

**CURRICULUM VITAE (October 2019)**  
**Prof. GEORGIOS SIMOS**

**Georgios (George) Simos** (born in 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.

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

“Biochemistry” in the Medical School, Univ. Heidelberg (1995-2000); “Modern Biochemistry Topics” in the 4th year of the Elective Studies Program “Medical Biochemistry, UTH (2001-2); “Molecular mechanisms of Medical Cell Biology”, 4th semester optional course of Medicine, UTH (2001-4); “Medical Chemistry”, “Biochemistry (I) of Enzymes & Human Metabolism”, “Biochemistry (II) of Gene Expression & Human Organs and Functions” 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, **eight PhD Theses** and the work of **four post-doctoral** researchers.

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

- participation as member in 15 Ph.D. Thesis Advisory Committees
- participation as member in 20 M.Sc. or Ph.D. Thesis Examination Committees
- participation in **41 International Scientific Conferences, Workshops or Schools (17 as speaker)**
- delivery of **23 invited lectures** in National and International Institutes
- **reviewer (ad hoc)** for more than 35 journals (including BBA, Biochem. J., FEBS Lett., Hepatology, J. Biol. Chem., J. Cell Biol., J. Cell Sci., J. Mol. Med., Mol. Biol. Cell, Oncogene, PNAS, Sci. Rep., Hypoxia 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), Swiss National Science Foundation (SNSF), Research Promotion Foundation (RPF), Cyprus and Greek Funding Agencies.
- **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** (OMEA) of the School of Medicine, UTH
- member of the **Management Committee** (National Representative) of the European COST Action “**HypoxiaNet**” (TD0901)
- member of the **Honorary Editorial Board of Hypoxia** (Dove press Journal)
- **academic editor of PLOS One**
- **editorial board member of Cells and Cancers** (MDPI Journals)
- **review editor of Frontiers in Cell and Developmental Biology**
- member of the **National Council for Research & Innovation** (May-Sep. 2016)
- elected Member and Treasurer of the Executive Board of the **Hellenic Society of Biochemistry and Molecular Biology** (2014-2017)

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 (520.600 DM, 1997-2000)
- Greek General Secretariat Research & Technology (G.S.R.T.) or Greek Ministry of Education funding; **2002-4**: Greek-French Collaboration, 14.000€, Greek-German Collaboration, 29.600€; **2004-7**: EPAN, 102.000€; **2005-8**: IRAKLITOS, 34.500€, PYTHAGORAS II, 80.000€; **2011-13**: SYNERGASIA, 72.000€; **2014-15**: ARISTEIA II, 295.000€; **2018-21**: EPANEK, 362.000 €.
- “Distinguished Researcher Prize 2011” and funding (2004-5, 8.800€) by the Research Committee of the University of Thessaly

Dr. Simos has co-authored **88 publications** (15 as first and 23 as last or corresponding author): 75 original research papers in peer-reviewed journals, 10 review articles and 3 book chapters. His publications have received more than **5.500 citations** (*h-index*: **42**; Google Scholar October 2019). He has also co-authored **143 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  
The biogenesis, modification, transport and aminoacylation of tRNA

The cellular response to hypoxia:

- Characterization of the cellular response to hypoxia in transformed and primary human cell lines
- Characterization of novel HIF-1 & HIF-2 regulatory mechanisms involving phosphorylation and/or interaction with other proteins
- Understanding the effect of hypoxia on lipid metabolism
- Identification of natural products or drugs that inhibit HIF-1 as anticancer agents
- Understanding the role of hypoxia in the regulation of iron metabolism through hepcidin
- Analysis of HIF-1 in patients with cancer or other diseases

