014, full member from 13/11/2014 onwards).

INTERNATIONAL SCIENTIFIC COLLABORATIONS & INSTITUTIONAL AGREEMENTS

1. **NASA Ames Research Center (ARC), Space Science Division** (Moffett Field, California, USA): collaboration with the planetary-geophysicist Christopher McKay and the astrochemist Richard Quinn (also in SETI), on issues of Astrobiology and on the development of theories (and methodologies) for the detection of extraterrestrial life.
2. **Official Agreement between the NASA (Headquarters) and the University of Patras**, since 2011, to provide for Dr. Christos D. Georgiou, visiting researcher status.
3. **Search for Extraterrestrial Intelligence Institute (SETI)**, Mountain View, California, USA, with Richard Quinn (also in ARC) and Alfonso Davila on Astrobiology.
4. **Desert Research Institute** (Nevada, USA): collaboration with the geo-microbiologist Dr. Henry Sun.

   The aim of the scientific collaboration with institutes #1, 2 and 3 is the development of field methods for the identification and quantification of toxic oxidants in Mars soil using Mars-like terrestrial desert soil models.
5. **National Institutes of Health** (NIAAA, Oxidative Stress and Tissue Injury, Rockville USA): collaboration with Staff Scientists Drs Partha Mukhopadhyay and Pal Pacher, in developing new methods for the quantitative evaluation of oxidative stress.

6. **Department of Agriculture, USA** (ARS, Southern Regional Research Center, Food and Feed Safety Research Unit): collaboration with Drs. Perng-Kuang Chang and Jeffrey W. Cary, Staff Scientists.
7. **Northern Illinois University, USA**: collaboration with Dr. Ana M. Calvo, Assoc. Professor. The aim of the scientific collaboration with institutions #4 and #5 is the study of oxidative stress in relation with sclerotial differentiation and the toxin aflatoxin biosynthesis in the fungus *Aspergillus flavus*.
8. **North Carolina State University, USA**: collaboration with professor Dr. Marc A. Cubeta on the role of oxidative stress in the sclerotiogenesis of the phytopathogenic fungus *Rhizoctonia solani*.
9. **Friedrich Schiller University** (Jena, Germany): collaboration with Prof./Dr. Tilman Grune (Chair of the *Department of Nutritional Toxicology* in the *Institute of Nutrition*) on the development of methods for the quantification of lipid and protein peroxidation.
10. **German Institute of Human Nutrition**, Potsdam-Rehbruecke, Germany: collaboration with Prof./Dr. Tilman Grune, Scientific Director.
11. **University of California at Santa Cruz, USA**: collaboration with Prof. David Deamer (Departments of Biomolecular Engineering, and Chemistry and Biochemistry on Astrobiology.
12. **International Commission for Electromagnetic Safety** (ICEMS: http://www.icems.eu): Member since 2008 of ICEMS (member of the Scientific Secretariat), which conducts research to protect public health from electromagnetic fields, and also to develop the scientific basis and strategies for assessment, prevention, management and communication of environmental risks in accordance with the precautionary principle.

INVITATIONS TO INTERNATIONAL MEETINGS AND SEMINARS

1. Invited speaker of the *Society for Integrative and Comparative Biology* (*SICB*) in an international meeting entitled 'Metamorphosis: A Multikingdom Approach', which took place in Orlando, Florida, USA in January 4-8, 2006: Speech title 'Sclerotial metamorphosis in filamentous fungi is induced by oxidative stress'.
2. Invited speaker of the *Desert Research Institute* (Las Vegas, USA) in March 27, 2009: Speech title 'Methodological approaches in the detection of oxidants in Mars and other planets'.

