Daniel Șterbuleac

100 V. Lupu St., 700352, Iasi, Romania
www.danielsterbuleac.com

🐦 @sterbuleac

Professional experience

Assistant Professor   **2020-2022**

Department of Biomedical Sciences, Faculty of Medicine and Biological Sciences, "Ștefan cel Mare" University of Suceava (Romania)
- Teaching and other related activities
- Laboratories supervised: Medical Informatics and Biostatistics, Genetics, Nutrigenetics and Nutrigenomics, Cell and Molecular Biology, Plant and Animal Histology and Embriology
- Held weekly lectures in: Medical Informatics and Biostatistics, Cell and Molecular Biology, Plant and Animal Histology and Embriology
- Developed coursebooks and laboratory works from scratch
- Assisted with administrative duties

Research Assistant   **2020-2021**

Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies and Distributed Systems for Fabrication and Control (MANSiD), "Ștefan cel Mare" University of Suceava (Romania)
- Research related to continuing previous studies

Data Optimization Specialist   **2019-2020**

Harte Hanks Iasi (Romania)
- Activities related to data maintenance activities for IBM
- Working with databases, spreadsheets and over the Internet to retrieve assess and improve client data
- Providing feed to marketing team

Telesales Agent   **2018**

Optima Solutions Services, Iasi (Romania)
- Cold-calling for selling Vodafone services
- Sold approximately $20000 worth of products and services over a period of three months working part-time

Education

PhD in Biochemistry/Molecular Biology   **2016-2020**

Faculty of Biology, "Alexandru Ioan Cuza" University of Iasi (Romania)
- Dissertation: *"Contributing studies of the molecular determinants of modulation of some ion channels identified as potential targets in antitumour therapy"*

- Research topics related, but not limited, to:
    - **i.** combining abductive reasoning with computational structural biology methods
    - **ii.** focusing on EAG, TASK and TRP ion channels
    - **iii.** revealing novel drug-target interactions and binding modes, ligand binding and physiological processes rationale and new potential drug leads and candidates

MSc Molecular Genetics   **2014-2016**

Faculty of Biology, "Alexandru Ioan Cuza" University of Iasi (Romania)

- Thesis: "Comparative study of the transmembrane domains of hERG and hEAG ion channels based on homology modeling and experimental results towards identifying novel blocking compounds with high specificity and pharmacological potential"
- Skills: general molecular genetics knowledge, molecular modeling (including homology modeling), molecular dynamics, protein structure analysis, molecular docking, comparative analysis

BSc Biochemistry   **2013-2016**

Faculty of Biology, "Alexandru Ioan Cuza" University of Iasi (Romania)

- Thesis: "The effects of cold atmospheric plasma jet on normal and tumour cells"
- Skills: general biology and biochemistry knowledge, isolation and purification of nucleic acids, gene amplification (PCR), gel electrophoresis, PCR analysis, flow cytometry, cell cultures, cold atmospheric plasma

BEc Economics and International Affairs   **2011-2014**

Faculty of Economics and Business Administration, "Alexandru Ioan Cuza" University of Iasi (Romania)

- Thesis: "The roles of FDI in developing countries. Case study: Romania"

Achievements

- My scientific track record includes publishing 10 articles in international journals, 5 of which are published in renowned ISI-indexed journals;
- I have published in a Q1 journal, one single-authored paper, and my work has been cited in prestigious journals, including Nature;
- Developed three new University coursebooks, which are publicly available and comprise approximately 200 pages;
- Developed and published new theories regarding cancer therapy targeting of ion channels;
- Published columns featured by renowned economics publishers, such as the Foundation for Economic Education (fee.org) and LewRockwell.com

Interests

Present

- My time is now dedicated to Economics, researching libertarian theories, under the umbrella of Austrian Economics: free markets, non-aggression principle, private property, entrepreneurship, wealth and prosperity;
- Looking to publish bylines, articles and books in the field;
- Actively seeking implication in animal welfare advocacy and projects;
- Open to collaborations and business opportunities;

