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Date of birth 1974 | Nationality Romanian

WORK EXPERIENCE

- 1998–2000 **Junior teaching assistant**
 Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca (Romania)
 research, teaching organic chemistry (laboratory section only)
- 1999 **Compulsory 6-month military training (Romania)**
- 2000–2007 **teaching assistant**
 Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca (Romania)
 research, teaching – biochemistry, enzymatic technology (laboratory sections only)
- 2000–2004 **Graduate student**
 University of Georgia, Athens, GA (United States)
 teaching, general chemistry laboratory and tutoring; research, bioinorganic chemistry
- 2004–2006 **Senior Research Officer**
 Department of Biological Sciences, University of Essex, Colchester (United Kingdom)
 research, blood substitutes
- 2007–2020 **Associate Professor**
 Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca (Romania)
 Research, teaching – bioinorganic chemistry, advanced bioinorganic chemistry, biochemistry, advanced biochemistry, applied biochemistry, molecular modelling, computational chemistry, clinical enzymology and immunology, advanced enzymology, nutrient metabolism, DNA typing.
 Habilitation as PhD advisor, since 2013.
 “Cercetator stiintific gradul I” degree (equivalent to Research Professor) since 2014
 President of the Scientific Council of the Babeș-Bolyai University, since 2012
 Co-director of the Institute of Technology of the Babeș-Bolyai University, 2011-2015
 Co-director of the Center for Molecular Modeling and Computational Quantum Chemistry, since 2010
- 2020–Present **Professor**
 Faculty of Chemistry and Chemical Engineering, Babes-Bolyai University, Cluj-Napoca (Romania)
 Research, teaching – bioinorganic chemistry, advanced bioinorganic chemistry, advanced biochemistry, applied biochemistry, computational chemistry, clinical enzymology and immunology.
 Director of the Center for University Strategy of UBB, since 2020
 Coordinator of the Office for Open Science of UBB, since 2024

2025-2026 **Personal Advisor for RDI to the Minister of Education and Research, Romania**

EDUCATION AND TRAINING

- 1993–1997 **B.Sc. in Chemistry** EQF level 6
Babes-Bolyai University, Faculty of Chemistry and Chemical Engineering, Cluj-Napoca (Romania)
Chemistry, including teacher qualifications
- 1997–1998 **M.Sc. in Chemistry** EQF level 7
Babes-Bolyai University, Cluj-Napoca (Romania)
Chemistry - organic and bioorganic
- 1999–2005 **Ph.D. in chemistry** EQF level 8
Babes-Bolyai University, Cluj-Napoca (Romania)
inorganic chemistry – directed by Prof. Ionel Haiduc – “Small molecule activation by hemoproteins and related systems”
- 2000–2004 **Ph.D. in chemistry** EQF level 8
University of Georgia, Athens, GA (USA)
bioinorganic chemistry – directed by Prof. Donald M. Kurtz, Jr. – “Non-heme iron proteins from anaerobic bacteria involved in nitrosative stress protection”
- 2001–2001 **Summer Course in Crystallography**
American Crystallography Association, Athens, GA (USA)
crystallography on small molecules and proteins

PERSONAL SKILLS

Mother tongue(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	B1	B1	B1	B1	B1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
[Common European Framework of Reference for Languages](#)

Communication skills >25 years teaching experience, with laboratories, seminars and lectures
>90 oral presentations at scientific meetings
>20 interviews to mass media, including live TV and radio

Organisational / managerial skills

Supervised research and dissertations for ~120 undergraduate and graduate students, won and completed several research grants
Member of the Biochemistry and Molecular Biology Commissions of the Romanian National Council for Scientific Research (2011-2013) and of the National Council for Accreditation of University Degrees and Titles (2011-2012), and of the Chemistry committee of the latter (2016-2020, 2024-present)
President of the Scientific Council of the Babes-Bolyai University (2012-)
Director of the Center for University Strategies, Babes-Bolyai University (2020-)
Coordinator of the Office for Open Science, Babes-Bolyai University (2024-)
Member of the Senate of the Babes-Bolyai University (2016-)
Member of the Council of the Faculty of Chemistry and Chemical Engineering of the Babes-Bolyai University, president of the Committee for scientific research of the Council (2024-)
Coordinator of the Working Group for Open Science at the Babes-Bolyai University (2022-)

Guest editor – Studia Universitatis Babeş Bolyai –Seria Chemia (2008), Chemtracts – Inorganic Chemistry (2015)

Review-Editor, Frontiers in Cell and Developmental Biology, 2013-2020

Reviewer Editorial Board of Frontiers in Molecular Medicine (2013-2020)

Editor in chief, Acta Metallomica <http://chem.ubbcluj.ro/acta-metallomica/> (2014-2017)

