Katerina E. Tsitsanou

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Scopus Author ID: 6603370212

Education

2002: PhD in Biology, National and Kapodistrian University of Athens, Department of Biology
Thesis: "*Design of analogue inhibitors of glycogen phosphorylase as potential antidiabetic drugs; kinetic and crystallographic studies*"

1994: BSc in Chemistry, National and Kapodistrian University of Athens

Appointments

9/2024 – Today: Associate Researcher, Institute of Chemical Biology, National Hellenic Research Foundation, Athens, Greece

01/2018 – 7/2023: Postdoctoral researcher, Institute of Chemical Biology, National Hellenic Research Foundation, Athens, Greece

09/2016 – 1/2017: Visiting Lecturer, Department of Biochemistry and Biotechnology, University of Thessaly, Larissa, Greece

12/2008 – 04/2016: Postdoctoral researcher, Institute of Biology, Pharmaceutical chemistry and Biotechnology (IBMCB), National Hellenic Research Foundation, Athens, Greece

06/2005 – 01/2006: R&D Postdoctoral researcher, EuroGENET Laboratories, Pallini, Greece

04/2002 – 08/2004: Postdoctoral researcher, Mendel Center for Biomedical sciences, Nicosia, Cyprus

02/2001 – 07/2001: Postgraduate researcher, Institute of Biological Research and Biotechnology, National Hellenic Research Foundation, Athens, Greece

Teaching Experience

2016 – 2017: Visiting Lecturer. Teaching and Laboratory training of 4th year undergraduate students in "*Structural Biochemistry*", Department of Biochemistry and Biotechnology, University of Thessaly

1996 – 2023: Laboratory supervision of 4 Ph.D, 6 MSc, and 13 undergraduate student's research projects. Institute of Chemical Biology, National Hellenic Research Foundation

Professional Affiliations

- Member of the Greek Chemists Association
- Member of the Hellenic Crystallographic Association
- Member of the Hellenic Society of Biochemistry and Molecular Biology
- Registered user of synchrotron radiation sources: Diamond (Oxford, UK), DESY (Hamburg, Germany), ALBA (Barcelona, Spain) and Elettra (Trieste, Italy).

Research interests

Katerina E. Tsitsanou research focuses on studying the interaction mechanisms of bioactive molecules/drugs with protein/enzymatic targets of pharmaceutical and biotechnological significance. To this end, she specializes in recombinant DNA techniques and heterologous protein expression in bacterial systems and insect cells, as well as in the expression of ^{13}C and ^{15}N isotopically labeled proteins suitable for macromolecular NMR studies. Dr Tsitsanou applies all modern fast liquid chromatography (FPLC) techniques for protein purification, ensuring that the produced proteins are suitable for further kinetic, biochemical, and biophysical studies.

Aiming at the discovery of biologically active molecules, she designs, optimizes, and implements *in vitro* enzyme kinetics and biochemical binding assays against the protein targets (target-based assays), to determine ligands' affinities and mechanism of action. Furthermore, she determines the 3D structures of selected ligand complexes with their target proteins/enzymes, providing information concerning their structure/function relationship and the structural features that govern their specific binding.

Her research interest includes pharmaceutical and biotechnological targets involved in: Type 2 diabetes mellitus (glycogen phosphorylase and glucokinase), Cancer (human Coilin Interacting Nuclear ATPase; hCINAP and BRAF kinase), Inflammation (Ligand Binding Domain of Glycocorticoid Receptor; GR-LBD), Melanogenesis (Tyrosinase) and

Chemoreception in insects (Odorant Binding Proteins; OBPs and mosquito Odorant Receptor co-receptor ORco).