3. Invited by Ames Research Center, Space Science Division (Dr. Christopher P. McKay) to participate as Lecturer/Researcher in the field astrobiology research program 'Spaceward Bound' (http://quest.nasa.gov/projects/spacewardbound/field.html), jointly sponsored by NASA Ames Research Center, Desert Research Institute, and California State University, which took place in the Mojave Desert and Death Valley during March 22-27, 2009.
4. Invited Lecturer of an intensive advanced lab course for European post-graduate students, entitled 'Techniques in Free Radical Research', and organized by the *Federation of European Biochemical Societies* (FEBS) in the University of Debrecen, Hungary, during August 27th and September 2nd, 2010 (course web site http://febs.unideb.hu/eloadok).
5. Invitations by Dr Chris McKay (Space Science Division) to NASA Ames Research Center, Astrobiology Division (Moffett Field, Mountain View, CA) for research collaboration, on April 25, 2011(to August 09) on May 05, 2012 (to August 05) and on March 25, 2014 (to August 6).
6. Seminar at NASA Ames Research Center (Astrobiology Division), titled "Lipids as Biomarkers in the Search for Life", on August 03, 2012.
7. Invited speaker (topic title "Oxidative Stress: From Biochemistry to Astrogeobiology") in the 66th Annual meeting on Biochemistry & Molecular Biology, 1-13 December 2015, Athens, Greece.
8. Invited speaker (topic title: Intelligent Equipment for Space Applications) in the *Russian – Greek Scientific Workshop*, 17 – 27 July 2017, organized by the Ufa State Aviation Technical University (Laboratory for Automation and Robotics), Ufa, Russia, and the University of Patras, Patras, Greece.
9. Invited speaker (topic title: Biochemical mechanisms of biological damage in man from non-ionizing electromagnetic radiations) in the 7th Panhellenic Forum of Public Health & Social Medicine, 3 – 5 November 2017, Conference & Cultural Centre of the University of Patras, Patras, Greece.
10. Workshop on Research Integrity (open session chair), co-organized by the EMBO Science Policy Programme and the University of Patras Bioethics Committee, Conference & Cultural Center of the University of Patras, Greece, 17 May 2018.
11. Chair of the Chemical Biology session of the 72nd Conference of the Hellenic Society of Biochemistry & Molecular Biology, Conference & Cultural Centre, University of Patras, 2-4 December 2022.

EVALUATOR OF THE ACADEMIC CAREER OF SCIENTISTS

1. Cyprus University of Technology (Dr. Dimitris Tsaltas, Department of Agricultural Sciences, Biotechnology and Food Science), Cyprus, 2014.
2. Desert Research Institute (Dr. Henry Sun, Division of Earth and Ecosystem Sciences), Las Vegas, NV, USA, 2015.

Permanent member of the evaluators of the Permanent Committee for Academic Promotion of King Abdulaziz University, Kingdom of Saudi Arabia for:

3. Dr. Maryam Abdu Abdullah AL-Ghamdi, for promotion to the rank of Associate Professor, General Specialization "Biochemistry" Subspecializing “Clinical & Physiological Biochemistry”, 2017.
4. Dr. Mohammed Hamed Zainy Mutwakil, for promotion to the rank of Professor, General Specialization "Biology" Subspecializing “Molecular Biology”), 2017.
5. Dr. Hanaa Mohamad Ahmad Kashlan, for promotion to the rank of Professor, General Specialization "Biochemistry", Subspecializing “Biochemistry”), 2017.
6. Dr. Safaa Yousef Mohammad Qusti, for promotion to the rank of Professor, General Specialization "Biochemistry", Subspecializing “Biochemistry”, 2017.
7. Dr. Nahed Hassan Hamza Hajara, for promotion to the rank of Associate Professor, General Specialization "Biological Sciences", Subspecializing “Biology”, 2017.
8. Dr. Absarul Haque, for promotion to the rank of Associate Professor, General Specialization "Biological Sciences", Subspecializing “Molecular Biology”, 2018.
9. Dr. Aulfat Mohammed Abdulgader Omar, for promotion to the rank of Associate Professor, General Specialization "Biochemistry", Subspecializing “Biochemistry”, 2018.
10. Dr. Ayat Badr Othman Alghafari, for promotion to the rank of Associate Professor, General Specialization "Biochemistry", Subspecializing “Biochemistry”, 2018.
11. Dr. Amadehah Nooh Soleman Alsiny, for promotion to the rank of Professor, General Specialization "Biochemistry", Subspecializing “Biochemistry”, 2018.
12. Dr. Wedad Makhdoor Warid Albeshri, for promotion to the rank of Professor, General Specialization "Biochemistry", Subspecializing “Biochemistry”, 2018.
13. Dr. Amal Hasanain Mohamad Hamza, for promotion to the rank of Professor, General Specialization "Biochemistry", Subspecializing “Clinical and Nutritional Biochemistry”, 2018.

