

CURRICULUM VITAE

CONTACT INFORMATION

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EDUCATION

Ph.D.: Physics, National and Kapodistrian University of Athens and Institute of Material Science, NCSR “Demokritos”, 2008.

Thesis: “*Spin-Spin interaction between metallic centers and free radicals of bioinorganic systems. Study of Photosynthetic Water Oxidation Mechanism*”

M.Sc.: Section of Solid State Physics, National and Kapodistrian University of Athens, 2002.

Thesis: “*Dielectric Studies of bioactive molecules*”

Diploma: Physics, National and Kapodistrian University of Athens, 1999

Undergraduate Thesis: “*Structural Study of the protein Concanavalin A*”

EMPLOYMENT

05/2020-07/2021: Postdoctoral Researcher, Laboratory of pulse EPR, Institute of Nanoscience and Nanotechnology (INN), NCSR “Demokritos”, Athens, Greece in the framework of the project “Photosynthetic Water Splitting: the critical steps prior to O₂ evolution”, co-financed by Greece and the European Union (Supervisors: Dr. George Mitrikas, Dr Yiannis Sanakis)

11/2018-08/2019: Postdoctoral Researcher, Laboratory of EPR and Photosynthesis, Institute of Nanoscience and Nanotechnology (INN), NCSR “Demokritos”, Athens, Greece in the framework of the project “Action for the Strategic Development on the Research and Technology sector” funded by the Operational Programme “Competitiveness, Entrepreneurship and Innovation” (NSRF 2014-2020) and co-financed by Greece and the European Union (European Regional Development Fund) (Group of Dr. Yiannis Sanakis)

01/2015-10/2018: Collaborating Researcher, Laboratory of EPR and Photosynthesis, Institute of Nanoscience and Nanotechnology (INN), NCSR “Demokritos”, Athens, Greece (Group of Dr. Yiannis Sanakis)

01/2013-12/2014 : Postdoctoral Researcher, Department of Chemistry, University of Crete Island, Greece & Institute of Nanoscience and Nanotechnology (INN), NCSR “Demokritos”,

Athens, Greece in the framework of the project “Thales” entitled “Production of Bio-hydrogen (H₂) from chlorophytes monocytes” (Group of Prof. Demetrios Ganotakis)

09/2010 – 08/2011 : Post Doctoral Fellow, Biophysical Lab of Photosynthesis, Department of Chemical Sciences, University of Padova, Italy in the framework of the project “HELIOS” entitled “Studio di sistemi fotosintetici naturali ed artificiali mediante tecniche di spettroscopia EPR avanzate” (Group of Prof. Donatella Carbonera).

01/2009 – 04/2010 : Post Doctoral Fellow, Laboratory of EPR spectroscopy and Photosynthesis, Institute of Material Science, National Center of Scientific Research “Demokritos”, Agia Paraskevi, Attiki, Greece (Group of Dr. Vasili Petroulea)

01/2003 – 10/2008 : Ph.D Fellow, Laboratory of EPR spectroscopy and Photosynthesis, Institute of Material Science, National Center of Scientific Research “Demokritos”, Agia Paraskevi, Attiki, Greece (under supervision of Dr. Vasili Petroulea)

SCHOLARSHIPS AND AWARDS

1. **Young Talent Award**, International Meeting on Photosynthesis Research for Sustainability, 22.09.2015-26.09.2015, Colympari, Crete Island, Greece, Oral Presentation “Theoretical study of the EPR spectrum of the S3TyrZ[•] metalloradical intermediate of the O₂-evolving complex of Photosystem II”

2. **4th Poster Award**, 14th International Congress of Photosynthesis, 23.07.2007-27.07.2007, Glasgow, Scotland (Zahariou G., Ioannidis N., and Petrouleas V. “Temperature dependence of the S₀Y_z[•](+MeOH), S₁Y_z[•] and S₂Y_z[•](+MeOH) intermediates states of Photosystem II”

3. **Scholarship** by the Institute of Material Science, NCSR “Demokritos”, Athens, Greece, 01.11.2002-31.05.2007

TALKS IN CONFERENCES AND SEMINARS

1. “2D-Hyperfine Sublevel Correlated Investigation of the Tyrosyl Radicals of Photosystem II” Athens Conference on Advances in Chemistry, Athens, Greece, 11/03/2021

2. “Spin Heterogeneity of the S3 oxidation state of the O₂-evolving complex of Photosystem II” 8th Workshop on ‘Current trends in Molecular and Nanoscale Magnetism, Rhodes, Greece, 29/05/2019

