CURRICULUM VITAE

Personal information

Name	Bunu (Romanescu) Gabriela
Address	Bd. Timisoara, 89-91, Bucharest, Romania
Telephone	+40735469333
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Date of birth	15.09.1990

Work experience

Apr 2022 - Present   **Researcher**

Part time   Institute of Biochemistry of the Romanian Academy, Bucharest
Department of Bioinformatics & Structural Biochemistry

Oct 2021 - Present   **Data scientist**

Part time   BioAge Labs

Dec 2016 – Mar 2022   **Research assistant in Bioinformatics**

Institute of Biochemistry of the Romanian Academy, Bucharest

Department of Bioinformatics & Structural Biochemistry

I was part of the team implementing the project "Gerontomics: a multi-omics prediction system for prioritization of gerontological interventions"
- Developed Python and R scripts for bioinformatics analyses: microarrays, methylation arrays, survival analysis
- Created and updated databases integrating various sources of large scale biological data; developed tools for querying the databases
- Designed and created a database with synergistic gene combinations curated from literature
- Annotations of metadata, data cleaning and data analysis
- Built, vizualized and analyzed complex networks of proteins, regulators and small molecules; applied algorithms from graph theory
- Applied statistical tests to validate hypotheses
- Experience as Scrum Master
- Coordinating two junior bioinformaticians
- Training assistant - Training Course in Bioinformatics, 10-11 may 2018: Genomic Bioinformatics, Proteomic Bioinformatics

Feb 2016 – Dec 2016   **Pharmacist**

Farmacia Tarsis Impex SRL

Mar 2014 – Feb 2016   **Pharmacist**

Help Net Farma SA

Education and training	
2021- Present	**Pharmacy residency, Pharmaceutical Industry and Cosmetics**
	"Carol Davila" University of Medicine and Pharmacy Bucharest, Faculty of Pharmacy
2017 - Present	**PhD**
	Institute of Biochemistry of the Romanian Academy, Bucharest
	Department of Bioinformatics & Structural Biochemistry
	Thesis title: „Bioinformatics analyses of pharmaco-genomic networks as methods to study lifespan modulation"
2015 - 2018	**Pharmacy residency, Pharmaceutical Laboratory**
	"Carol Davila" University of Medicine and Pharmacy Bucharest, Faculty of Pharmacy Finished with 9.8/10
2009-2014	**Bachelor's Degree**
	"Carol Davila" University of Medicine and Pharmacy Bucharest, Faculty of Pharmacy Finished with 9.56/10
2010-2013	**Bachelor's Degree**
	University of Bucharest, Faculty of Mathematics and Computer Science, Computer Science specialization
2005-2009	**Baccalaureate Diploma (9.76/10)**
	National College „Ion Luca Caragiale", Ploiești Mathematics-Informatics, intensive Informatics

Job-related skills

Programming
- Python (especially libraries *numpy, pandas, matplotlib, scikit-learn*), R (especially *Bioconductor* packages) - advanced
- C, C++ - junior
- Algorithms and data structures, OOP, graph theory - advanced
- Databases: PostgreSQL, Oracle - advanced
- Web technologies: HTML, CSS, PHP, JavaScript - junior

Bioinformatics
- Microarray analysis, Methylation analysis, Network biology, Survival analysis

Biostatistics:
- Probabilities, Descriptive statistics, Verifying hypotheses, Regression

Wet lab:
- Qualitative determinations, volumetric determinations, UV-VIS spectrophotometry, fluorimetry, electrophoresis, PCR, ELISA, microscopy, thin layer chromatography, column chromatography

Personal skills

Mother tongue   Romanian

Foreign languages	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	Proficient	Proficient	Proficient	Proficient	Proficient
	Certificate of linguistic competence, level C1 – Center of Foreign Languages, University of Bucharest (2017)				
French	Basic	Basic	Basic	Basic	Basic
German	Basic	Basic	Basic	Basic	Basic
Spanish	Basic	Basic	Basic	Basic	Basic

Other skills   Analytical and scientific thinking, fast learning, perseverance, team work, good communication, motivation in learning new things

ADDITIONAL INFORMATION

Awards

- Outstanding poster award - **International Conference on Aging and Disease,** October 2018 – "Synergistic and antagonistic interventions between longevity genes - the SynergyAge database"

- „High Performance" Trophy in the program „Petrom Olympics" (2010)

- Award of Romanian Society of Chemistry (2009)
- 3rd Prize (2008) and Honorable Mention (2007,2009) at the National Chemistry Olympiad
- 1st Prize at the National Chemistry Contest „Costin D. Nenitescu", physical chemistry section (2008)
- 2nd Prize (2007) and 1st Prize (2008) at the National Chemistry Contest Chimexpert
- 3rd Prize (2009) at the International Chemistry Contest Chimexpert

