SOFIA BELLOU

Position: Senior laboratory teaching fellow in Confocal Laser Scanning Microscopy Unit, Network of Research Supporting Laboratories (NRSL), University of Ioannina, Greece AND Biomedical Research Institute, Foundation of Research and Technology, Ioannina, Greece

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Education

- **2008: PhD in Laboratoty of Biological Chemistry, Medical School, University of Ioannina**

Title of PhD: Molecular mechanisms of angiogenesis: Gene regulation by the angiogenic factor VEGF in endothelial cells. Supervisor: Prof. Theodore Fotsis, Medical School, University of Ioannina, Greece

- **2002: MSc in Applied Biomolecular Technology, University of Nottingham, UK**
- **2000: Degree in Physics, University of Ioannina, Greece**

Professional experience

- **22/03/2017 - Pres:** Senior laboratory teaching fellow in Confocal Laser Scanning Microscopy Unit at Network of Research Supporting Laboratories (NRSL) of the University of Ioannina.
- **04/11/2008 - 21/03/2017:** Laboratory teaching fellow in the Department of Informatics and Telecommunications Engineering, University of Western Macedonia
- **01/04/2007 until 31/06/2007** – Visiting researcher at Max Planck Institute of Molecular Physiology in Dortmund, Germany, Aim: Perform FRET/FLIM and FCCS experiments in living endothelial cells

Scientific publications (Citations: 878, h-index: 12)

1. Advances in Modeling the Inner Blood–Retinal Barrier: From Static Tissue Cell Cultures to Microphysiological Systems. Apostolidi, A.; Stergiopoulos, G.; Bellou, S.; Markou, M.; Fotsis, T.; Murphy, C.; Bagli, E. Pharmaceuticals 2025, 18, 1374. https://doi.org/10.3390/ph18091374.

2. The SGLT2 inhibitor empagliflozin exerts neuroprotective effect against hydrogen peroxide-induced toxicity on primary neurons. Davri, A.S., Katsenos, A.P., … Bellou S., …. Tsamis K. Metab Brain Dis 40, 15 (2025). https://doi.org/10.1007/s11011-024-01478-6

3. Highly Hydrophilic Oleylamine-Modified Superparamagnetic Iron Oxide Nanoparticles for Biomedical Applications. Niki Karouta, Yannis V. Simos, …, Sofia Bellou, …, Dimitrios P. Gournis, Emmanuel P. Giannelis. ACS Applied Nano MaterialsVol 6/Issue 4, 2023.

4. Embryonic stem cells are devoid of macropinocytosis, a trafficking pathway for activin A in differentiated cells. Bellou S., Kostopoulou N., Bagli E., Markou M., Kostaras E., Hyvönen M., Kalaidzidis Y., Papadopoulos A., Chalmantzi V., Kyrkou A., Panopoulou E., Fotsis T., Murphy C. J Cell Sci. 2021 Jul 1;134(13):jcs246892.

5. **Translational control in neurovascular brain development**, Chalkiadaki K., Statoulla E., Markou M., Bellou S., Bagli E., Fotsis T., Murphy C., Gkogkas CG, R Soc Open Sci. 2021 Oct 13;8(10):211088.
6. **Biotin-Yellow a biotin guided NIR turn-on fluorescent probe for cancer targeted diagnosis**, Dimitrios A. Diamantis, Adamantia Agalou, Maria V. Chatziathanasiadou, Georgios S. Markopoulos, Sofia Bellou, Zoi Kanaki, Timothy Crook, Nelofer Syed, Theodoros Rampias, Apostolos Klinakis, Evangelos Kolettas, Dimitris Beis, Andreas G. Tzakos, Sensors and Actuators B: Chemical, Volume 337, 2021, 129807, ISSN 0925-4005, https://doi.org/10.1016/j.snb.2021.129807.
7. **Amplifying and broadening the cytotoxic profle of quercetin in cancer cell lines through bioconjugation**. Maria V. Chatziathanasiadou, Elena G. Geromichalou, Nisar Sayyad, Eirinaios I. Vrettos, Antigoni Katsikoudi, Evgenios Stylos, Sofa Bellou, George D. Geromichalos, Andreas G. Tzakos, Amino Acids. 2017 Nov 28.
8. **Retrotransposon expression and incorporation of cloned human and mouse retroelements in human spermatozoa,** Leandros Lazaros, Chrysoula Kitsou, Charilaos Kostoulas, Sofia Bellou, Elissavet Hatzi, Paris Ladias, Theodoros Stefos, Sofia Markoula, Vasiliki Galani, Georgios Vartholomatos, Theodore Tzavaras, Ioannis Georgiou, Fertility and Sterility, Volume 107, Issue 3, 2017, Pages 821-830, ISSN 0015-0282, https://doi.org/10.1016/j.fertnstert.2016.12.027.
9. **Exogenous retroelement integration in sperm and embryos affects preimplantation development**, C Kitsou, L Lazaros, S Bellou, G Vartholomatos, P Sakaloglou, E Hatzi, S Markoula, K Zikopoulos, T Tzavaras, I Georgiou, *Reproduction*, Volume 152, Issue 3, 1 September 2016, Pages 185–193, https://doi.org/10.1530/REP-15-0174
10. **Intracellular labile iron determines H_2O_2-induced apoptotic signaling via sustained activation of ASK1/JNK-p38 axis.** Mantzaris MD, Bellou S, Skiada V, Kitsati N, Fotsis T, Galaris D. Free Radic Biol Med. 2016 Aug;97:454-65. doi: 10.1016/j.freeradbiomed.2016.07.002.
11. **DNA–histone complexes as ligands amplify cell penetration and nuclear targeting of anti-DNA antibodies via energy-independent mechanisms.** Zannikou, M., Bellou, S., Eliades, P., Hatzioannou, A., Mantzaris, M.D., Carayanniotis, G., Avrameas, S. and Lymberi, P. (2016), Immunology, 147: 73-81. https://doi.org/10.1111/imm.12542
12. **VEGF signaling, mTOR complexes, and the endoplasmic reticulum: Towards a role of metabolic sensing in the regulation of angiogenesis.** Karali, E., Bellou, S., Stellas, D., Klinakis, A., Murphy, C., & Fotsis, T. (2014).. Molecular & Cellular Oncology, 1(3). https://doi.org/10.4161/23723548.2014.964024
13. **VEGF Signals through ATF6 and PERK to promote endothelial cell survival and angiogenesis in the absence of ER stress.** Karali E, Bellou S, Stellas D, Klinakis A, Murphy C, Fotsis T. Mol Cell. 2014 May 22;54(4):559-72. doi: 10.1016/j.molcel.2014.03.022. Epub 2014 Apr 17.
14. **Anti-angiogenesis in cancer therapy: Hercules and hydra.** Bellou S, Pentheroudakis G, Murphy C, Fotsis T. Cancer Lett. 2013 Sep 28;338(2):219-28. doi: 10.1016/j.canlet.2013.05.015. Epub 2013 May 21. Review.
15. **Insulin resistance: an adaptive mechanism becomes maladaptive in the current environment - an evolutionary perspective.** Tsatsoulis A, Mantzaris MD, Bellou S, Andrikoula M. Metabolism. 2013 May;62(5):622-33. doi: 10.1016/j.metabol.2012.11.004. Epub 2012 Dec 20. Review.