Publications in peer-reviewed Scientific Journals

1. Mam, B.[§], **Tsitsanou, K.E. [§]**, Liggri, P.G.V., Saitta, F., Stamati, E.C.V., Mahita, J., Leonis, G., Drakou, C.E., Papadopoulos, M., Arnaud, P., Offmann, B., Fessas, D., Sowdhamini, R. & Zographos, S.E. (**2023**). Influence of pH on indole-dependent heterodimeric interactions between *Anopheles gambiae* odorant-binding proteins OBP1 and OBP4*. Int J Biol Macromol.* 125422 (doi: 10.1016/j.ijbiomac.2023.125422)
§ These authors contributed equally to this work
JIF[2023] : **8.2**
PDBs: 8C6E, 8C6G, 8C68

2. Liggri, P.G.V., Perez-Garrido, A., **Tsitsanou, K.E.**, Dileep, K.V., Michaelakis, A., Papachristos, D., Perez-Sachez, H. & Zographos, S.E. (**2023**). 2D finger-printing and molecular docking studies identified potent mosquito repellents targeting odorant binding protein 1. *Insect Biochem Mol Biol.* 157:103961
(doi: 10.1016/j.ibmb.2023.103961)
JIF[2023] : **3.8**

3. Liggri, P.G.V., **Tsitsanou, K.E.**, Stamati, E.C.V., Saitta, F., Drakou, C.E., Leonidas, D.D., Fessas, D. & Zographos, S.E. (**2023**). The structure of AgamOBP5 in complex with the natural insect repellents Carvacrol and Thymol: Crystallographic, fluorescence and thermodynamic binding studies. *Int J Biol Macromol*. **237**, 124009
(doi: 10.1016/j.ijbiomac.2023.124009)
JIF[2023]: **8.2**
PDBs: 8BXU, 8BXW, 8BXV

4. Kritsi, E., Liggri, P.G.V., Stamati, E.C.V., **Tsitsanou, K.E.**, Zographos, S.E., Michaelakis, A., Papachristos, D. & Zoumpoulakis, P. (**2022**). A Combined Computational Methodology for the Discovery of Hit Compounds with Putative Insect Repellency Properties. *ChemMedChem.* **17**, e202200271
(doi: 10.1002/cmdc.202200271)
JIF[2022]: **3.4**

5. Leonidas, D.D., Zographos, S.E., **Tsitsanou, K.E.**, Skamnaki, V.T., Stravodimos, G. & Kyriakis, E. (**2021**). Glycogen phosphorylase revisited: extending the resolution of the R- and T-state structures of the free enzyme and in complex with allosteric activators. *Acta Cryst.* **F77,** 303-311 (doi: 10.1107/S2053230X21008542)
JIF[2021]: **1.072**

6. Thireou, T., Kythreoti, G., **Tsitsanou, K.E.**, Koussis, K., Drakou, C.E., Kinnersley, J., Kröber, T., Guerin, P.M., Zhou, J.J., Iatrou, K., Eliopoulos, E. & Zographos, S.E. (**2018**). Identification of novel bioinspired synthetic mosquito repellents by combined ligand-based screening and OBP-structure-based molecular docking. *Insect Biochem Mol Biol.* **98,** 48-61 (doi: 10.1016/j.ibmb.2018.05.001)

JIF[2018]: **3.618**

7. Drakou, C.E., **Tsitsanou, K.E.**, Potamitis, C., Fessas, D., Zervou, M. & Zographos, S.E. (**2017**). The crystal structure of the AgamOBP1•Icaridin complex reveals alternative binding modes and stereo-selective repellent recognition. *Cell Mol Life Sci.* **74**, 319-338 (doi:10.1007/s00018-016-2335-6)

JIF[2017]: **6.721**

PDBs: 5EL2

8. **Tsitsanou, K.E.**, Drakou, C.E., Thireou, T., Vitlin Gruber, A., Kythreoti, G., Azem, A., Fessas, D., Eliopoulos, E., Iatrou, K. & Zographos, S.E. (**2013**). Crystal and Solution Studies of the "Plus-C" Odorant-binding Protein 48 from *Anopheles gambiae*: CONTROL OF BINDING SPECIFICITY THROUGH THREE-DIMENSIONAL DOMAIN SWAPPING. *J. Biol. Chem.* **288**, 33427-33438 (doi:10.1074/jbc.M113.505289)