Editor, Molecules (Inorganic Chemistry section) (2017-)

Member of the Editorial Board, Revue Roumaine de Chimie (2023-)

Contributor – InHouse monthly magazine of the National Authority for Research at the Ministry of Education and Research (2025)

National delegate (representative) from Romania to the Division of Computational and Theoretical Chemistry, DCTC) of the European Chemical Society, EuChemS (2019-)

Organized international workshops/conferences in molecular modelling and in bioinorganic chemistry, as co-president of the committees - Molecular Modeling in Chemistry and Biochemistry MOLMOD, Metal Elements in Environment, Medicine and Biology MEEMB

Reviewer/ expert evaluator – within a project aimed at evaluating academic integrity in Romanian universities, organized by Societatea Academică din România (SAR), Alianța Națională a Organizațiilor Studențești din România (ANOSR) and Federația Studenților din Elveția (VSS-UNES-USU) (2016-2017)

Tutor for student journal club – UNIMIND Cluj-Napoca (2021-2024)

Coordinator of professional/specialty commissions for Cluj County and president of the Cluj-Napoca organization, Alliance of Liberal and Democrats, Romania (2018-2019).

Job-related skills

- Protein expression and purification (soluble proteins, inclusion bodies).
- Protein crystallization, protein crystallography
- Enzymatic assays, enzyme kinetics: including steady state, transient kinetic stopped-flow/rapid-scanning
- Cryo-enzymology
- Enzymatic product determination and isolation; chemical (enzyme-free) synthesis of compounds, characterization with UV-visible, FTIR, NMR spectroscopies, (GC/LC)-MS, HPLC
- Preparative bio-transformation of chemicals, using whole cells or purified enzymes; method development
- DNA manipulation including cloning and mutagenesis techniques
- Bacterial cell cultures, including anaerobic nitrosative/oxidative stress experiments
- Anaerobic protein/chemical manipulation
- Record and interpret UV-visible, electron paramagnetic resonance, circular dichroism, and infrared spectra
- Sample (protein) preparation (and interpretation, where applicable) for EPR, Mössbauer, (VTVH)MCD, ENDOR, resonance Raman, NMR spectroscopies, (GC/LC)-MS
- Proficient in the use of the following equipment: microplate spectrophotometer, UV-visible recording spectrophotometer, infrared spectrophotometer, biological oxygen monitor, nitric oxide monitor, fast-pressure liquid chromatography apparatus, thermocyclers, centrifuge, electrophoresis apparatus, anaerobic chamber.
- Electronic structure calculation (ab initio, semiempirical, DFT, molecular mechanics) and protein modelling (sequence homology, docking) programs (e.g., Gaussian, Spartan, Titan, Hyperchem, Cache, Sybyl, Insight), including UNIX and Linux applications
- Word processing software, spreadsheet applications, presentation applications, scientific plotting programs, chemical structure drawing programs, DNA and protein sequence manipulation software
- Devised, written, and supervised general biochemistry and bioinorganic chemistry laboratory experiments
- Bibliometric and scientometric analyses.

Computer skills

Good command of common software in Windows and Linux operating systems, and of specialized

ADDITIONAL INFORMATION

Scientific publications in journals and conference proceedings ($h_{WoS}=35$, Times cited $_{WoS}=4300$):