16. The isoflavone metabolite 6-methoxyequol inhibits angiogenesis and suppresses tumor growth. Bellou S, Karali E, Bagli E, Al-Maharik N, Morbidelli L, Ziche M, Adlercreutz H, Murphy C, Fotsis T. Mol Cancer. 2012 May 14;11:35. doi: 10.1186/1476-4598-11-35.

17. Immunohistochemical study of the epithelial-mesenchymal transition phenotype in cancer of unknown primary: incidence, correlations and prognostic utility. Stoyianni, A., Goussia, A., Pentheroudakis, G., Siozopoulou, V., Ioachim, E., Krikelis, D., Golfinopoulos, V., Cervantes, A., Bobos, M., Fotsis, T. and Bellou, S., 2012. *Anticancer research*, *32*(4), pp.1273-1281.

18. VEGF Auto-Regulates Its Proliferative and Migratory ERK1/2 and p38 MAPK Cascades By Enhancing the Expression of DUSP1 and DUSP5 Phosphatases in Endothelial Cells. Bellou S., Hink MA, Bagli E, Panopoulou E., Bastiaens PIH, Murphy C., Fotsis T. Am J Physiol Cell Physiol, **December 2009** vol. 297, no.6,**C1477-C1489**

Recent Research grants

02.2024-present: Part time **researcher** in the project funded by Greece and European Union through the Operational Programme Greece 2.0 National Recovery and Resilience Plan:
Title: "MORPHOVESS - Molecular Mechanisms of Vessel Morphogenesis"

01.10.2023-present Part time **researcher** in the project "TAEDR-0535850-"National research network for the elucidation of the genetic basis of Alzheimer's and Parkinson's neurodegenerative diseases, the detection of reliable biomarkers and the development of innovative computational technologies and therapeutic strategies based on medical accuracy", OPA TA 5149305' and acronym 'Brain Precision'.

08.2021-10.2023 Part time **researcher** in the project funded by Greece and European Union through the Operational Programme Unified Action of State Aid for Technology Research Development and Innovation "RESEARCH - CREATE – INNOVATE":
Title: Development of novel therapeutic strategies against Parkinsons disease.

2013 – 2014 Part time **researcher** in the project «SYNERGASIA 2009», NSRF 2007-2013
Title: Generation of induced neuronal stem cells derived from mouse fibroblasts

2012 – 2013 Part time **researcher** in the project «SYNERGASIA 2009», NSRF 2007-2013
Title: Mechanisms of Induced Pluripotency: From Transcriptional Noise to Stem Cell Therapies

2011 – 2012 Part time **researcher** in the project «SYNERGASIA 2009», NSRF 2007-2013
Title: PIK3CA Oncogenic Mutations in Breast and Colon Cancers: Development of Targeted Anticancer Drugs and Diagnostic

2009 Part time **researcher** in the project funded by the 6th Framework of E.U.:
Title: ENDOTRACK- Tracking the Endocytic Routes of Polypeptide Growth Factor Receptor Complexes and their Modulatory Role on Signaling

2006 – 2009 **Researcher** in the project funded by the 6th Framework of E.U.:

Title: Pulmonary Hypertension. Functional Genomics and therapy of lung vascular remodelling. 6th Framewotk of E.U.

2002 – 2004 **Researcher** in the project funded by the 5th Framework of E.U.:

Title: The role of dietary phytoestrogenes in the prevention of breast and prostate cancer. 5th Framewotk of E.U.

TRAINING COURSES

1. **EMBL Course: Advanced fluorescence imaging techniques,** 16 - 20 May 2022
2. **Microspectroscopy: Imaging biochemical dynamics in living cells.**

Organiser: Federation of European Biochemical Societies (FEBS), Wageningen 2006

3. **Real-time Quantitative RT-PCR Analysis of Gene Expression.**

Organiser: Federation of European Biochemical Societies (FEBS), Prague 2005