## 20 Representative Publications

- Simos G.**, and S. D. Georgatos (1992). The inner nuclear membrane protein p58 associates in vivo with a p58 kinase and the nuclear lamins. *EMBO Journal* **11**, 4027-4036.
- Simos G.**, Maison C., and S.D. Georgatos (1996). Characterization of p18, a component of the lamin B receptor complex and a new integral membrane protein of the avian erythrocyte nuclear envelope. *Journal of Biological Chemistry* **271**, 12617-12631.
- Simos G.**, Tekotte H., Grosjean H., Segref A., Sharma K., Tollervey D., and E.C. Hurt (1996). Nuclear pore proteins are involved in the biogenesis of functional tRNA. *EMBO Journal* **15**, 2270-2284.
- Simos G.**, Segref A., Fasiolo F., Hellmuth K., Shevchenko A., Mann M., and E.C. Hurt (1996). The yeast protein Arc1p binds to tRNA and functions as a cofactor for the methionyl- and glutamyl-tRNA synthetases. *EMBO Journal* **15**, 5437-5448.
- Simos G.**, Sauer A., Fasiolo F., and E.C. Hurt (1998). A conserved domain within Arc1p delivers tRNA to aminoacyl-tRNA synthetases. *Molecular Cell* **1**, 235-242.
- Hellmuth K., Lau D., Bischoff R., Künzler M., Hurt E.C., and **G. Simos** (1998). Yeast Los1p has properties of an exportin-like nucleocytoplasmic transport factor for tRNA. *Molecular and Cellular Biology* **18**, 6374-6386.
- Grosshans H., Hurt E. and **G. Simos** (2000). An aminoacylation-dependent tRNA export pathway in yeast. *Genes & Development* **14**, 830-840.
- Deinert K., Fasiolo F., Hurt E. and **G. Simos** (2001). Arc1p organizes the yeast aminoacyl-tRNA synthetase complex and stabilizes its interaction with the cognate tRNAs. *Journal of Biological Chemistry* **276**, 6000-6008.
- Grosshans H., Deinert K., Hurt E. and **G. Simos** (2001). Biogenesis of the signal recognition particle (SRP) involves import of SRP proteins into the nucleolus, assembly with the SRP-RNA and Xpo1p-mediated export. *Journal of Cell Biology* **153**, 745-761.
- Galani K., Grosshans H., Deinert K., Hurt E.C. and **G. Simos** (2001). The intracellular location of two

- aminoacyl-tRNA synthetases depends on complex formation with Arc1p. *The EMBO Journal* **20**, 6889-6898.
- Mylonis I., Chachami G., Samiotaki M., Panayotou G., Paraskeva E., Kalousi A., Georgatsou E., Bonanou S. and **G. Simos** (2006) Identification of MAPK phosphorylation sites and their role in the localization and activity of Hypoxia-Inducible Factor 1 $\alpha$ . *Journal of Biological Chemistry* **281**, 33095-33106.
- Karanasios E., Simader H., Panayotou G., Suck D. and **G. Simos** (2007) Molecular determinants of the yeast Arc1p/aminoacyl-tRNA synthetase complex assembly. *Journal of Molecular Biology* **374**, 1077-1090.
- Karanasios E., Boleti H., and **G. Simos** (2008) Incorporation of the Arc1p tRNA-binding domain to the catalytic core of MetRS can functionally replace the yeast Arc1p/MetRS complex. *Journal of Molecular Biology* **381**, 763-771.
- Braliou G.G., Verga Falzacappa M.V., Chachami G., Casanovas G., Muckenthaler M.U. and **G. Simos** (2008) 2-Oxoglutarate-dependent oxygenases control hepcidin gene expression. *Journal of Hepatology* **48**, 801-810
- Mylonis I., Chachami G., Paraskeva E. and **G. Simos** (2008) Atypical CRM1-dependent nuclear export signal mediates regulation of hypoxia-inducible factor-1 $\alpha$  by MAPK. *Journal of Biological Chemistry* **283**, 27620-27627.
- Kalousi A., Mylonis I., Politou A., Chachami G., Paraskeva E., and **G. Simos** (2010) Casein kinase 1 regulates human hypoxia-inducible factor HIF-1. *Journal of Cell Science* **123**, 2976-2986.
- Mylonis I., Sembongi H., Befani C., Liakos P., Siniossoglou S. and **G. Simos** (2012) Triglyceride accumulation under hypoxia involves HIF-1-dependent regulation of lipin 1. *Journal of Cell Science* **125**, 3485-3493.
- Kourti M., Ikonoumou G., Giakoumakis N.-N., Rapsomaniki M.A., Landegren U., Siniossoglou S., Lygerou Z., **Simos G.** and I. Mylonis (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.
- Mylonis I., Kourti M., Samiotaki M., Panayotou G. and **G. Simos** (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.
- Karagiota A., Kourti M., **Simos G.\*** and I. Mylonis\* (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.

#### **Full list 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>