- Diploma of excellence awarded by the Romanian Government (2009) for the results obtained at the Chemistry Olympiad
- Diploma of excellence (2008-2009) awarded by the Excellence Center Prahova for the results obtained at the National Chemistry Olympiad

- Other awards obtained at regional contests of chemistry, informatics, mathematics

Conferences

- Bunu Gabriela, „**Ending Age-Related Diseases 2020",** August 2020, online – oral presentation: „SynergyAge: A Curated Database for Interactions of Longevity Genes"
- Bunu Gabriela, "**The Annual International Conference of the Romanian Society for Biochemistry & Molecular Biology**", September 2019, Iași, România – oral presentation: "Synergism and antagonism in aging"
- Bunu Gabriela, Ion Cătălin-Florentin, Tăcutu Robi, „**International Perspectives on Geroscience"**, Israel, September 2019 - poster "Analysis of synergism and antagonism in aging"
- Bunu Gabriela, Ion Cătălin-Florentin, Tăcutu Robi , "**International Conference on Aging and Disease**", October 2018, Nisa, Franta - poster: "Synergistic and antagonistic interventions between longevity genes - the SynergyAge database" (**Oustanding Poster Award**)
- Bunu Gabriela, Ion Cătălin-Florentin, Tăcutu Robi, "**The Annual International Conference of the Romanian Society for Biochemistry & Molecular Biology**", September 2018, Bucharest, Romania – poster: "SynergyAge: a database of synergistic and antagonistic genes in aging research"
- Bunu Gabriela, Voinea Alexandra, Kulaga Anton, Constantinescu Vlad, Craciun Iulian, Ion Cătălin, Tăcutu Robi , "**The Annual International Conference of the Romanian Society for Biochemistry & Molecular Biology**", June 2017, Timisoara, Romania – poster: "Gerontomics: a multi-omics prediction system for prioritization of gerontological interventions"

Publications	• **Bunu G***, Toren D*, Ion CF, Barardo D, Sârghie L, Grigore LG, de Magalhães JP, Fraifeld V, Tacutu R. "SynergyAge, a curated database for synergistic and antagonistic interactions of longevity-associated genes", *Scientific Data*, 7:366 (2020), https://doi.org/10.1038/s41597-020-00710-z
	• Knyazer A*, **Bunu G***, Toren D, Bucaciuc Mracica T, Segev Y, Wolfson M, Muradian K, Tacutu R, Fraifeld V. "Small molecules for cell reprogramming: a systems biology analysis", *Aging (Albany NY)*, 13:25739-25762 (2021), https://doi.org/10.18632/aging.203791
	• Toren D, Yanai H, Abu Taha R, **Bunu G**, Ursu E, Ziesche R, Tacutu R, Fraifeld V. "Systems biology analysis of lung fibrosis-related genes in the bleomycin mouse model", *Scientific Reports*, 11:19269 (2021), https://doi.org/10.1038/s41598-021-98674-6
	• Matei IV, Samukange VNC, **Bunu G**, Toren D, Ghenea S, Tacutu R. "Knock-down of odr-3 and ife-2 additively extends lifespan and healthspan in C. elegans", *Aging (Albany NY)*, 13:21040-21065 (2021), https://doi.org/10.18632/aging.203518
	• Tacutu, R., Toren, D., Ursu, E., **Bunu, G**., Mracica, T.B. (2020). Healthy Biological Systems. In: Sholl, J., Rattan, S.I. (eds) Explaining Health Across the Sciences. *Healthy Ageing and Longevity*, vol 12. Springer, Cham. https://doi.org/10.1007/978-3-030-52663-4_5 (book chapter)
	• **Bunu G**, Toren D, Ursu E, Ghenea S, Fraifeld V, Tacutu R. "Drug prediction for reversing AD/PD transcriptional profiles using an aging of systems-centric approach", bioRxiv 2022.11.01.514657, https://doi.org/10.1101/2022.11.01.514657
	* shared first co-authorship
Courses	• Human DNA variants: from functional annotation to disease association, October 2019, Cluj-Napoca
	• Machine Learning for Bioinformatics, October 2019, Cluj-Napoca
	• Workshop Open Drop, March 2019, Bucharest – programming of a microfluidic device using Arduino
	• NGS: Next-Generation Sequencing Data Analysis, November 2018, Timișoara
	• UniProt, PDB: Bioinformatics tools for exploring protein biology, April 2019, Iași
	• EBI Training, IntAct webinar, April 2018 – repository of protein-protein interactions
	• EMBL-EBI Bioinformatics training, April 2018: Sequence searching and alignment, Ensembl genome browser
	• Database Design and Programming with SQL – Oracle Academy, 2008
Membership	MENSA