JIF[2013]: **4.6**

PDBs: 4IJ7, 4KYN

9. **Tsitsanou, K.E.**, Hayes, J.M., Keramioti, M., Mamais, M., Oikonomakos, N.G., Kato, A., Leonidas, D.D. & Zographos, S.E. (**2013**). Sourcing the affinity of flavonoids for the glycogen phosphorylase inhibitor site via crystallography, kinetics and QM/MM-PBSA binding studies: Comparison of chrysin and flavopiridol. *Food Chem Toxicol.* **61**, 14-27 (doi: 10.1016/j.fct.2012.12.030)

JIF[2013]: **2.61**

10. **Tsitsanou, K.E.**, Thireou, T., Drakou, C.E., Koussis, K., Keramioti, M.V., Leonidas, D.D., Eliopoulos, E., Iatrou, K. & Zographos, S.E. (**2012**). *Anopheles gambiae* odorant binding protein crystal complex with the synthetic repellent DEET: implications for structure-based design of novel mosquito repellents. *Cell Mol Life Sci.* **69**, 283-297 (doi: 10.1007/s00018-011-0745-z)

JIF[2012]: **5.615**

PDB: 3N7H

11. Watson, K.A., Chrysina, E.D., **Tsitsanou K.E.**, Zographos, S.E., Archontis, G., Fleet, G.W. & Oikonomakos, N.G. (**2005**). Kinetic and crystallographic studies of glucopyranose spirohydantoin and glucopyranosylamine analogs inhibitors of glycogen phosphorylase. *Proteins* **61**, 966-983. (doi: 10.1002/prot.20653)

JIF[2005]: **4.684**

PDBs: 1FS4, 1FTQ, 1FTW, 1FTY, 1FU4, 1FU7, 1FU8

12. **Tsitsanou, K.E.**, Skamnaki, V.T. & Oikonomakos, N.G. (**2000**). Structural basis of the synergistic inhibition of glycogen phosphorylase a by caffeine and a potential antidiabetic drug. *Arch. Biochem. Biophys.* **348**, 245-254. (doi: 10.1006/abbi.2000.2121)

JIF^{2000}: **2.576**

PDB: 1C8L

13. Oikonomakos, N.G., Schnier, J.B., Zographos, S.E., Skamnaki, V.T., **Tsitsanou, K.E.** & Johnson, L.N. (**2000**). Flavopiridol inhibits glycogen phosphorylase by binding at the inhibitor site. *J. Biol. Chem.* **275**, 34566-73. (doi: 10.1074/jbc.M004485200)

JIF^{2000}: **7.368**

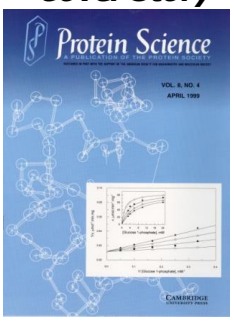
PDBs: 1C8K, 1E1Y , 1GFZ

14. Oikonomakos, N.G., Skamnaki, V.T., **Tsitsanou, K.E.**, Gavalas, N.G. & Johnson, L.N. (**2000**). A new allosteric site in glycogen phosphorylase b as a target for drug interactions. *Structure* **8**, 575-584. (doi: 10.1016/S0969-2126(00)00144-1)

JIF^{2000}: **6.681**

PDB: 1C50

Cover Story



15. **Tsitsanou, K.E.**, Oikonomakos, N.G., Zographos, S.E., Skamnaki, V.T., Gregoriou, M., Watson, K.A., Johnson, L.N. & Fleet, G.W.J. (**1999**). The effect of most commonly used cryoprotectants on glycogen phosphorylase activity and structure. *Protein Sci.* **8**, 741-749. (doi: 10.1110/ps.8.4.741)

JIF^{1999}: **4.457**

PDBs: 1B4D , 1BX3

16. Oikonomakos, N.G., **Tsitsanou, K.E.**, Zographos, S.E., Skamnaki, V.T., Goldmann, S. & Bischoff, H. (**1999**). Allosteric inhibition of glycogen phosphorylase a by the potential antidiabetic drug 3-isopropyl-4-(2-chlorophenyl)-1,4-dihydro-1-ethyl-2-methyl-pyridine-3,5,6-tricarboxylate. *Protein Sci.* **8**, 1930-1945. (doi: 10.1110/ps.8.10.1930)