324. Williams, Lewis J.; Kamps, Jos J.A.G.; Brânzanic, Adrian M. V.; Lehene, Maria; Lundgren, Kristoffer J. M.; Ryde, Ulf; Chatterjee, Kuntal; Doyle, Margaret D.; Simon, Philipp S.; Makita, Hiroki; Thompson, Amy J.; Brewster, Aaron S.; Zhou, Tiankun; Lučić, Marina; Wilson, Michael T.; Aller, Pierre; Sanchez-Weatherby, Juan; Gee, Leland; Dehe, Sebastian; Mous, Sandra; Yano, Junko; Yachandra, Vittal K.; Hough, Michael A.; Orville, Allen M.; Kern, Jan F.; **Silaghi-Dumitrescu, Radu L**; Worrall Jonathan A. R.. **Can ferric-oxyl excited states explain elongated iron-oxygen bonds in heme peroxidase catalytic intermediates?**. Nature Communications 2026 <https://doi.org/10.1038/s41467-026-69192-8>
323. Doukeh, Rami; Lehene, Maria; Zagrean-Tuza, Cezara; Mot, Augustin C; **Silaghi-Dumitrescu, Radu**; Sarosi, Codruta; Fort, Carmen Ioana; Turdean, Graziella Liana; Pandele, Madalina; Borodi, Gheorghe; Movileanu, Luminița Daniela. **Catalytic Activation of Molecular Nitrogen by Enzyme-Inspired Metal–Organic Catalysts**. The Journal of Physical Chemistry C, 2025, <https://doi.org/10.1021/acs.jpcc.5c05271>
322. Andrian, Nicoleta; Zagrean-Tuza, Cezara; Lehene, Maria; Brem, Balazs; Gal, Emese; Stoean, Bianca; Gaina, Luiza; Hey-Hawkins, Evamarie; **Silaghi-Dumitrescu, Radu**. **Controlling the biologically relevant reactivity in coumarin derivatives: from antioxidant to prooxidant to DNA toxicity in two 5,7-dihydroxy-2H-chromen-2-one derivatives**. Revue Roumaine de Chimie, 2025, 70(7–8) 421–433. DOI: 10.33224/rrch.2025.70.7-8.06
321. Valentová, Jindra; Humboldt, Adrian; Lintnerová, Lucia; Švajdlenka, Svitková, Emil Barbora; **Silaghi-Dumitrescu, Radu**; Sonica, Alexandru; Schupp, Thomas; Gembicky, Milan; Nakashita, Momoka; Lester, Kya R.; Peter Baran. **Copper(II) Complexes with Schiff Bases Derived from 2-Pyridinecarbaldehyde N-Oxide and Amino Acids: Studies on DNA, BSA Binding, Nuclease Activity, and Cytotoxicity**, Chemistry - A European Journal, 2025, <https://doi.org/10.1002/chem.202501578>
320. Stoean (Vasile), Bianca; Pop, Ruxandra; Rugina, Dumitrita; Branzanic Adrian M.V.; Turza, Alexandru; Cristea, Castelia; Nicolescu, Alina; **Silaghi-Dumitrescu, Radu**; Gaina, Luiza. **Photosensitizer activity of phenothiazinium derivatives against melanoma cells and DFT insights into singlet oxygen generation**. Bioorganic Chemistry, 2025, 163, 108720. <https://doi.org/10.1016/j.bioorg.2025.108720>
319. Cîrjeu, Victoria; Andrian, Nicoleta; Pușcaș, Cristina; Zagrean-Tuza, Cezara; **Silaghi-Dumitrescu, Radu**. **Dacarbazine affects the redox reactivity of hemoglobin**. Journal of Porphyrins and Phthalocyanines, 2025, <https://doi.org/10.1142/S1088424625500725>
318. Cosprundan, Ariadna Maria; Andrian, Nicoleta; Zagrean-Tuza, Cezara; Lehene, Maria; Brem, Balazs; Gal, Emese; Lupan, Alexandru; **Silaghi-Dumitrescu, Radu**. **Influence of the second coordination sphere on the autooxidation reaction in oxygen-binding proteins**. Revue Roumaine de Chimie, 2025, 70(5–6), 313–327. DOI: 10.33224/rrch.2025.70.5-6.08
317. Lehene, Maria; Simon, Jozsef; Zagrean-Tuza, Cezara; Aghion, Andreea; Vasile, Bianca; Sonica, Alexandru; Iancu, Stefania; **Silaghi-Dumitrescu, Radu**. **Oxygen-carrying proteins employed in blood substitute candidates: differences in interactions with a model antioxidant molecule**. Biochimica et Biophysica Acta (BBA) – Proteins and Proteomics, 2025, 141086. <https://doi.org/10.1016/j.bbapap.2025.141086>
316. Dandea, Stefania-Mădălina; Hașaș, Alina-Diana; Toma, Vlad-Alexandru; Lehene, Maria; Scurtu, Florina; Peștean, Cosmin Petru; Codea, Răzvan-Andrei; Bel, Lucia-Victoria; Melega, Iulia; **Silaghi-Dumitrescu, Radu**; Sevastre, Bogdan. **Veterinary Perspectives on Hemoglobin-Based Oxygen Carriers in Experimental Hemorrhagic Shock: Insights from Rabbit Models**. Veterinary Sciences 2025, 12, 485. <https://doi.org/10.3390/vetsci12050485>
315. Mot, Augustin C.; **Silaghi-Dumitrescu, Radu**. **A polyethylene glycol derivatized laccase with improved thermal resistance**. Biocatalysis and Biotransformation, 2025, 43(2), 218-227. <https://doi.org/10.1080/10242422.2025.2462010> .
314. Lehene, Maria; Zagrean-Tuza, Cezara; Iancu, Stefania; Cosma, Sergiu-Raul; Brânzanic Adrian M.V.; **Silaghi-Dumitrescu, Radu**; Stoean (Vasile) Bianca. **The chlorite adduct of aquacobalamin: contrast with chlorite dismutase**. Journal of Biological Inorganic Chemistry, 2024, 30, 25-34. <https://doi.org/10.1007/s00775-025-02100-5>
313. Richter, Ștefan; Lönnecke, Peter; Bovan, Dijana; Andrian, Nicoleta; Stoean, Bianca; Lehene, Maria; **Silaghi-Dumitrescu, Radu**; Gaina, Luiza; Mijatović, Sanja; Maksimovic-Ivanic, Danijela; Kaluđerović, Goran; Hey-Hawkins, Evamarie. **Platinum(II/IV) complexes with N-substituted carboxylate ethylenediamine/propylenediamine ligands: preparation, characterization and in vitro activity**. Dalton Transactions, 2025, 54(9), 3597-3609. <https://doi.org/10.1039/D4DT03041A>

