CURRICULUM VITAE

PERSONAL DETAILS

Family name, First name: **Pop, Sevinci**

Researcher unique identifier(s): https://orcid.org/0000-0002-6208-8859

- **Education and key qualifications**

2003	PhD, Faculty of Chemistry /Chemistry, University of Bucharest, Romania. Thesis: *Interactions of small ligand– single-stranded nucleic acid. Interactions large ligands–DNA, in vivo*
1996	Master degree in Applied Enzymology, Faculty of Chemistry, University of Bucharest, Romania
1995	BSc degree in Technological Biochemistry, Faculty of Chemistry, University of Bucharest, Romania
2000-2001	Research stage in molecular biology, Department of Cellular Biology, University of Illinois at Urbana-Champaign, USA
1999	Research stage in cellular biology, Department of Cellular Biology, University of Illinois at Urbana-Champaign, USA

- **Current position**

2008-present	Scientific researcher, Cellular Biology, Neuroscience and Experimental Myology Laboratory, "Victor Babes" National Institute of Pathology and Biomedical Sciences, Bucharest, Romania

- **Previous position(s)**

2003-2007	Post doctoral fellowship, Department of Cell and Developmental, University of Illinois at Urbana-Champaign, USA
1999-2003	Assistant Professor, Department of Chemical Technology and Catalysis, Faculty of Chemistry, University of Bucharest, Romania
1996-1999	Chemist, Department of Chemical Technology and Catalysis, Faculty of Chemistry, University of Bucharest, Romania

RESEARCH ACHIEVEMENTS AND PEER RECOGNITION

Research achievements

Over the past years, my research focus has centred on studding the bioactivities of natural compounds and complex phyto-formulations on various cellular systems, evaluated through preclinical investigations. I conducted investigated their multifaceted biological activities including modulation of key cellular processes such as cells proliferation and viability; cellular antioxidant defence system; pro- or anti-apoptotic effects; and epigenetic modulation capacities. By elucidating their mechanisms of action at cellular and molecular level, the final goal is to identify promising candidates in preventing oxidative stress and inflammatory-related diseases. During my research activity I published as first or corresponding author scientific papers in Q1 or Q2 quadrille in journals related with natural products/nutrition domain. Recently, our study published in Antioxidants journal (IF-6.6), Q1 – Medicinal, Food Science & Technology; Biochemistry & Molecular Biology by Albulescu, L.; Suciu, A.; Neagu, M.; Tanase, C.; **Pop, S**. *Differential Biological Effects of Trifolium pratense Extracts—In Vitro Studies on Breast Cancer Models*, 2024, 13, 1435. https://doi.org/10.3390/antiox13121435, demonstrated that plant exacts rich in phytoestrogens have a differentiated mechanism of action on in vitro breast cancer models, depending on cells estrogen receptors status and grade of malignancy. Our findings revealed a biphasic dose-effect with plant extracts protecting the non-tumorigenic and estrogen receptor positive tumorigenic cells, against induced oxidative stress. On aggressive, highly malignant, triple negative breast cells the phytoestrogenic extracts increase oxidative stress and induced apoptosis by causing lipid damage and downregulation of GSH expression and SOD activity. As member of implementation team of EU funded Project INTELBIOMED (POC-G) MySMIS 105631 (2016-2022) in partnership with SMEs involved in food supplements industry, I started to be involved in applied research. I conducted studies to evaluate the bio-efficacy and biocompatibility of dietary supplements and nanomaterials, resulting in scientific papers and co-authorship of 5 patent applications.

-Ionescu VS, Popa A, Alexandru A, Manole E, Neagu M, **Pop S**: *Dietary Phytoestrogens and Their Metabolites as Epigenetic Modulators with Impact on Human Health*, Antioxidants 2021, 10, 1893. doi: https://doi.org/10.3390/antiox10121893; corresponding author; IF-7.0; Q1 – Medicinal, Food Science & Technology; Biochemistry & Molecular Biology;