Past

- My main research interest has been concerning the biology of ion channels, with clinical implications in cancer therapy. I applied a diverse set of computational structural biology tools to identify molecular drug binding modes. Complementary, I studied the molecular mechanisms of cancer cells and chemotherapeutic agents, in order to continuously integrate, extend and adapt the focus of my research objectives;
- I have extensively applied abductive reasoning, which requires a broad knowledge over biochemistry and medicinal chemistry, to reveal novel research theories and to identify new drug candidates in antitumour therapy, with potential in drug discovery and design and molecular pharmaceutics;
- I have collaboratively researched and conceptualized the academic environmental organization (AEO).

Conferences (oral presentations)
(underlined when presenting author)

1. Șterbuleac D. and Maniu C. L. *National Conference of Biophysics,* Platform for Research on Systemic Biology and Ecology, Bucharest, Romania, 7th-10th of September 2018, "A New Hypothesis Regarding the Structural Determinants of TASK Ion Channels Blockade by Pharmaceutical Compounds"
2. Șterbuleac D., Cojocaru D. and Maniu C. L. *International Annual Conference of the Romanian Society of Biochemistry and Molecular Biology,* National Academy Library, Bucharest, Romania, 5th-7th of September 2018, "Protein-ligand interactions define the antitumour therapeutic potential of specific hEag ion channel blockers: insights from a computational structural biology approach"
3. Șterbuleac D. *Falling Walls Lab Romania,* Tranzit House, Cluj-Napoca, Romania, 8th of June 2018, "Breaking the wall of cost-effective pharmaceutical research"
4. Diaconu L. and Șterbuleac D. *TIMTED 2017,* Faculty of Economics and Business Administration, West University of Timisoara, Romania, 19th-20th of May "The impact of foreign direct investment on the Romanian labour market: new evidence from a pooled model"
5. Diaconu L. and Șterbuleac D. *EURINT 2017 International Conference,* Centre for European Studies, Iasi, Romania, 19th-20th of May, "FDI and the labour market: empirical evidence from the 2004 EU member states"
6. Șterbuleac D., Maniu C. L. and Cojocaru D. *Faculty of Biology Annual Scientific Meeting,* Iasi, Romania, 20th-22nd of October 2016, "A particular difference between hEAG and hERG ion channels could provide a specific way of targeting ion channels in cancer therapy"

7. <u>Șterbuleac D.</u> and Maniu C. L. *Faculty of Biology Annual Scientific Meeting,* Biology Students Session, Iasi, Romania, 22nd-24th of October 2015, "A comparative virtual screening approach in identifying the structural features of specific hEAG and hERG potassium channels blockers"

<u>Scientific publications</u>

<u>ISI-indexed journals</u>

1. **Șterbuleac D.** (2021) Molecular dynamics: a powerful tool for studying the medicinal chemistry of ion channel modulators, *RSC Medicinal Chemistry,* 12, 1503-1518
2. Lobiuc, A., **Șterbuleac, D.,** Sturdza, O., Dimian, M. and Covasa, M. (2021) A Conservative Replacement in the Transmembrane Domain of SARS-CoV-2 ORF7a as a Putative Risk Factor in COVID-19, *Biology* 2021, *10*, 1276
3. **Șterbuleac D.** (2019) Molecular determinants of chemical modulation of two-pore domain potassium channels, *Chemical Biology & Drug Design,* 94(3), 1596-1614
4. **Șterbuleac D.** and Maniu C.L. (2018) Computer Simulations Reveal a Novel Blocking Mode of the hERG Ion Channel by the Antiarrhythmic Agent Clofilium, *Molecular Informatics,* 37(6-7), 1700142
5. **Șterbuleac D.** and Maniu C.L. (2016) An antiarrhythmic agent as a promising lead compound for targeting the hEAG1 ion channel in cancer therapy: insights from molecular dynamics simulations, *Chemical Biology and Drug Design,* 88(5), 683-689