JIF^{1999}: **4.457**

PDBs: 2GPA , 3AMV

17. **Tsitsanou, K.E.**, Zographos, S.E., Skamnaki, V.T. & Oikonomakos, N.G. (**1999**). Molecular recognition in glycogen phosphorylase inhibitor design. *Review of Clinical Pharmacology and Pharmakokinetics, International edition* **13**, 9-25. ***Review***

18. Heightman, T.D., Vasella, A., **Tsitsanou, K.E.**, Zographos, S.E., Skamnaki, V.T. & Oikonomakos, N.G. (**1998**). Cooperative Interactions of the Catalytic Nucleophile and the Catalytic Acid in the Inhibition of β-Glycosidases. Calculations and Their Validation

by Comparative Kinetic and Structural Studies of the Inhibition of Glycogen Phosphorylase b. *Helv. Chim. Acta* **81**, 853-864. (doi: 10.1002/hlca.19980810507)

JIF[1998]: **2.463**

PDB: 1AXR

19. Zographos, S.E., Oikonomakos, N.G., **Tsitsanou, K.E.**, Leonidas, D.D., Chrysina, E.D., Skamnaki, V.T., Bischoff, H., Goldman, S., Schram, M., Watson, K.A. & Johnson, L.N. (**1997**). The structure of glycogen phosphorylase b with an alkyl-dihydropyridine-dicarboxylic acid compound, a novel and potent inhibitor. *Structure* **5**, 1413-1425. (doi: 10.1016/S0969-2126(97)00292-X)

JIF[1997]: **7.633**

20. Krulle, T.M., de la Fuente, C., Watson, K.A., Gregoriou, M., Johnson, L.N., **Tsitsanou, K.E.**, Zographos, S.E., Oikonomakos, N.G. & Fleet, G.W.J. (**1997**). Stereospecific synthesis of spirohydantoins of *β*-glucopyranose: Inhibitors of glycogen phosphorylase. *Synlett.* **2**, 211-213. (doi: 10.1055/s-1997-736)

JIF[1997]: **2.646**

21. Krulle, T.M., de la Fuente, C., Pickering, L., Aplin, R.T., **Tsitsanou, K.E.**, Zographos, S.E., Oikonomakos, N.G., Nash, R.J., Griffiths, R.C. & Fleet, G.W.J. (**1997**). Triazole carboxylic acids as anionic sugar mimics? Inhibition of glycogen phosphorylase by a glucotriazole carboxylate. *Tetrahedron Asymmetry* **8**, 3807-3820. (doi: 10.1016/S0957-4166(97)00561-2)

JIF[1997]: **2.499**

22. De la Fuente, C., Krulle, T.M., Watson, K.A., Gregoriou, M., Johnson, L.N., **Tsitsanou, K.E.**, Zographos, S.E., Oikonomakos, N.G. & Fleet, G.W.J. (**1997**). Glucopyranose Spirohydantoins: Specific inhibitors of glycogen phosphorylase. *Synlett.* **5**, 485-487. (doi: 10.1055/s-1997-940277)

JIF[1997]: **2.693**

23. Oikonomakos, N.G., Zographos, S.E., **Tsitsanou, K.E.**, Johnson, L.N. & Acharya, K.R. (**1996**). Activator anion site in pyridoxal phosphorylase *b*: The binding of phosphite, phosphate and fluorophosphate anions in the crystal. *Protein Sci.* **5**, 2416-2428. (doi: 10.1002/pro.5560051204)

JIF[1996]: **4.867**

PDBs: 2SKC, 2SKD , 2SKE

24. Brandstetter, T.W., Fuente, C., Kim, Y.-h, Johnson, L.N., Crook, S., Q. Lilley, P.M., Watkin, D.J., **Tsitsanou, K.E.**, Zographos, S.E., Chrysina, E.D., Oikonomakos, N.G. & Fleet, G.W.J. (**1996**). Glucofuranose analogues of hydantocidin. *Tetrahedron* **52**, 10721-10736. (doi: 10.1016/0040-4020(96)00595-9)

