

Curriculum Vitae

Maria Chrysina

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Born on 10th of February 1987, in Athens, Hellas.
Nationality: Hellenic.

- 2020-2021 Post-Doctoral Fellow in pulsed EPR laboratory,
NCSR “Demokritos”
Supervisors: Dr. Georgios Mitrikas, Dr. Yiannis Sanakis
- 2018-2019 Post-Doctoral Fellow in Max Planck Institute for Chemical Energy
Conversion, Department of Inorganic Spectroscopy
Supervisor: Prof. Serena DeBeer
- 2016-2017 Post-Doctoral Fellow in Max Planck Institute for Chemical Energy
Conversion, Department of Biophysical Chemistry
Supervisors: Prof. Wolfgang Lubitz, Prof. Nicholas Cox.
- 2015 Post-Doctoral Fellow in pulsed EPR laboratory,
NCSR “Demokritos”
Supervisor: Dr. Georgios Mitrikas

EDUCATION

- 2011-2015 PhD in Chemistry
NSCR “Demokritos”
Supervisor: Dr. Vasili Petrouleas,
University of Athens, Faculty of Chemistry.
Supervisor: Prof. Panayotis Kyritsis.
Title: “Radical – metal collaboration during photosynthetic water
oxidation”.
- 2009-2011 MSc in Inorganic Chemistry
University of Athens, Faculty of Chemistry.
Thesis: “Changes in water splitting complex during the S₂ to S₃ transition.
Study by EPR spectroscopy.”
- 2004-2009 BSc in Biology
University of Athens, Faculty of Biology.
Thesis: “Study of the photosynthetic oxidation of water with EPR
spectroscopy”.

LABORATORY EXPERIENCE

Cw and pulsed EPR spectroscopy (X, Q, W band)
Synchrotron based X-ray spectroscopy
Isolation of PS II supercomplex from spinach
Samples' illumination using Nd-YAG laser

TEACHING EXPERIENCE

2010-2014

Inorganic chemistry laboratories for undergraduate students of Physics and Biology Faculty, University of Athens.

PUBLICATIONS

M. Chrysina, G. Zahariou, N. Ioannidis, Y. Sanakis, G. Mitrikas, Electronic structure of Tyrosyl D radical of Photosystem II, as revealed by 2D-Hyperfine Sublevel Correlation Spectroscopy (2021) *Magnetochemistry* 7(9), 131

N. Stamos, E. Ferentinos, M. Chrysina, C. Raptopoulou, V. Psycharis, Y. Sanakis, D. Pantazis, P. Kyritsis, G. Mitrikas, Unusual ^{31}P hyperfine strain effects in a conformationally flexible Cu(II) complex revealed by two-dimensional pulse EPR spectroscopy (2020) *Inorg. Chem.* (59) 3666-3676

M. Chrysina, E. Heyno, Y. Kutin, M. Reus, H. Nilsson, M. Nowaczyk, S. DeBeer, F. Neese, J. Messinger, W. Lubitz, N. Cox, Five-coordinate Mn^{IV} intermediate in the activation of nature's water splitting cofactor (2019) *PNAS* 116 (34), 16841-16846

W. Lubitz, M. Chrysina, N. Cox, Water Oxidation in Photosystem II, (2019) *Photosynthesis Research* 142, 105–125

M. Chrysina, J. de Mendonça Silva, G. Zahariou, D. Pantazis, N. Ioannidis, Proton Translocation via Tautomerization of Asn298 During the S_2 - S_3 State Transition in the Oxygen-Evolving Complex of Photosystem II (2019) *J. Phys. Chem. B* 123, 3068-3078

Morton, M. Chrysina, V. Craig, F. Akita, Y. Nakajima, W. Lubitz, N. Cox, J-R. Shen, E. Krausz, Structured Near-Infrared Magnetic Circular Dichroism spectra of the Mn_4CaO_5 cluster of PS II in *T. vulcanus* are dominated by Mn(IV) d-d 'spin-flip' transitions (2018) *BBA - Bioenergetics* 1859, 88–98

G. Zahariou, M. Chrysina, V. Petrouleas, N. Ioannidis, Can we trap the $\text{S}_3\text{Y}_Z'$ metalloradical intermediate during the S-state transitions of Photosystem II? An EPR investigation (2014) *FEBS Letters* 588, 1827–1831

M. Chrysina, G. Zahariou, Y. Sanakis, N. Ioannidis, V. Petrouleas, Conformational changes of the $\text{S}_2\text{Y}_Z'$ intermediate of the S_2 to S_3 transition in photosystem II (2011) *J Photochem. Photobiol. B* 104, 72-79

M. Chrysina, G. Zahariou, N. Ioannidis, V. Petrouleas, Conversion of the $g = 4.1$ EPR signal to the multiline conformation during the S_2 to S_3 transition of the oxygen evolving complex of Photosystem II (2010) *Biochim Biophys Acta* 1797, 487-493.

CONFERENCES

- 15-17 October, 2021 Oral presentation in 10th International Conference of the Hellenic Crystallographic Association, Athens.
- 8-12 May, 2017 Oral presentation in North America – Greece - Cyprus Workshop on Paramagnetic Materials, Paphos, Cyprus.
- 7-12 August, 2016 Poster presentation in 17th International Congress on Photosynthesis Research, Maastricht, Netherlands.
- 3-6 June 2015 Oral presentation in Sixth North America – Greece - Cyprus Workshop on Paramagnetic Materials, Acropolis Museum, Athens.
- 11-16 August 2013 Poster presentation in 16th International Congress on Photosynthesis Research, Saint - Louis, USA.
- 1-2 July 2011 Oral presentation in 1st Summer School on Proteins, Faculty of Biology, University of Athens.

AWARDS – FUNDING

- 2020 Grant from Max Planck Society for creating a Max Planck Partner group in NCSR “Demokritos” in collaboration with Prof. Serena DeBeer, Department of Inorganic Spectroscopy, MPI for Chemical Energy Conversion.
- 2019 “Photosynthetic water splitting: the critical steps prior to O₂ evolution” co-financed by Greece and the European Union (European Social Fund-ESF) MIS103
- 2018-2020 3 successful synchrotron beamtime proposals for measurements of Photosystem II at ESRF, SSRL and SOLEIL synchrotron facilities
- 2009 Four years scholarship for postgraduate studies from the NCSR “Demokritos”

OTHER PROGRAMS

- 2016-2018 MANGAN, national funded, Germany, aiming to elucidate the capability of Mn-based compounds as catalysts for the electrochemical oxygen evolution reaction
- 2015 “Advanced materials and devices for energy collection and conservation», NCSR “ Demokritos

LANGUAGES

- 2002 Greek: mother tongue.
English: First Certificate, University of Cambridge, UK.
German: basic knowledge