

Curriculum Vitae

RESEARCH EXPERIENCE

- 02.2020 – 12.2021** Postdoctoral Research Associate, Structural studies and Inhibitor Design targeting enzymes of the ERQC pathway, Prof. Nicole Zitzmann
Oxford Antiviral Unit, Glycobiology Institute, Biochemistry Department, University of Oxford, Oxford, United Kingdom
- 06.2016– 01.2020** Postdoctoral Research Associate, Structural and Biophysical analysis of coiled coil proteins supporting centriole assembly, Prof Ioannis Vakonakis
Biochemistry Department, University of Oxford, Oxford, United Kingdom

CURRENT POSITION

- 08.2022 – Present** Postdoctoral Research Associate, Development of new generation antimalarial drugs to protect the infection of human erythrocytes, Prof. D.D Leonidas
Department of Biochemistry and Biotechnology, University of Thessaly, Greece

EDUCATION

- 04.2011-12.2015** Department of Biochemistry and Biotechnology, University of Thessaly, Greece, Ph.D. in Structural Biology, Ph.D. Thesis title “Glycogen phosphorylase as a molecular target for the design of new antihyperglycaemic drugs”, Degree Excellent
- 09.2009-02.2011** Department of Biochemistry and Biotechnology, University of Thessaly, Greece, M.Sc. Molecular Biology, Molecular Genetics and Diagnostic markers, Degree Excellent
M.Sc. Thesis title “Kinetic and Crystallographic studies of inhibitors targeting glycogen phosphorylase”
- 09.2004-06.2009** Department of Biochemistry and Biotechnology, University of Thessaly, Greece, B.Sc. in Biochemistry and Biotechnology, University of Thessaly, Degree Very Good.
B.Sc. Thesis title “Proteomics analysis of wild type and mutant strains of *Pseudomonas entomophila*”

SELECTED PUBLICATIONS

- Structures of SAS-6 coiled coil suggest a basis for the polarity of centriolar cartwheels. **Kantsadi A.L.**, Hatzopoulos G.N., Gönczy P., Vakonakis I., Structure 30(5), pp. 671-684.e5, doi: [10.1016/j.str.2022.02.005](https://doi.org/10.1016/j.str.2022.02.005)
- A COVID Moonshot: assessment of ligand binding to the SARS-CoV-2 main protease by saturation transfer difference NMR spectroscopy. **Kantsadi A.L.**, Cattermole E., Matsoukas M.T., Spyroulias G.A., Vakonakis I., Journal of Biomolecular NMR 75(4-5), pp. 167-178 doi: [10.1007/s10858-021-00365-x](https://doi.org/10.1007/s10858-021-00365-x)
- Structures of the Plasmodium falciparum heat-shock protein 70-x ATPase domain in complex with chemical fragments identify conserved and unique binding sites. Mohamad, N., O Donoghue, A., **Kantsadi, A.L.**, Vakonakis, I., Acta Crystallographica Section F: Structural Biology Communications 77, pp. 262-268 doi: [10.1107/S2053230X21007378](https://doi.org/10.1107/S2053230X21007378)
- Allosteric Inhibition of the SARS-CoV-2 Main Protease: Insights from Mass Spectrometry Based Assays. El-Baba T.J., Lutomski A.C., **Kantsadi A.L.**, Malla T.R., John T., Mikhailov V., Bolla J.R., Schofield S.C., Zitzmann N., Vakonakis I., Robinson C.V., Angew Chem Int Ed Engl 2020 Dec 21;59(52):23544-23548 doi: [10.1002/anie.202010316](https://doi.org/10.1002/anie.202010316)
- The complex of Plasmodium falciparum falcipain 2 protease with an (E)-chalcone-based inhibitor highlights a novel small molecule binding site. Machin J., **Kantsadi A.L.**, Vakonakis I. Malar J 18, 388 2019 doi: [10.1186/s12936-019-3043-0](https://doi.org/10.1186/s12936-019-3043-0)
- Van der Waals interactions govern C-β-D-glucopyranosyl triazoles nM inhibitory potency in human liver glycogen phosphorylase. **Kantsadi, A.L.**, Stravodimos, G.A., Kyriakis, E., Chatzileontiadou, D.S.M., Solovou, T.G., Kun, S., Bokor, E., Somsák, L., Leonidas, D.D. J Struct Biol. 199, 57-67, 2017, doi: [10.1016/j.jsb.2017.05.001](https://doi.org/10.1016/j.jsb.2017.05.001).
- Affinity crystallography reveals the most bioactive ingredients of polyphenolic extracts Punica granatum against glycogen phosphorylase. Stravodimos, G.A., **Kantsadi, A.L.**, Apostolou, A., Kyriakis, E., Kafaski-