3. “Spin Configuration of the S3 oxidation state of the Mn₄Ca cluster of Photosystem II” 8th NAGC Workshop on Paramagnetic materials, Sparta, Greece, 19/06/2018

4. “Theoretical Study of the EPR spectrum of the S3Yz[•] metalloradical intermediate signal of the O₂-Evolving Complex of Photosystem II” International Conference on Photosynthesis Research for Sustainability, Colympari, Crete Island, Greece, 25/09/2015

5. “EPR study of the S-oxidation states and the metalloradical states of Photosystem II”, Seminar, EPFL, Lausanne, Switzerland, 26/10/2011

6. “EPR study of the metalloradical intermediate states of the Oxygen-Evolving Complex of Photosystem II”, Seminar, University of Padova, Italy, 8/07/2010

POSTER PRESENTATIONS

1. Chrysina, M., Zahariou, G., Ioannidis, N., “Trapping of the free radical of TyrZ on the onset of the S2-S3 and S3-S0 transitions of Photosystem II” International Conference on Photosynthesis Research for Sustainability, Colympari, Crete Island, Greece, 21-26 September 2015
2. Zahariou, G., Ioannidis, N., Petrouleas, V. “Temperature Dependence of the intermediate states of Photosystem II” 14th International congress on photosynthesis, Glasgow, 23-27 July 2007
3. Petrouleas, V., Ioannidis, N., Zahariou, G., Sarrou, J., Sioros, G., Sanakis, Y. “Recent EPR studies of the OEC of Photosystem II. (A) Trapping tyrosyl Z center dot in action. (B) The critical S-3 integer-spin state of the Mn cluster”, 14th International Conference of Photosynthesis, Glasgow, 23-27 July 2007
4. Zahariou, G. & Petrouleas, V. “EPR study of the S2YZ• metalloradical intermediate state of the Ca²⁺ depleted Photosystem II”, Summer School, Wiesbaden, Germany, 20-28 July 2005
5. Zahariou, G. & Vassilikou-Dova, A. “Dielectric Studies of a bioactive tetramic acid and its Complexes with metal ions”, 18th Greek Conference of Solid State Physics and Material Science, 18-22 September 2002

PUBLICATIONS

1. **Zahariou, G.**, Sanakis, Y., Ioannidis, N. (2021) “Evidence for the Mn-Yz Magnetic Interaction in Ca²⁺-depleted PSII” *Polyhedron* 206, 115335
2. Nano, K., **Zahariou G.**, Ioannou P.C., Alam, M.D., Pantazis, D., Raptopoulou, C., Psycharis, V., Sanakis, Y., Kyritsis, P., (2021) “Electronic properties of the S = 5/2 Mn(II) complexes [Mn{PhC(O)NP(O) PPh₂} (N,N)(NO₃)], (N,N) = phenanthroline, neocuproine, 2,2'-bipyridine” *Polyhedron* 207, 115374
3. Stoumpos C., Danelli, P., **Zahariou, G.**, Pissas, M., Psycharis, V., Raptopoulou, C., Sanakis, Y., Perlepes, S. (2021) “Di-2-pyridyl ketone-based ligands as evergreen “trees” in the “forest” of manganese chemistry: Mononuclear Mn(III) complexes from the use of MnF₃” *Polyhedron* 207, 115350
4. Chrysina, M., **Zahariou, G.**, Ioannidis, N., Sanakis, Y., Mitrikas, G. (2021) “Electronic Structure of Tyrosyl D radical, as revealed by 2D-hyperfine sublevel correlation spectroscopy” *Magnetochemistry* 7, 131
5. Drosou, M., **Zahariou, G.**, Pantazis, D. (2021) “Orientational Jahn-Teller Isomerism in the Dark-Stable State of Nature’s Water Oxidase” *Angewandte Chemie Int. Ed* 60, 13493-13499
6. **Zahariou, G.***, Ioannidis, N., Sanakis, Y., and Pantazis, D.* (2021) “Arrested substrate binding resolves Catalytic Intermediates in higher plant Water Oxidation” *Angewandte Chemie Int. Ed* 60: 3156-3162 4.