JIF[1996]: **2.232**

25. Brandstetter, T.W., Wormald, M.R., Dwek, R.A., Butters, T.D., Platt, F.M., **Tsitsanou, K.E.**, Zographos, S.E., Oikonomakos, N.G. & Fleet, G.W.J. (**1996**). A galactopyranose analogue of hydantocidin. *Tetrahedron Asymm.* **7**, 157-170. (doi: 10.1016/0957-4166(95)00432-7)

JIF[1996]: **2.382**

26. Krulle, T.M., Watson, K.A., Gregoriou, M., Johnson, L.N., Crook, S., Watkin, D.J., Griffiths, R.C., Nasj, R.J., **Tsitsanou, A.E.**, Zographos, S.E., Oikonomakos, N.G. & Fleet, G.W.J. (**1995**). Specific inhibition of glycogen phosphorylase by a spirodiketopiperazine at the anomeric position of glucopyranose. *Tetrahedron Lett.* **36**, 8291-8294. (doi: 10.1016/0040-4039(95)01733-X)

JIF[1995]: **2.257**

Chapters in Books

1. Zographos, S.E., Eliopoulos, E., Thireou, T. & **Tsitsanou, K.E.** (**2018**). *OBP-structure-aided repellent discovery: An emerging tool towards the prevention of mosquito-borne diseases* in CRC book series QSAR in Environmental and Health Sciences "Computational design of chemicals for the control of mosquitoes and their diseases". Publisher: CRC Press Taylor & Francis Group 6000 Broken Sound Parkway NW, Suite 300 Boca Raton, FL 33487-2742, Editor: James Devillers, **Chapter 3, pp.65-105**.
2. Oikonomakos, N.G., Kosmopoulou, M.N., Leonidas, D.D., Chrysina, E.D., Tiraidis, C., Bischler, N., **Tsitsanou, K.E.**, Zographos, S.E., Kostas, I.D. & Eisenbrand, G. (**2006**). *Indirubin and indigo analogues as potential inhibitors of glycogenolysis: structural basis of glycogen phosphorylase inhibition*. Indirubin, the red shade of indigo (Meijer L., Guyard N., Skaltsounis L. & Eisenbrand G., eds) Editions "Life in Progress", Station Biologique, Roscoff, **Chapter 18, pp. 177-189**.

Patents

- Mosquito repellent composition comprising yarrow essential Oil (2022). Hellenic Industrial Property Organization (OBI), Application Number 20220100673/10.08.2022 GR20220100673A
- Mosquito repellent composition comprising yarrow essential Oil. European Patent Office (EPO), Application Number EP22193561.2/01.09.2022 EP4321023A1

Publications in conference proceedings

1. Discover BMB 2024, Annual meeting of the American Society for Biochemistry and Molecular Biology, 23–26 March 2024, San Antonio, USA, Topic Category: Drug

Discovery. *Natural anosmia-inducing compounds for control of mosquito biting behaviors: Machine learning-assisted determination of structural determinants for ORco ligands antagonizing odorant receptor function*. Iatrou, K., Thireou, T., Kythreoti, G., Liggri, P., Michaelakis, A., Papachristos, D., **Tsitsanou, K.**, Zographos, S., and Schulz, S. *J Biol. Chem.* **300**, Issue 3, (Suppl. 9), S168 (https://doi.org/10.1016/j.jbc.2024.106064)

2. 44th FEBS Congress, From Molecules to Living Systems, 6-11 July 2019, Krakow, Poland. *Structural and biochemical studies of an odorant binding protein from the malaria vector Anopheles gambiae.* Liggri, P., **Tsitsanou, K.** & Zografos, S., *FEBS OPEN BIO* **9** (Suppl. 1), pp. 269, P-27-070. (https://doi.org/10.1002/2211-5463.12675)

3. 13th Congress of Medicinal Chemistry, 9-12 May 2012, Patras, Greece. *NMR screening for putative repellents targeting Odorant Binding Protein 1 (OBP1) of the primary vector for malaria, mosquito Anopheles gambiae.* Potamitis, C., Zervou, M., Zoumpoulakis, P., Zographos, S.E., **Tsitsanou, K.E.**, Drakou. C., Iatrou. K., Zelenko, B., Grdadolnik, S. G. *Review of Clinical Pharmacology and Pharmakokinetics, International edition* (Pharmakon Press) **26(3),** pp. 161-162.

