Curriculum Vitae

Personal Info

Ana-Maria-Raluca Gherman
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Education and Work Experience

Research experience (present)

scientific researcher (CS III level) in the field of Physics, National Institute for Research and Development of Isotopic and Molecular Technologies I N C D T I M, Cluj-Napoca, Romania (January 1st, 2023 – present)

(past)

scientific researcher (CS level; April 1st, 2019 – December 31st 2022); research assistant (AC level; July 18th, 2016 – April 1st, 2019) in the field of Physics, National Institute for Research and Development of Isotopic and Molecular Technologies I N C D T I M, Cluj-Napoca, Romania

Formal education

Doctoral School of Physics, Faculty of Physics, Babeș-Bolyai University, Cluj-Napoca, Romania, (2023) – Doctoral degree – thesis: "Cheminformatics tools used to characterize the structure and bactericidal-activity of β-lactams against pathogens"; scientific coordinator: Prof. Dr. Vasile Chiș; research field: *computational chemistry, molecular modelling, multivariate analysis*

Biophysics and Medical Physics, Faculty of Physics, Babeș-Bolyai University, Cluj-Napoca, Romania (2013 – 2015) – Master Degree – dissertation: "Molecular structure of biotin molecule (vitamin B7)"
Pedagogical studies programme , field of Medical Physics, Level II, Teacher Training Department, Babeș-Bolyai University, Cluj-Napoca, Romania (2013 – 2015)
Medical Physics, Faculty of Physics, Babeș-Bolyai University, Cluj-Napoca, Romania (2010 – 2013) – Bachelor Degree – thesis: "Study of carbamazepine molecule by experimental and theoretical methods"
Pedagogical studies programme, field of Medical Physics, Level I, Teacher Training Department, Babeș-Bolyai University, Cluj-Napoca, Romania (2010 – 2013)

Grup Școlar Industrial Luduș (highschool), Mathematics – Informatics profile (2006 – 2010) – Bacalaureat Diploma and Certificate of professional competences (Informatics)

Other scientific activities

⇨training – April 17th – 21st 2023 – University of Leeds, Electron Microscopy Spring School
⇨research visit – October 21st – December 21st 2015 – Institut für Physik, TU Chemnitz, Germany (Prof. Dr. DRT Zahn's research group); activities: DFT calculations (geometry optimization and frequency) on intermediate compounds of the synthesis process of the Heme B molecule;
⇨*Erasmus Mobility for Placement* – October 15th 2014 – February 28th 2015 – Scuola Normale Superiore Di Pisa, Italy, supervisor: prof. Vincenzo Barone; field: *computational chemistry*; activities: geometry optimization and frequency (harmonic and anharmonic level) DFT calculations using Gaussian software package.

Scientific projects

Member in 6 scientific projects:
- ⇨ Dual-Nano, PN-IV-PCB-RO-MD-2024-0313, PM: Dr. Irina KACSÓ
  period: 2026-2027; https://www.itim-cj.ro/bilateral/dual-nano/
- ⇨ EduTIM PN-IV-P10-SS-SC-2024-0103, PM: Dr. Gabriela CRISTEA

period: 1.09.2025 – 31.08.2026; https://www.itim-cj.ro/pncdi/edutim/

⇨ Antib_resis_SERS PN-III-P1-1.1-TE-2019-0910, PM: Dr. Nicoleta Elena DINA
period: 15.09.2020 – 14.09.2022; https://sites.google.com/view/antibresissers/

⇨ TTC-ITIM, POC 18/2016, PM: Dr Claudiu FILIP
period: 10.2019-31.03.2020; https://www.itim-cj.ro/poc/ttc/

⇨ mifSERS, PN-III-P2-2.1-PED-2016-0983, PM: Dr. Nicoleta Elena DINA
period: 20.01.2018 – 31.12.2018; https://www.itim-cj.ro/pncdi/mifsers/

⇨ "Pathogenic microorganisms rapid detection and identification using high sensitive Raman spectroscopy", PN-II-RU-TE-2014-4-0862, PM: Dr. Nicoleta Elena DINA
period: 16.07.2016 – 9.11.2017; https://www.itim-cj.ro/PNCDI/ru381/index.html

Personal skills and competences

Native language	Română
Foreign languages	English – advanced Français – medium Español – conversational Italiano – beginner Deutsch – beginner
Handling laboratory equipment	I am able to manipulate a DeltaNU Advantage and Renishaw Raman, and a Jasco UV-Vis spectrometer, having experience in recording Raman (powder and liquid), SERS, and absorption spectra of active compounds of pharmaceuticals. I am also an electron microscopy enthusiast, being able to manipulate a STEM Hitachi microscope at beginner level.
Computational skills	I am an advanced user of Microsoft Office package, Fox Pro, Origin, Gaussian and GaussView, molecular docking software Autodock Vina and Autodock Tools, multivariate analysis softwares The Unscrambler and Solo from Eigenvector, several graphic software (including Adobe InDesign, Photoshop, ImageJ), Linux server and the internet (including social networks and blogging platforms). I am a basic user of programming languages C, C++, HTML, java script, CSS, and of Wolfram Mathematica and Matlab software.
Driver's license	B
Member of scientific communities	Associate member of College of Physicists in Medicine in Romania (CFMR) (July 13th 2015 – present)
Scientometry	h_{index}: 7 publications in ISI journals: 17 citations: 211 (without self-citations) list of publications: https://scholar.google.com/citations?user=B4VTPzkAAAAJ&hl=en