- Kanelli, V-N., Gatzona, P., Liggri, P.G.V., Theofanous, S., Gorgogietas, V.A., Kissa, A., Psachoula, C., Lemonakis, A., Chatzileontiadou, D.S.M., Psarra, A. M., Skamnaki, V.T., Haroutounian, S.A., and Leonidas, D.D. *J Med Chem.* 60, 9251-9262, 2017, [doi: 10.1021/acs.jmedchem.7b01056](https://doi.org/10.1021/acs.jmedchem.7b01056).
8. Synthetic, enzyme kinetic, and protein crystallographic studies of C- β -d-glucopyranosyl pyrroles and imidazoles reveal and explain low nanomolar inhibition of human liver glycogen phosphorylase. **Kantsadi, A.L.**, Bokor, É, Kun, S, Stravodimos, G.A., Chatzileontiadou, D.S., Leonidas, D.D., Juhász-Tóth, É., Szakács, A., Batta, G., Docsa, T., Gergely, P., Somsák, L. *Eur J Med Chem.* 123, 737-745, 2016, [doi: 10.1016/j.ejmech.2016.06.049](https://doi.org/10.1016/j.ejmech.2016.06.049).
 9. Glycogen phosphorylase as a target for type 2 diabetes: synthetic, biochemical, structural and computational evaluation of novel N-acyl-N'-(β -D-glucopyranosyl) urea inhibitors. **Kantsadi, A.L.**, Parmenopoulou, V., Bakalov, D.N., Snelgrove, L., Stravodimos, G.A., Chatzileontiadou, D.S.M., Manta, S., Panagiotopoulou, A., Hayes, J.M., Komiotis, D., Leonidas, D.D. *Curr. Top. Med. Chem.* 15, 273-289, 2015, [doi: 10.1016/j.jsb.2017.05.001](https://doi.org/10.1016/j.jsb.2017.05.001).
 10. Molecular Cloning, Carbohydrate Specificity and the Crystal Structure of Two *Sclerotium rolfsii* Lectin Variants. **Kantsadi A.L.**, Peppas VI., Venkat H., Inamdar SR, Bhat GG., Eligar S., Shivanand A., Chachadi VB., Satisha GJ., Swamy BM., Skamnaki VT., Zographos SE., Leonidas DD. *Molecules*, 20, 10848-65 [doi: 10.3390/molecules200610848](https://doi.org/10.3390/molecules200610848)
 11. Biochemical and biological assessment of the inhibitory potency of extracts from vinification byproducts of *Vitis vinifera* extracts against glycogen phosphorylase. **Kantsadi, A.L.**, Apostolou, A., Theofanous, S., Stravodimos, G.A., Kyriakis, E., Gorgogietas, V. A., Chatzileontiadou, D. S., Pegiou, K., Skamnaki, V.T., Stagos, D., Kouretas, D., Psarra, A.M., Haroutounian, S.A., and Leonidas, D.D. *Food Chem Toxicol.* 67, 35-43, 2014, [doi: 10.1016/j.fct.2014.01.055](https://doi.org/10.1016/j.fct.2014.01.055).
 12. Structure based inhibitor design targeting glycogen phosphorylase b. Virtual screening, synthesis, biochemical and biological assessment of novel N-acyl- β -d-glucopyranosylamines. **Kantsadi A.L.**, Tsirkone VG, Parmenopoulou V, Chatzileontiadou DSM, Manta S, Zographos SE, Molfeta C, Archontis G, Agius L, Hayes JM, Leonidas DD, Komiotis D. *Bioorg Med Chem.*, 22,4810-25, 2014 [doi:10.1016/j.bmc.2014.06.058](https://doi.org/10.1016/j.bmc.2014.06.058)
 13. Natural products and their derivatives as inhibitors of glycogen phosphorylase: potential treatment for type 2 diabetes. Hayes J.M., **Kantsadi A.L.**, Leonidas D.D. *Phytochemistry Reviews*, 13,471-98, 2014 [doi: https://doi.org/10.1007/s11101-014-9360-6](https://doi.org/10.1007/s11101-014-9360-6)
 14. The σ -Hole Phenomenon of Halogen Atoms Forms the Structural Basis of the Strong Inhibitory Potency of C5 Halogen Substituted Glucopyranosyl Nucleosides towards Glycogen Phosphorylase b. Kantsadi A.L, Hayes JM, Manta S, Skamnaki VT, Kiritsis C, Psarra AM, Koutsogiannis Z, Dimopoulou A, Theofanous S, Nikoleousakos N, Zoumpoulakis P, Kontou M, Papadopoulos G, Zographos SE, Komiotis D, Leonidas DD. *Chem.Med.Chem*, 7, 722-73, 2012 [doi: 10.1002/cmdc.201100533](https://doi.org/10.1002/cmdc.201100533)
 15. The binding of C5-alkynyl and alkylfurano [2,3-d] pyrimidine glucopyranonucleosides to glycogen phosphorylase b: Synthesis, biochemical and biological assessment. **Kantsadi A.L.**, S.Manta, Psarra A-M, Dimopoulou A., Kiritsis C, Parmenopoulou V, Skamnaki VT, Zoumpoulakis P, Zographos SE, Leonidas DD, Komiotis D. *Eur. J. Med. Chem*, 54, 740-749, 2012 [doi: 10.1016/j.ejmech.2012.06.029](https://doi.org/10.1016/j.ejmech.2012.06.029)