- Pop, S., Enciu, A.M., Tarcomnicu, I. et al. *Phytochemicals in cancer prevention: modulating epigenetic alterations of DNA methylation*. Phytochem Rev 18, 1005–1024 (2019). https://doi.org/10.1007/s11101-019-09627-x, IF 7.6, Q1-Biotechnology and Plant Science;
- Cord, D.; Rîmbu, M.C.; Iordache, M.P.; Albulescu, R.; **Pop, S**.; Tanase, C.; Popa, M.-L. *Phytochemicals as Epigenetic Modulators in Chronic Diseases: Molecular Mechanisms*. Molecules 2025, 30, 4317. https://doi.org/10.3390/molecules30214317, IF 4.6; Q2 -Biochemistry and Molecular Biology;
- Popescu, I.D.; Codrici, E.; **Pop, S**.; Fertig, T.E.; Dudău, M.; Anghelache, I.L.; Constantin, N.; Marinescu, R.M.; Voiculescu, V.M.; Badea, G.I.; et al. *Potential of Newly Synthesized Sea Buckthorn Phytocarriers as Anti-Inflammatory Active Agents*. Pharmaceuticals 2025, 18, 212. https://doi.org/10.3390/ph18020212; IF 4.8, Q1-Pharmacology & Pharmacy;
- Pop, Sevinci; Enciu, Ana-Maria; Necula, Laura G.; Tanase, Cristiana;Long non-coding RNAs in brain tumours: Focus on recent epigenetic findings in glioma; J Cell Mol Med 2018, 22(10): 4597–4610, doi 10.1111/jcmm.13781, IF-5.3; Q2-Cell Biology;
- Ioghen, O.C., Gaina, G., Lambrescu, I., Manole E., **Pop, S**., Niculescu T.M., Mosoia O., Ceafalan LC, Popescu BO; *Bacterial products initiation of alpha-synuclein pathology: an in vitro study*. Sci Rep 14, 30306 (2024). https://doi.org/10.1038/s41598-024-81020-x, IF-3.9, Q1- Multidisciplinary;
- Constantin C, Lupu AR, Fertig TE, Gherghiceanu M, **Pop S**, Ion RM, Neagu M,; *Unveiling Ga(III) phthalocyanine-a different photosensitizer in neuroblastoma cellular model,* J Cell Mol Med. 2019; 23(2): 1086-1094; doi: 10.1111/jcmm.14009; IF-5.3; Q2- Cell biology;
- Balas M, Constanda S, Duma-Voiculet A, Prodana M, Hermenean A, **Pop S**,Demetrescu I, Dinischiotu A. *Fabrication and toxicity characterization of a hybrid material based on oxidized and aminated MWCNT loaded with carboplatin*. Toxicol In Vitro; 2016;37:189-200. doi: 10.1016/j.tiv.2016.09.011; IF: 3.338, Q2- Toxicology;
- A. Marcu*, **S. Pop***, F. Dumitrache*, M. Mocanu, C.M. Niculite, M. Gherghiceanu,C.P. Lungu, C. Fleaca, R. Ianchis, A. Barbut, C. Grigoriu, I. Morjan, *Magnetic iron oxide nanoparticles as drug delivery system in breast cancer*." 2013, Applied Surface Science 281: 60–65; IF: 4.439, Q1-Material science;
- F. Dumitrache, I. Morjan, C. Fleaca, A. Badoi, G. Manda, **S. Pop**, D.S. Marta, G. Huminic, A. Huminic, L. Vekas, C. Daia, O. Marinica, C. Luculescu, A.-M. Niculescu; *Highly magnetic Fe2O3nanoparticles synthesized by laser pyrolysis used for biological and heat transfer applications*, Appl Surf Sci, 336, 2015, 297–303; IF-6.04; co-author, Q1- Materials science.

Peer recognition

During my specialization in molecular and cellular biology under the guidance of Professor Andrew Belmont at University of Illinois at Urbana-Champaign, USA (1999-2001) I studied the role of chromatin structure and function in epigenetic and transcriptional mechanisms. Our study published in Current Biology (IF-11.9, doi: 10.1016/s0960-9822(03)00048-4, 2003) provided compelling evidence that chromatin remodelling complexes may not function as pre-assembled units in vivo, instead are acting as individual catalytic subunits that are recruited separately during transcriptional activation. Actually, the paper supported the "step-wise assembly" model for gene regulation in opposition of the "stable pre-assembled multi-subunits" complex as previously reported in the transcription field. The "step-wise assembly" concept contributed to advances in epigenome editing technology. This technology holds strong potential to transform treatments for many chronic diseases by precisely modulating gene expression without altering DNA sequences.
Based on my expertise in molecular biology, epigenetics and natural products bioactivity I was selected as expert in an EU funded project to train and form medical specialists (>100) in molecular diagnosis TDM - POSDRU 81/3.2/S/58819 (2010-2013). As member of the implementation team of EU funded project INTELBIOMED, I trained research personnel from SMSs in cellular biology technics to assess natural compounds and phyto-formulation, such as cell culture, cytotoxicity and viability test, cellular antioxidant activity assays.
I am a reviewer for several journals in pharmacology, food technology and biomedical sciences, including: *Pharmaceuticals, Nutrients, Metabolites, Journal of Functional Foods, Cancers, International Journal of Molecular Sciences, Genes, Life, Current Oncology, Journal of Clinical Medicine*. Recently I was invited by National Centre for Research and Development from Poland to review scientific project proposals.
Total number of citations (excluding self-citations): >700, h-index: 12