14. Dr. Sawsan Omar Mohammedmoosa Khoja, for promotion to the rank of Associate Professor, General Specialization "Biochemistry", Subspecializing “Clinical Biochemistry”, 2018.
15. Dr. Mohammad Zubair Alam, for promotion to the rank of Associate Professor, General Specialization "Microbiology", Subspecializing “Microorganisms”, 2019.
16. Dr. Hussein Abdulrahman Mahdi Almehdar, for promotion to the rank of Professor, General Specialization "Biological Sciences", Subspecializing “Biology”, 2019.
17. Dr. Sohair Mohammed H Khojah, for promotion to the rank of Associate Professor, General Specialization "Biochemistry" Subspecializing “Molecular biosciences”, 2020.

EXTERNAL EVALUATOR OF RESEARCH PROGRAMS

1. French National Research Agency (ANR). External evaluator of a research proposal submitted for funding to the ANR (on May 2016) by French and American scientists.
2. Program for funding of Ph.D. candidates in the Life Sciences by the *Hellenic Foundation for Research and Innovation* in 2017. Coordinator of 5-member reviewer group and reviewer (on the final evaluation of 430 proposals).
3. NASA’s 2016 Solar System Workings (SSW) Program. External evaluator (on June 2017) of a research proposal submitted for funding to the SSW Program by NASA scientists.

MEMBER OF RESEARCH COUNCILS - SCIENTIFIC EVALUATOR AT RESEARCH INSTITUTIONS

1. *Sectoral Scientific Council of Physical Sciences*, of the Greek *National Council for Research and Innovation* (substitute member, Government Gazette 200 / 10-04-2018).
2. *French National Research Agency (ANR)*. Scientific evaluator of a research proposal submitted for funding to ANR by French and American scientists (May 2016).
3. *Hellenic Foundation for Research and Innovation*. Coordinator of a 5-member panel of referees, and a reviewer (in the final evaluation of 430 proposals), for the Doctor's Degree Program for Life Sciences (2017).
4. *NASA's 2016 Solar System Workings (SSW) Program*. Scientific evaluator of a research proposal by NASA scientists submitted for funding the SSW Program (June 2017).

5. Invited expert reviewer (on 2018) to be included in the REPRISE database (https://reprise.cineca.it/en) of the Italian Ministry of Education, Universities and Research (MIUR).
6. *National Pasteur Institute*. Regular member of a 7-member nomination committee for the posts of three (3) members of the Institute's Board of Directors (by decision of the Greek Ministries of Education and Health on 22-1-2019, 18/1/2018 - No. 7886).
7. Appointed Expert on Physical Object for the 1st Call for Proposals for Research Projects ELIDEK to support Greek Postdoc-Academic Researchers (2019).
8. Invited reviewer for the 3rd Call 2020 (JTC2020) of the European Research Area (ERA) Personalised Medicine (PerMed), an ERA-NET (under Horizon 2020) Cofund program, supported by 32 partners from 23 countries (Canada, Israel, Turkey, Egypt, Europe, EE, http://www.erapermed.eu/partners/), and co-funded by the European Commission to promote joint transnational innovative research projects in PerMed.
9. E-thesis Examination member selected by Dublin City University in 2023 (for MSc candidate Aaron Farrelly).
10. E-thesis Examination member selected by Dublin City University in 2023 (for PhD candidate Yongda Li).
11. Invited reviewer in the evaluation process for the European Partnership for Personalised Medicine (EP PerMed) Joint Transnational Call 2024, by the EU and more than 50 international partners (https://www.eppermed.eu/)

RESEARCH PROGRAMMES - SCHOLARSHIPS

1. Participation in scientific programs with the Department of Biochemistry of the University of Illinois at Urbana-Champaign in the USA (from 1985 to 1997), with funding from the **American Heart Association, National Science Foundation** and **National Institutes of Health USA**.
2. PI in the **K. Karatheodoris** program regarding the role of oxygen free radicals in sclerotial fungal differentiation. Funded by the University of Patras. Duration 1998-2001.
3. PI in the applied research program **PABE**, 'Method of natural processing of vulnerable agricultural products', **EPET II**. Duration 1998-2000.
4. Co-PI, applied research program **PENED** regarding the structure and function of the eukaryotic ribosome as one of three collaborating scientific bodies, with PI Dionysios Synetos of the Medical School of the University of Patras, and Co-PI Helen Georgatsou of the Medical School of the University of Thessaly. Duration 2000-2002.