CONFERENCES/WORKSHOPS

- 70th Congress of The Hellenic Society of Biochemistry and Molecular Biology, 2019, Athens, Greece
- Instruct Biennial Structural Biology Meeting, 2019, Alcalá de Henares, Spain
- 69th Congress of The Hellenic Society of Biochemistry and Molecular Biology, 2018, Larissa, Greece (Oral presentation Award)
- The Astbury Conversation, 2018, Leeds, United Kingdom
- EMBO Conference Centrosomes and Spindle Pole Bodies, 2017, Heidelberg, Germany
- EMBO Conference Molecular Machines: Integrative Structural and Molecular Biology, 2016, Heidelberg, Germany
- 66th Congress of The Hellenic Society of Biochemistry and Molecular Biology, 2015, Athens, Greece
- International School of Crystallography 47th Course: Structural Basis of Pharmacology: Deeper Understanding of Drug Discovery through Crystallography, 2014, Erice, Italy
- 65th Congress of The Hellenic Society of Biochemistry and Molecular Biology, 2014, Thessaloniki, Greece
- 7th Conference of Hellenic Crystallographic Association, 2014, Heraklion, Greece
- 6th Conference of Hellenic Crystallographic Association, 2012, Athens, Greece

MEMBERSHIPS & REVIEWING ACTIVITIES

Memberships: Member of the Hellenic Crystallographic Society; Hellenic Society of Biochemistry and Molecular Biology; British Biophysical Society. Registered user of the Synchrotron radiation facilities: Max-Lab (Lund, Sweden), EMBL (Hamburg, Germany), ALBA (Barcelona, Spain), Diamond Light Source (Didcot, UK).

Reviewing activities: Food and Chemical Toxicology

RESEARCH GRANTS and FELLOWSHIPS

08.2022-07.2024 3rd Call for H.F.R.I. Research Projects to Support Post-Doctoral Fellows (120.000 €), H.F.R.I, Greece

06.2017-06.2019 Marie-Sklodowska Curie Individual Fellowship (£183.454), Horizon 2020, EU

SCIENTIFIC ACHIEVEMENTS
• Skamnaki, V.T., Kantsadi, A.L., Chatzileontiadou, D.S.M., <u>Stravodimos, G.A.</u>, Leonidas, D.D., Glycogen Metabolism Enzymes as Molecular Targets for Drug Development. In “Glycogen: Structure, Functions in the Body and Role in Disease” (2013) edited by Pedro L. Weiss and Brian D. Faulkner: Biochemistry Research Trend • Centriolar SAS-6 reveals the molecular mechanism of cartwheel assembly” Rudolf-Schönheimer-Institute of Biochemistry University of Leipzig, 2019, Invited talk • 25 Publications • 68 depositions in Protein Data Bank