<u>Scopus-indexed journals</u>

1. **Șterbuleac D.** and Toma O. (2020) Environmental education through a University Eco-Consortium, *Applied Environmental Education & Communication,* 19(1), 62-73
2. **Șterbuleac D.** and Toma O. (2019) The overlooked role of academic environmental organizations in addressing environmental education issues, *Applied Environmental Education & Communication,* 18(1), 91-94

<u>Other journals</u>

1. **Șterbuleac D.** and Cojocaru D. (2018) Targeting the Ether-à-go-go ion channels in cancer therapy: current knowledge and future perspectives, *Journal of Experimental and Molecular Biology,* 19(1), 1-6
2. Diaconu L. and **Șterbuleac D.** (2017) FDI and labour market: empirical evidence from the states that joined the European Union in 2004, *CES Working Papers,* 9(3), 343-357
3. Diaconu L. and **Șterbuleac D.** (2017) The impact of foreign direct investment on the Romanian labour market: new evidence from a pooled model, *Timisoara Journal of Economics and Business,* 10(1), 19-34

<u>Publication impact and status</u>

    • *Statistics*
Google Scholar: papers: **10,** citations: **43,** h-index: **4**
        Scopus: papers: **7,** citations: **32,** h-index: **4**
Web of Science: papers: **5,** citations: **24,** h-index: **3**

    • *Citing literature (selection)*

Cavalluzzi et al. (2019) Human ether-à-go-go-related potassium channel: exploring SAR to improve drug design, ***Drug Discovery Today,*** 10.1016/j.drudis.2019.11.005

Pope et al. (2020) Polynuclear Ruthenium Amines Inhibit K2P Channels via a "Finger in the Dam" Mechanism, ***Cell Chemical Biology,*** 10.1016/j.chembiol.2020.01.011

Rödström et al. (2020) A lower X-gate in TASK channels traps inhibitors within the vestibule, ***Nature,*** 10.1038/s41586-020-2250-8

Projects

Member

Project: „*SARS-CoV-2 genome sequencing and phylogenetic analysis of circulating strains in Romania",* subject of the grant contract no. 12Sol/2020

- **position: Research Assistant**
- responsibilities include: evaluating the structural effect of identified mutations; contributing to the preparation and conditioning of biological samples for molecular analysis; contributing to the execution of molecular analyses on conditioned biological samples

Professional skills

- Computational protein structure analysis, molecular modeling, molecular docking, virtual screening and molecular dynamics (PLANTS, Autodock, NAMD, VMD, UCSF Chimera, CHARMM-GUI)
- A great understanding of economic principles and processes
- Proven analytical skills, extensive abductive reasoning as part of my PhD thesis research, cross-linking scientific information in the medicinal chemistry field, to discover new drug targeting opportunities and theories or promising molecular features
- Good skills in using molecular genetics lab equipment gained while assisting and working on my BSc thesis with PhD lab colleagues (DNA extraction, purification and sequencing)
- Statistical analysis and interpretation skills (Stata, SPSS, Excel)
- Basic knowledge in using and coding with R, Perl and Python

Languages

- Romanian: native
- English: excellent (C1)
- French: good (B2)

Scientific community service

- Reviewed articles for the following journals:
   -Applied Environmental Education and Communication
   -Nature Communications

Society memberships

- Mises Institute (2019-present)
- RSPCA – The Royal Society for the Prevention of Cruelty to Animals (2021-present)

External links

- *WoS:* https://www.webofscience.com/wos/author/record/1237009
- *LinkedIn:* https://www.linkedin.com/in/daniel-sterbuleac/
- *ORCID:* https://orcid.org/0000-0002-3969-5298
- *Scopus:* https://www.scopus.com/authid/detail.uri?authorId=57190272262
- *Google Scholar:* https://scholar.google.ro/citations?user=YiJSl2UAAAAJ&hl=ro

References

- see above