5. PI of **EPEAEK II "HERAKLITOS"** (2002-2005) on the role of oxidative stress in differentiation.
6. PI in the **K. Karatheodoris** program regarding the effect of electromagnetic radiation on oxidative stress. Funded by the University of Patras. Duration 2007-2010.
7. Co-PI in a **Thalis** program "The role of dopamine in neuronal plasticity and learning and memory in rats, in models of dopamine deficiency and in Parkinson's disease patients", with PI Fevronia Angelatou, Professor of the Department of Medicine, University of Patras. Duration 2012-2015.
8. **NASA 'Exobiology'**, program **"Origin of radiation resistance"**. Co-PI with Michael Daly (Uniformed Services University of the Health Sciences, Bethesda, Maryland, USA), and Christopher McKay (NASA Ames Research Center, ARC, Space Science and Astrobiology Division, Moffett Field, CA, USA). PI, Henry Sun (Desert Research Institute, Las Vegas, NV, USA), grant $ 603,498, duration 2016 to 2019 (Co-PI is the only status set by NASA for non-US citizens).
9. PI of the **IKY-SIEMENS Excellence Program**, Section of Health, for PhD candidates (funding for **Fani Karavasili**), 'Investigation of the effect of oxidative stress on human insulin and structural characterization of insulin in the presence of ligands by X-ray crystallography'. Program budget 32,000.00 euros. Duration 2015 to 2017.
10. **Bodossakis Foundation scholarships for postgraduate diploma** (funding for **Marianna Skipitari**, Master thesis "Development of a system of photostimulated nanoparticle TiO_2 for the production of hydroxyl and superoxide free radicals for antioxidant evaluations of organisms"), 46^{th} scholarship program 2019-2020 of the **Bodossakis Foundation** for the realization of Postgraduate Studies. Duration September 2018 to February 2019.
11. **Bodossakis Foundation scholarship for PhD candidates** (funding for **Marianna Skipitari**, dissertation "Development of a system of artificial production of biogenic free radicals for the simulated study of oxidative modifications in critical biomolecules in combination with the antioxidant status of the various biosystems"), 47^{th} program of scholarships 2019 - 2020 of the **Bodossakis Foundation** for the realization of doctoral studies. Duration September to December 2019.
12. **NASA 'Habitable Worlds'**, program "**UV and Oxidation Resistance in Desert Lichens and the Habitability of Mars"**. Co-PI with Christopher McKay (NASA Ames Research Center, ARC, Space Science and Astrobiology Division, Moffett Field, CA, USA). PI Henry Sun (Desert Research Institute, Las Vegas, NV, USA), grant $ 516,874, duration 2020 to 2022 (Co-PI is the only status set by NASA for non-US citizens).

13. **EL.ID.EK Scholarships for PhD candidates**, 2nd Announcement, 2019 (funding for **Electra Kalaitzopoulou**, program "Development of a method for the in vivo quantification of the hydroxyl free radical in organisms"), decision 653, budget € 18,000. Duration 15-10-2019 to 14-06-2021.
14. **Mentzelopoulos-University of Patras Scholarship**s **for PhD candidates** (funding for **Marianna Skipitari**, doctoral dissertation "Development of a system for the artificial production of biogenic free radicals for the simulated study of oxidative modifications of critical biomolecules in combination with critical biomolecules in combination with biomolecules). Duration 2020 to 2023.
15. **EL.ID.E.K. Program of Research Projects for the Strengthening of Faculty Members and Researchers and the Procurement of High Value Research Equipment** (1st Announcement), participation in the research section of oxidative stress, informal due to the illegitimate for two program submissions (funding for the Ph.D candidate **Polyxeni Papadea**), program “Smaller crystals, faster experiments, stronger beams: innovative approaches to drug design & production (CrystDRUG)”. Duration 16-02-2020 to 16-02-2023.
16. Cooperation with the American chemical company ***Cayman Chemical*** in the development of commercial kits of chemical analyzes in the parameters of oxidative stress. Development and international availability of the commercial kit Protein Carbonyl Fluorometric Assay Kit Item No. 701530 (https://www.caymanchem.com/product/701530/protein-carbonyl-fluorometricassay-kit).
17. **European Space Agency (ESA)** program entitled "From Reactive Oxygen Detection to Oxygen Farming" (for the construction of an instrument for the detection and measure of reactive oxygen species in soil and minerals on Moon and Mars), contract no. 4000136482/21/NL/GLC/ov. Duration 01-12-2021 to 31-05-2023. ESA has published a tribute to the program in English ("Seeking out Moon and Mars superoxides for oxygen farming"), and in Greek ("“Αναζητώντας σουπεροξείδια στη Σελήνη και στον Άρη με στόχο την «αποκομιδή» οξυγόνου”"), in the following web pages:
    1. **ESA front page:** Article under its shortened English title “**Moon and Mars superoxides for oxygen farming**”: https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Moon_and_Mars_superoxides_for_oxygen_farming, *Reactive oxygen species detector concept*:

    https://www.esa.int/ESA_Multimedia/Images/2022/03/Reactive_oxygen_species_detector_concept