4. European Chemoreception Research Organization (ECRO) XXIst congress, 7-10 September 2011, Manchester, UK. *Crystal structure of odorant binding protein 4 from Anopheles gambiae*. **Tsitsanou, K.E.**, Drakou, C.E & Zographos, S.E. *Chem. Senses* **37,** A41. (https://doi.org/10.1093/chemse/bjr123)

5. European Chemoreception Research Organization (ECRO) XXIst congress, 7-10 September 2011, Manchester, UK. *AgamOBP1 crystal complex with DEET: a new molecular target for the design of novel mosquito repellents.* **Tsitsanou, K.E.**, Thireou, T., Drakou, C.E., Koussis, K., Eliopoulos, E., Iatrou, K. & Zographos, S.E. *Chem. Senses* **31**, A41-42. (https://doi.org/10.1093/chemse/bjr123)

6. 30th FEBS Congress & 9th IUBMB Conference, 2-7 July 2005, Budapest, Hungary. *HPV DNA testing in Cyprus: epidemiology and identification of novel HPV types.* Neophytou P.I., Tanos V., Chrysanthou A., Lerios S., **Tsitsanou K.E.**, Philippidou D., Ulucay, S.K., Spyrou, S., Maos, G., Phylaktou, M., Adreou, I., Demetriou, S., Ellinas, S., Papageorgiou, J. & Albayrak, A.A. (2005). *FEBS Journal* **272** (Suppl. 1), p.558, V1-065P. (https://doi.org/10.1111/j.1742-4658.2005.4739_15.x)

7. 13th International Meeting of ESGO: European society of Gynecological Oncology, 6-10 April 2003 Brussels, Belgium. *Type and Frequency of Human Papilloma Virus Infection in Cyprus*. Tanos V., **Tsitsanou K.**, Philippidou D., Chrysanthou A., Wreschner D.H., Inan M., Lerios S. & Neophytou P.I. *Int. J. Gynecol. Cancer* **13**(Suppl.1), p.101-102, PO235. (https://doi.org/10.1046/j.1525-1438.13.s1.1.x)

8. 28th FEBS Meeting, 20-25 October 2002, Istanbul, Turkey. *Human Papilloma Virus in Cyprus: HPV DNA Testing for Prevention of Cervical Cancer*. Philippidou, D., Chrysanthou, A., Wreschner, D.H., **Tsitsanou, K.**, Savabi, M., Lerios, S., Tanos, V. & Neophytou, P.I. *Eur. J. Biochem.* **269** (Suppl. 1), p.85, PS5-025. In *Istanbul Special Issue* (Gunnar von Heijne Ed.) Editions "Elsevier Science, 2002" (OCLC Number: 248785792)

Short communications

1. **Tsitsanou, K.E.**, Drakou, C.E. & Zographos, S.E. (2013). The 3D domain-swapped dimer of the "Plus-C" odorant binding protein 48 from *Anopheles gambiae*. ***MAX-lab Activity Report 2013***. Report Online
2. **Tsitsanou, K.E.**, Leonidas, D.D. & Zographos, S.E. (2012). Chrysin inhibits glycogen phosphorylase by binding at the inhibitor site. ***MAX-lab Activity Report 2012***. Report Online
3. **Tsitsanou, K.E.**, Drakou, C.E., Leonidas, D.D. & Zographos, S.E. (2012). Mosquito Odorant Binding Protein 1 as a target for the structure-based discovery of novel host-seeking disruptors. ***MAX-lab Activity Report 2012***. Report Online
4. **Tsitsanou, K.E.**, Drakou, C.E., Keramioti, M. & Zographos, S.E. (2010). Crystal structure of odorant binding protein 4 from *Anopheles gambiae* complexed with N - Phenyl-1-naphthylamine. ***MAX-lab Activity Report 2010*, 382-383**. Report Online
5. **Tsitsanou, K.E.**, Drakou, C.E. & Zographos, S.E. (2009). The structure of odorant binding protein 4 from *Anopheles gambiae*. ***MAX-lab Activity Report 2009*, 374-375**. Report Online PDBs: 8C6E, 8C6G, 8C68
6. Oikonomakos, N.G., Zographos, S.E., Skamnaki, V.T. & **Tsitsanou, K.E.** (2000). Structural studies on glycogen phosphorylase complexes with potent inhibitors of the enzyme: the binding of flavopiridol. Crystallographic studies of a very potent inhibitor of glycogen phosphorylase. *EMBL, Hamburg Outstation,* ***Annual Report 2000*, 197-198**.
7. Oikonomakos, N.G., **Tsitsanou, K.E.**, Skamnaki, V.T. & Zographos, S.E. (1999). Glycogen phosphorylase: a molecular target for structure assisted drug design. *EMBL, Hamburg Outstation,* ***Annual Report 1999*, 114-115.**
8. Zographos, S.E., **Tsitsanou, K.E.**, Chrysina, E.D. & Oikonomakos, N.G. (1996). Inhibitor binding studies to T-state glycogen phosphorylase b. *SYNCHROTRON RADIATION DEPARTMENT, Daresbury Laboratory 1995-96,* ***Scientific Reports Volume II*, p. 743-744**.

