

## GEORGIOS SIMOS - CURRICULUM VITAE – March 2023

**Georgios (George) Simos** (date of birth: 27.06.1959) is Professor and Director of the Laboratory of Biochemistry, **Medical Faculty, University of Thessaly (UTH)** in Larissa, Greece.

After undergraduate studies in Biochemistry (BSc, **Sussex University**, 1981) and Chemistry (Degree of Chemistry, **Aristotelian University of Thessaloniki**, 1984), Dr. Simos obtained his **PhD in Biochemistry** (supervisor: Prof. J. G. Georgatsos) from University of Thessaloniki in 1990. Between March 1988 - November 1989, Dr. Simos did his military service.

Dr. Simos did his **post-doc** in the **Cell Biology Program of EMBL** (Georgatos group, 1990-94, Hurt group 1994-5) and his **habilitation** in the **Biochemie-Zentrum Heidelberg** (BZH, Lab of Prof. Dr. E. C. Hurt), Faculty of Medicine, Univ. of Heidelberg (1996-2000; Habilitation awarded on 11/12/2003). In **2001**, he was appointed Assistant Professor of Biochemistry in the Medical School, in Larissa, where he has been working since. Since April 2018, he has also been appointed Adjunct Professor of the Gerald Bronfman Department of Oncology, **Faculty of Medicine, McGill University**

Dr. Simos has participated in or coordinated **teaching** of the following subjects:

“Biochemistry” in the Medical School, Univ. Heidelberg (1995-2000); “Modern Biochemistry Topics”, 4th year of Studies Program “Medical Biochemistry, UTH (2001-2); “Molecular mechanisms of Medical Cell Biology”, 4th semester course of Medicine, UTH (2001-4); “Medical Chemistry”, “Biochemistry I”, “Biochemistry II” and “Clinical Biochemistry” in the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> semesters, respectively, of Medicine, UTH (2001-now); “Cellular Homeostasis & Gene Expression” in the Postgraduate Studies Program “Clinical Applications of Molecular Medicine”, UTH (2004-now).

Dr. Simos has directly **supervised** the Diploma Theses of **six undergraduate** and **four post-graduate** (MSc) students, **nine PhD Theses** and the work of **four post-doctoral** researchers.

**Other academic activities** of Dr. Simos include:

- participation as member in **17 Ph.D. Thesis Advisory Committees**
- participation as member in **20 M.Sc. or Ph.D. Thesis Examination Committees**
- participation in **42 International Scientific Conferences, Workshops or Schools (20 as speaker)**
- delivery of **32 invited lectures** in National and International Institutes;
- **reviewer (ad hoc)** for more than 45 journals (including BBA, Biochem. J., Cells, Cancers, FEBS Lett., Hepatology, Hypoxia, J. Biol. Chem., J. Cell Biol., J. Cell Sci., J. Mol. Med., Mol. Biol. Cell, Oncogene, PNAS, Sci. Rep. and TIBS);
- **reviewer of research grant proposals** for HFSP, Foundation of Science and Technology of Portugal, Agence Nationale de la Recherche, Croatian Science Foundation, Medical Research Council (MRC), Biotechnology and Biological Sciences Research Council (BBSRC), Research Promotion Foundation (RPF) Cyprus, Swiss National Science Foundation, The Israel Science Foundation, Hellenic Foundation for Research & Innovation (HFRI).
- **vice-Director** and member of the Coordinating Committee of the Postgraduate Studies Program “Clinical Applications of Molecular Medicine”, UTH (since 2004)
- member of the **Internal Evaluation Committee** of the School of Medicine, UTH
- member of Executive Board of the **Research Committee**, UTH (2017-2020).
- vice-president of the **Center of Research Innovation and Excellence (C.R.I.E.)**, UTH (since 2018).
- elected Member and Treasurer of the Executive Board of the **Hellenic Society of Biochemistry and Molecular Biology** (2014-2017)
- member of the **Management Committee** (National Representative) of the European COST Action “**HypoxiaNet**” (TD0901)
- member of the **National Council for Research & Innovation** (May-Sep. 2016)
- member of the Honorary Editorial Board of **Hypoxia** (Dove press Journal)
- academic editor of **PLOS One**
- review editor of **Frontiers in Cell and Developmental Biology** and **Frontiers in Pharmacology**
- editorial Board member of “**Cells**” and Guest Editor of Special Issue: Gene Regulation by HIFs during Hypoxia
- editorial Board member of “**Cancers**” and Guest Editor of Special Issue in Cancers: Inhibition of HIFs as an Anti-Cancer Strategy

Dr. Simos has received the following **fellowships, research grants or awards**:

- Schilitsi Foundation Scholarship (1977-81)
- EMBO long-term fellowship (1990-92)
- Research bursary by the European Commission (BIOMED I, 1993-94)
- German Research Council (DFG) funding (520600 DM, 1997-2000)
- Greek General Secretariat Research & Technology (G.S.R.T.) or Greek Ministry of Education funding; **2002-4**: Greek-French Collaboration, 14000€, Greek-German Collaboration, 29600€; **2004-7**: EPAN, 102000€; **2005-8**: IRAKLITOS, 34500€, PYTHAGORAS II, 80000€; **2011-13**: SYNERGASIA, 72000€; **2014-15**: ARISTEIA II, 295000€; **2019-21**: EPANEK, 362000 €.
- “Distinguished Researcher Prize 2011” and funding (2004-5, 8800€) by the Research Committee of the University of Thessaly

Dr. Simos has co-authored **98 publications** (15 as first and 40 as last or corresponding author): 82 original research papers in peer-reviewed journals, 14 review articles and 2 book chapters. His publications have received more than **7400 citations** (*h-index*: 50; Google Scholar March 2023). He has also co-authored more than **160 presentations** in national and international scientific conferences and has obtained **one national patent**.

Dr. Simos’ research after 2001 in the University of Thessaly has been focused on

1. The biogenesis, modification, transport and aminoacylation of tRNA.
2. The cellular response to hypoxia
  - 2.1. Characterization of the cellular response to hypoxia in transformed and primary human cell lines
  - 2.2. Characterization of novel HIF-1 & HIF-2 regulatory mechanisms involving phosphorylation and/or interaction with other proteins
  - 2.3. Understanding the effect of hypoxia on lipid metabolism
  - 2.4. Identification of natural products or drugs that inhibit HIF-1 as anticancer agents
  - 2.5. Understanding the role of hypoxia in the regulation of iron metabolism through hepcidin
  - 2.6. Analysis of HIF-1 in patients with cancer or other diseases

#### **Full lists of Publications:**

<https://www.ncbi.nlm.nih.gov/pubmed/?term=simos+g>

<https://scholar.google.com/citations?user=M8CcI6oAAAAJ&hl=el>

<http://orcid.org/0000-0001-5453-3185>

#### **Selected Recent Publications**

1. Kourti et al. (2015) CK1 $\delta$  restrains lipin-1 induction, lipid droplet formation and cell proliferation under hypoxia by reducing HIF-1 $\alpha$ /ARNT complex formation. *Cellular Signalling* **27**, 1129-1140.
2. Pangou et al. (2016) HIF-2 $\alpha$  phosphorylation by CK1 $\delta$  promotes erythropoietin secretion in liver cancer cells under hypoxia. *Journal of Cell Science* **129**, 4213-4226.
3. Mylonis et al. (2017) Mortalin-mediated and ERK-controlled targeting of HIF-1 $\alpha$  to mitochondria confers resistance to apoptosis under hypoxia. *Journal of Cell Science* **130**, 466-479.
4. Triantafyllou et al. (2018) Expression of AGPAT2, an enzyme involved in the glycerophospholipid/triacylglycerol biosynthesis pathway, is directly regulated by HIF-1 and promotes survival and etoposide resistance of cancer cells under hypoxia. *BBA-Molecular and Cell Biology of Lipids* **1863**, 1142-1152
5. Karagiota et al. (2019) HIF-1 $\alpha$ -derived cell-penetrating peptides inhibit ERK-dependent activation of HIF-1 and trigger apoptosis of cancer cells under hypoxia. *Cellular & Molecular Life Sciences*, **76**, 809-825.
6. Chachami et al. (2019) Hypoxia-induced changes in SUMO conjugation affect transcriptional regulation under low oxygen. *Molecular & Cellular Proteomics* **18**, 1197-1209.
7. Gkotinakou et al. (2019) ERK1/2 phosphorylates HIF-2 $\alpha$  and regulates its activity by controlling its CRM1-dependent nuclear shuttling. *Journal of Cell Science* **132**: jcs225698.
8. Mylonis et al. (2019) Hypoxia-Inducible Factors and the regulation of lipid metabolism. *Cells* **8**, 214
9. Koukoulas et al. (2021) ERK signaling controls productive HIF-1 binding to chromatin and cancer cell adaptation to hypoxia through HIF-1 $\alpha$  interaction with NPM1. *Molecular Oncology* **15**, 3468-3489.
10. Taze et al. (2022) Short-term hypoxia triggers ROS and SAFB mediated nuclear matrix and mRNA splicing remodeling. *Redox Biology* **58**, 102545.