2. **ESA's Technology Tweet:** https://twitter.com/ESA_Tech/status/1499778261697576961
3. **Space Engineering & Technology**: Article under its full English title "**Seeking out Moon and Mars superoxides for oxygen farming**": https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Seeking_out_Moon_and_Mars_superoxides_for_oxygen_farming, *Reactive oxygen species detector concept*: https://www.esa.int/ESA_Multimedia/Images/2022/03/Reactive_oxygen_species_detector_concept
4. **ESA / Space in Member States / Greece** (https://www.esa.int/Space_in_Member_States/Greece): Article with the Greek title "**Αναζητώντας σουπεροξείδια στη Σελήνη και στον Άρη με στόχο την «αποκομιδή» οξυγόνου"** (with a description in Greek of the concept of the *reactive oxygen species detector*): https://www.esa.int/Space_in_Member_States/Greece/Anazethontas_soyperoxehidia_ste_Selhene_kai_ston_Hare_me_sthocho_ten_apokomidhe_oxyghonoy
5. **Posting on ESA Activities portal: https://activities.esa.int/4000136482**

18. **FEBS Young Scientists' Forum (YSF) 2023 & 47th FEBS Congress**, Tours, France, 6–12 July 2023. Funding my Ph.D. candidate Marianna Skipitari's participation.
19. **"Support of research activity with scientific subject the astro/biochemistry of oxidative stress"**, code 82874 (University of Patras ELKE, approval 17-01-2024), duration 5 years.
20. European Space Agency (ESA) programme titled **"Lunar Dust Biotoxic Chemical Reactivity: quantitative detection"** (for the development of an instrument for the quantitative detection of the biotoxic chemical reactivity of lunar dust), contract no. 4000145471/24/NL/MGu/ov). Duration 01-11-2024 until 31-04-2026.
21. **Mentzelopoulos-University of Patras Scholarship**s **for PhD candidates** (funding for **Efimia Michail**'s doctoral dissertation "Methods for quantitative evaluation of free and esterified oxidized cholesterol in oxidized low density lipoproteins (oxLDL) and its association with the conversion of oxLDL-saturated macrophages to atherosclerotic plaques"). Duration 2025 to 2028.
22. European Space Agency (ESA) programme titled **"A novel Perchlorate Reactive Chlorine Species (PERCS) sensor for missions to Mars, Moon, Europa"** (awarded on 18 May 2026).

PATENT HOLDER (CO-PARTENER: UNIVERSITY OF PATRAS AND EUROPEAN SPACE AGENCY) & BIOTECHNOLOGICAL EXPLOITATION

1. An apparatus for growing microorganisms in liquid growth media in normal Petri dishes (Hellenic Industrial Property Organisation, patent number 1003266).
2. Use of benzoic acid and 2-OH-benzoic acid in the eradication of phytopathogenic sclerotiogenic fungi which attack vegetables, fruits and legumes (Hellenic Industrial Property Organisation, patent number 1004036).
3. Method for the *in vivo* quantification of the superoxide radical anion (Hellenic Industrial Property Organisation, patent number 20050100440/1005703).
4. Method for the quantification of the main parameters of thiol redox state (Hellenic Industrial Property Organisation, patent number 20050100433/1005704).
5. Method for the photometric detection and/or quantification of protein carbonyl groups (Hellenic Industrial Property Organisation, number / date of filing 20160100568 / 04.11.2016).
6. Method for the fluorometric detection and/or quantification of protein carbonyl groups (Hellenic Industrial Property Organisation, number / date of filing 20160100569 / 04.11.2016).
7. Pharmaceutical combinations and kits for the prevention or treatment of pain and other complications of orthopaedic or vascular surgery and multiple trauma (OBI GR20180100514 / 07.11.2018).
8. European Space Agency international patent title: Method and system for the manufacturing of ROS-activated simulants of a planetary or solar body surface environment", Appl. No.: 20260100450, 4 May 2026.