Honors and Awards

The co-authored patent applications earned awards at international competitions, alongside EU-funded projects like INTELBIOMED and NOVATERA MySMIS 156316 (2023). The project teams I was part of received recognition for applying biomedical research expertise to transfer knowledge to private partners in the food supplements and biotechnology industries. In the INTELBIOMED project, as the project leader for two research contracts involving SME partners, I coordinated the research team and achieved the following scientific outcomes: three ISI articles (impact factors of 6.6, 7.0, and 7.6); two patent applications; seven scientific

communications (five with abstracts published in indexed journals); and one scientific procedural guide as first author.
The awarded patents and projects:

- Gold Medal for Innovative technological project NOVATERA: *Development of an innovative product based on increasing the therapeutic potential of extracts obtained within* CROMATEC PLUS SRL (NOVATERA) at EIS INFOINVENT XIX Edition, 2025, Chisinau, Republic of Moldova;
- Trophy "Best Innovation and Technology Transfer Project" for EU funded project INTELBIOMED, at EIS INFOINVENT, XVIII edition, 2023 Chisinau, Republica of Moldova
- Gold Medal and Diploma of excellence for patent application RO137749A2: *Dietary supplements recommended for alleviating unpleasant symptoms of menopause, method of obtaining and methods of establishing bio-safety and biological efficacy*, at PRO INVENT, XX Edition, Cluj, Romania
- Diploma of Excellence and Pro Invent Medal for patent application RO137260-A0: *Protocols for In Vitro Testing of Biosafety, Antioxidant, and Anti-Inflammatory Effects in Fermented Multi-Floral Pollen Products* at PRO INVENT, XXI Edition, 2023, Cluj, Romania; and Silver Medal at EIS INFOINVENT XVIIIth 2023, Chisinau, Republic of Moldova;
- Bronze medal for patent application RO138954 A2: *Bioactive polyphenolic phytocomplex packaged in stabilized lipid nanoparticles* at EIS INFOINVENT XIX Edition, Chisinau, Republic of Moldova; and

Speaker/Invited Lecturer

- Personalized Translational Oncology symposium for fighting cancer (STOP Cancer), Bucharest, Romania, Edition: 2023, 2024, 2025.
- Invited speaker at Phytochemistry Society of Europe meeting: Natural Products in Drug Discovery and Development, Iasi 19-22 September 2022

Other contributions to the research community

An important aspect of my career is training young people and introducing them to the world of research. I had the opportunity to serve as a lecturer, delivering seminars and laboratory sessions of biotechnology and chemical catalysis for students at the University of Bucharest, Faculty of Chemistry.
I presented the seminar *Epigenetics in Human Pathologies: From Basic Research to Applied Research* as part of the EXCELSAN project (31PFE/2021–2024) and the seminar *Between Genetics and Proteomics: Epigenetics in Fundamental Research—A Case Study Based on a Scientific Project* within the 7PFE project (2018–2021). Both projects had as one main objective the introduction of over 200 young students from the Faculties of Medicine, Pharmacy, and Biology to the fascinating yet challenging career path of a researcher in the biomedical field.
I also co-supervised research theses for two graduates of the Faculty of Pharmacy, “Carol Davila” University of Medicine and Pharmacy, Bucharest. Their studies evaluated the biological activities of plant extracts and novel synthesized thiosemicarbazide derivatives on breast cancer cell models. Both students participated in the EXCELSAN training, and one is now a young scientist, member of the 137PED/2025 BIOESFOOD team project, where I serve as project director.