9. Zographos, S.E., **Tsitsanou, K.E.**, Chrysina, D.E., Oikonomakos, N.G., Johnson, L.N., Goldmann, S. & Straub, A. (1996). Crystallographic studies of a very potent inhibitor of glycogen phosphorylase. ***HASYLAB Annual Report Part II*** (edited by H. Bartunik, W. Laasch & V. Lamzin), **p. 517-518**.

Awards

- **"***Nikos Oikonomakos" Award* for the best poster presentation: "*The structure of a novel Odorant Binding Protein of Anopheles gambiae in complex with ORco effectors.* Christodoulou, E., Stamati, E.C.V., **Tsitsanou, K.E.**, Kontopidis, G. & Zographos, S.E.*"*, 11th International Conference of the Hellenic Crystallographic Association (HeCrA), 20-22 October 2023, Municipal Art Gallery - G.I. Museum of Larissa, Greece.
- Best poster presentation: "*Interaction of Origanum vulgare Essential Oil with two female-specific Odorant-Binding Proteins from the mosquito Anopheles gambiae*, Stamati, E.C.V., Liggri, P.G.V., **Tsitsanou, K.E.**, Christodoulou, E. & Zographos, S.E." –Trends in Natural Products Research: A Young Scientists' Meeting, 23-26 May 2022, Kolymbari, Crete, Greece (Abstract book p.271, P 60).
- **"***Nikos Oikonomakos" Award* for the best poster presentation: "*AgamOBP1 is a molecular target for the development of novel insect repellents*. **K.E. Tsitsanou**, C.E. Drakou, A. Thireou, E. Eliopoulos, K. Iatrou, S.E. Zographos", 5th International Conference of the Hellenic Crystallographic Association, University of Thessaly, Larissa, 24-25 September 2010.

Participation in National Funded Research Projects

1. "*3D-ORco: Advanced Research on the 3D structure of Mosquito Odorant Receptor coreceptor*". Hellenic Foundation for Research and Innovation (H.F.R.I.) under the "1st Call for H.F.R.I. Research Projects to support Faculty members and Researchers and the procurement of high-cost research equipment" (Project Number: HFRI-FM17-637) (2020-2023).
2. "*QFytoTera: Nanoemulsions of plant oils with moisturizing and insect repellent properties*" EPAnEK-NSRF 2014-2020 (MIS 5030853).
3. *"STHENOS-b: Targeted therapeutic approaches against degenerative diseases, focusing on cancer and aging, optimization of targeted bioactive compounds"* Ministry of Education, Lifelong Learning, and Religious Affairs, "Development Proposals of Research Institutions - KRIPIS", NSRF 2014-2020 (2017-2019).
4. *"STHENOS: Targeted therapeutic approaches against degenerative diseases, with emphasis on cancer and aging"* Ministry of Education, Lifelong Learning, and Religious

Affairs, "Development Proposals of Research Institutions - KRIPIS", NSRF 2007-2013 (2012-2015).