The international company *Cayman Chemical* (Ann Arbor, Michigan, USA: https://www.caymanchem.com/Home), which specializes in the development of methods of the quantification of oxidative stress parameters, on July 27, 2017 concluded with my lab and the University of Patras a licensing agreement based on the patents 5 and 6 for the development of two commercial kits for the photometric and fluorometric quantification of protein carbonyl groups. Method of Patent # 6 became a commercial kit (Cayman Chemical Protein Carbonyl Fluorometric Assay Kit Item No. 701530: https://www.caymanchem.com/product/701530/protein-carbonyl-fluorometric-assay-kit, last accessed August 6 , 2020), as also certified by the users-manual (https://www.caymanchem.com/pdfs/701530.pdf, last accessed August 6, 2020).

ADMINISTRATIVE TASKS

1. Member of the Bioethics Committee of the University of Patras, Greece (deputy member from 31-3-2011 until 13-11-2014, regular member from 13-11-2014 onwards).
2. Deputy member of the Editions Office Committee of the University of Patras, Greece.
3. Deputy Chairman of the Biology Department of the University of Patras, Greece (academic years 2016-2017 and 2017-2018).
4. Deputy Chairman of the Committee on Ethics and Ethics in Research of the University of Patras (ELKE UoP 558/16.07.2018 - 564/24.09.2018).

SCIENTIFIC REPORTS TO GOVERNMENT AGENCIES

1. Invited expert by the National Agency of Medicines for the scientific evaluation of homeopathic remedies (April 8, 2016).
2. Invited expert by the Greek Ministry of Infrastructure, Transport and Networks for a scientific proposal on establishing limits for safe exposure of citizens to the electromagnetic radiation (August 1, 2016).
3. Invited expert by the Greek Central Health Council to compose a scientific proposal against the practice of homeopathy by doctors, and against homeopathy's educational certification (April 20, 2017).
4. Invited expert on the biological damage on humans by electromagnetic radiation emitted by various sources and particularly by the cell phone antenna systems, by the Greek Parliament's Standing Committee on the Environment (May 17, 2017) to a meeting concerning "Examination of the framework for the installation of antenna systems" (http://www.hellenicparliament.gr/Vouli-ton-Ellinon/ToKtirio/Fotografiko-Archeio/#97ba4a5f-7794-4a1d-8eb6-a77700bc4ae3).
5. Invited expert by the Education and Training Committee of the Greek Central Health Council (regarding my scientific proposal against the practice of homeopathy by doctors, and against its educational certification) at a meeting titled "Official recognition of homeopathy practice" (May 29, 2017).
6. Invited expert on the biological damage on humans by electromagnetic radiation emitted by 5G, by the Parliamentary Committees on Health and the Environment of the House of Representatives of the Republic of Cyprus on 19 September and 24 October 2019, to a meeting concerning "The risks to public health arising from the use of the 5G network".

EDUCATIONAL WORK

I. Teaching undergraduate courses

1. *Biochemistry I*
2. *Biochemistry II*
3. *Biotechnology*
4. *Bioethics and Ethics of Technology*

II. Teaching postgraduate courses

1. *Special Courses in Biochemistry*
2. Biochemistry of Oxidative Stress

III. Postgraduate theses under my supervision

Doctoral theses (PhD): 13 (3 since Oct 13, 2023, as Emeritus Professor under Greek Law 4957-2022)
Postgraduate degrees (MSc): 15

IV. Postdoctoral researchers (Post-Docs): 3

INSTITUTIONS AND CAREER PATHS OF POSTGRADUATE STUDENTS

Harvard Medical School (2 Post-Doc), Beth Israel Deaconess Medical Center (1 Post-Doc), 1Globe Health Institute (1 Post-Doc) al in USA, Université catholique de Louvain, Belgium (1 PhD, 1 Post-Doc), University of Birmingham, United Kingdom (1 Post-Doc), Dublin City University, Ireland (Assis. Prof.), Université Libre de Bruxelles, Belgium (1 Post-Doc), University Hospital Erlangen-Nuremberg, Germany (1 PhD), Karolinska Institutet, Sweden (2 Post-Docs), FORTH-ICE-HT, Hellas (1 PostDoc), ΒΙΑΝΕΞ, Hellas (2 positions).