7. Halevas, E.* , Pekou, A., Papi, R., Mavroidi, B., Hatzidimitriou, A. G., **Zahariou, G.**, Litsardakis, G., Sagnou, M., Pelecanou, M., Pantazaki, A. A. (2020) “Synthesis, Physicochemical Characterization and biological properties of two novel Cu(II) complexes based on natural products curcumin and quercetin” *Journal of Inorganic Biochemistry* 208:11108
8. Matiadis, D* , Tsironis, D, Stefanou, V., Kordatos, K., **Zahariou, G.**, Ioannidis, N., McKee, V., Panagiotopoulou, A., Igglessi-Markopoulou, O. and Markopoulos, J.* (2019) “Synthesis, characterization and antimicrobial activity of N-acetyl-3-acetyl-5-benzylidene tetramic acid-metal complexes. X-Ray analysis and identification of the Cd(II) complex as a potent antifungal agent” *Journal of Inorganic Biochemistry* 194, 65-73
9. Chrysina, M., Mendonca Silva, J.C., **Zahariou, G.**, Pantazis, D. A.* , Ioannidis, N.* (2019) “Proton Translocation via Tautomerization of Asn298 During the S₂→S₃ State Transition in the Oxygen-Evolving Complex of Photosystem II” *Journal of Physical Chemistry B* 123, 3068-3078
10. **Zahariou, G.** (2017) “Characterization of the High-Spin Co(II) Intermediate Species of the O₂-Evolving Co₄O₄ Cubic Molecules” *Inorganic Chemistry* 56: 6105-61
11. **Zahariou, G.*** & Ioannidis, N. (2016) “Theoretical Study of the EPR spectrum of the S₃TyrZ[•] metalloradical intermediate state of the Oxygen Evolving Complex of Photosystem II” *Photosynthesis Research* 130: 417-426
12. **Zahariou, G.**, Chrysina, M., Petrouleas, V. and Ioannidis, N* . (2014) “Can we trap the S₃TyrZ[•] metalloradical intermediate during the S-state transitions of Photosystem II? An EPR investigation” *FEBS Letters* 588:1827-1831
13. D’Alessadro, S., Posocco, B., Costa, A., **Zahariou, G.**, Lo Schiavo, F., Carbonera, D.* and Zottini, M.* (2013) “Limits in the use of cPTIO as nitric oxide scavenger and EPR probe in plant cells and seedlings” *Frontiers in plant science* 4 (340):1-7
14. Chrysina, M., **Zahariou, G.**, Sanakis, Y., Ioannidis, N. and Petrouleas, V* . (2011) “Conformational changes of the S₂Yz[•] intermediate of the S₂ to S₃ transition in photosystem II” *Journal of Photochemistry and Photobiology B* 104: 72-79
15. Chrysina, M., **Zahariou, G.**, Ioannidis, N.* and Petrouleas, V.* (2010) “Conversion of the g=54.1 EPR signal to the multiline conformation during the S₂ to S₃ transition of the Oxygen Evolving Complex of Photosystem II” *Biochimica et Biophysica Acta* 42: 6252-6259
16. Xiao Y., **Zahariou, G.**, Sanakis, Y. and Liu, P.* (2009) “IspG Enzyme Activity in the Deoxyxylulose Phosphate Pathway: Roles of the Iron-Sulfur Cluster” *Biochemistry* 48: 10483-10485
17. Athanasellis, G., **Zahariou, G.**, Kikionis, S., Igglessi-Markopoulou, O. and Markopoulos, J.* (2008) “Coordination behavior of 3-Ethoxycarbonyltetronic Acid towards Cu(II) and Co(II) metal ions” *Bioinorganic Chemistry and Applications* 2008: Article ID547915, 6 pages

18. Ioannidis, N., **Zahariou, G.** and Petrouleas, V.* (2008) “The EPR Spectrum of Tyrosine Z[•] and Its Decay Kinetics in O₂-Evolving Photosystem II Preparations” *Biochemistry* 47: 6292-6300
19. **Zahariou, G.**, Ioannidis, N., Sioros, G. and Petrouleas, V.* (2007) “The Collapse of the Tyrosine Z[•]-Mn Spin-Spin Interaction above 100 K Reveals the Spectrum of Tyrosine Z[•]. An Application of Rapid-Scan EPR to the Study of Intermediates of the Water Splitting Mechanism of Photosystem II” *Biochemistry* 46: 14335-14341
20. Ioannidis, N., **Zahariou, G.** and Petrouleas, V.* (2006) “Trapping of the S₂ to S₃ State Intermediate of the Oxygen-Evolving Complex of Photosystem II” *Biochemistry* 42: 6252-6259
21. **Zahariou, G.**, Gavrielatos, E., Kalogeras, I., Athanasellis, G., Vassilikou-Dova, A.* , Igglessi-Markopoulou, O. and Markopoulos, J. (2002) “Dielectric Studies of a bioactive tetramic acid and its complexes with Cu(II) and Co(II)” *Radiation Effects and Defects in Solids* 157: 1057-1062