5. *"PREVENT: Molecular, functional and structural analysis of Mosquito OBPs for Prevention of Vector-Borne Infectious Diseases"* General Secretariat for Research and Technology, Research grant ESPA R&D project of bilateral cooperation Greece-Turkey 2013-2014 (2013-2015).
6. *"Structure-function relationship of allosteric proteins of muscle cells: molecular recognition and rational design of potential drugs"*. PENED-1999, Ministry of Development, General Secretariat of Research and Technology (EPET II) (1999-2000).
7. *"Inhibitors of glycogen phosphorylase as potential antidiabetic drugs"*. PENED-225, Ministry of Development, General Secretariat of Research and Technology (1996-1998).

Participation in International Research Projects

1. *"ARCADE: Advancement of Research Capability for the Development of New Functional Compounds"* FP7-REGPOT-2009-1 Support action (GA-245866) (2010-2013).
2. *"ENAROMATIC: European Network for Advanced Research on Olfaction for Malaria Transmitting Insect Control"* FP7-HEALTH-2007-2.3.2-9, (GA-222927) (2008-2012).
3. "*Type and Frequency of Human Papilloma Virus infection in Cyprus"*. The program was funded by the United States of America (USAID) and the United Nations Development Programme (UNDP) through the United Nations Office for Project Services (UNOPS) (2002-2003).
4. *"From enzyme-inhibitor complex structure to the design of potential hypoglycemic drugs for the treatment of non-insulin-dependent diabetes mellitus"*, Joint Research and Technology Project with Prof. Pal Gergely (University School of Medicine, Debrecen, Hungary) (1999-2000).
5. *"Crystallisation and Structural studies of Phosphorylase-GL peptide complex, Protein Phosphatase 5 and other Signal-Transducing Proteins"*, University of Dundee, Scotland (1999-2000).
6. *"Carbohydrate recognition and control by glycogen phosphorylase and other enzymes of carbohydrate metabolism and the design of potential antidiabetic drugs"*, EEC BIOTECHNOLOGY (1994-1996). No BIO2-CT94-3025 (1994-1996).

Access to European Large Infrastructures

1. *"Expression of mosquito 7-transmembrane Odorant Receptor co-receptor (ORco) using a baculovirus system in insect and mammalian cell lines, for structure*

determination studies" Project ID: 26717. INSTRUCT-ERIC: Access to the Membrane Protein Production, MPL, Harwell, UK (VID: 45371), an Instruct-ERIC centre – ***Principal Investigator***

2. *"Design of novel inhibitors of the oncogenic BRAF(V600E) protein kinase"*. Access to EU synchrotron radiation facilities in the frame of project iNext (grant number 653706) funded by the Horizon 2020 programme of the European Commission, 2019 – ***Principal Investigator***
3. *"Greek network of protein crystallographers"*. Access to EU synchrotron radiation facilities in the frame of FP7 project "BioStruct-X" (GA-283570), 2013-2014 & 2014-2015
4. *"Instruct-Ellas, National consortium"*. Access to EU synchrotron radiation facilities in the frame of FP7 project "BioStruct-X" (GA-283570), (2011-2012).
5. *"Cryo-crystallographic studies of glycogen phosphorylase-inhibitor complexes"*, Use of the Sinchrotrone Trieste, Trieste, Italy, 209/96 (1996), 129/97 (1997)
6. *"Crystallographic studies on glycogen phosphorylase-inhibitor complexes"*, Use of the Synchrotron Radiation Source in DORIS, EMBL, Hamburg, Germany (under the European Community Large Scale Facilities Programme), PX-95-238 (1995), PX-96-41 (1996), PX-97-6 (1997)
7. *"Crystallographic studies on rabbit glycogen phosphorylase"*, Use of the Synchrotron Radiation Source (SRS) at the Daresbury Laboratory, Warrington, U.K. (under the European Community Large Scale Facilities Programme). SRS travel grants: 26/75 (1995), 27/214 (1996), 28/004 (1996)

Research networks

- COST Action CA21111 "One Health drugs against parasitic vector borne diseases in Europe and beyond (OneHealthdrugs)" (2022-2026).