312. Zagrean-Tuza, Cezara; Padurean, Lavinia; Lehene, Maria; Branzanic, Adrian; **Silaghi-Dumitrescu, Radu**. **Globin ferryl species: what is the nature of the protonation event at pH < 5?** Journal of Biological Inorganic Chemistry 2024, 30, 61–70. <https://doi.org/10.1007/s00775-024-02089-3>
311. Rudenco, Oleg; Lupan, Alexandru; **Silaghi-Dumitrescu, Radu**; King R. Bruce. **Binuclear methylphosphinidene complexes of cyclopentadienylruthenium carbonyls: effects of the higher ligand field strength of ruthenium derivatives relative to iron derivatives**. Dalton Transactions, 2024, 53, 17654-17663. <https://doi.org/10.1039/D4DT02279C>
310. Gal, Melinda; Gaina Luiza; Lovasz, Tamas; Gal, Emese; Craciun, Ana-Maria; Focsan, Monica; Turza, Alexandru; Rugina, Dumitrita; Branzanic, Adrian M.V.; Pesek, Szilard; **Silaghi-Dumitrescu, Radu**; Cristea, Castelia. **Sonochemical synthesis, optical properties and DFT studies on novel (N-arylamino)phenothiazinium dyes suitable for fluorescence cells imaging**. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 2024, 322, 124768. <https://doi.org/10.1016/j.saa.2024.124768>
309. Stoean, Bianca; Lehene, Maria; Zagrean-Tuza, Cezara; **Silaghi-Dumitrescu, Radu**; Cristea, Castelia; Gaina, Luiza. **Transient radical species and oxygen colorimetric indicators grounded on phenothiazinium dyes**. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 2024, 320, 124602. <https://doi.org/10.1016/j.saa.2024.124602>
308. Radu, Luana; Lupan, Alexandru; Lehene, Maria; **Silaghi-Dumitrescu, Radu**. **Weak interactions between hydracids / binary acids: some considerations from a DFT analysis**. Studia UBB Chemia, 2024, LXIX(2), 121-134. DOI:10.24193/subbchem.2024.2.09
307. Doukeh, Rami; Craciun, Daniela; Lehene, Maria; Branzanic Adrian M.V.; Lupan, Alexandru; **Silaghi-Dumitrescu, Radu**. **An iron-free nitrogenase? Computational estimation of the ability to bind/activate N₂ in manganese and cobalt complexes**. Journal of Coordination Chemistry, 2024, 77(12–14), 1597–1606. <https://doi.org/10.1080/00958972.2024.2372812>
306. Zagrean-Tuza, Cezara; Matei, Alina; **Silaghi-Dumitrescu, Radu**. **A biomimetic assay for antioxidant reactivity, based on liposomes and myoglobin**. Journal of Inorganic Biochemistry 2024, 258, 112613. <https://doi.org/10.1016/j.jinorgbio.2024.112613>
305. Zagrean-Tuza, Cezara; Igescu, Ilinca; Lupan, Alexandru; **Silaghi-Dumitrescu, Radu**. **A study of the molecular interactions of hemoglobin with diverse classes of therapeutic agents**. Inorganica Chimica Acta, 2024, 122053. <https://doi.org/10.1016/j.ica.2024.122053>
304. Zagrean-Tuza, Cezara; Pato, Galaba; Damian, Grigore; **Silaghi-Dumitrescu, Radu**; Mot, Augustin C. **Redox Reactivity of Nonsymbiotic Phytohemoglobins towards Nitrite**. Molecules, 2024, 29(6), 1200. <https://doi.org/10.3390/molecules29061200>
303. Rudenco, Oleg; Lupan, Alexandru; **Silaghi-Dumitrescu, Radu**; King R. Bruce. **Decarbonylation Products of Binuclear Methylphosphinidene Complexes of Cyclopentadienyliron Carbonyls: Triplet and Quintet Structures Are Favored Energetically over Singlet Structures with Iron–Iron Multiple Bonding**. ACS Omega 2024, 9, 10, 12125–12134. <https://doi.org/10.1021/acsomega.3c10460>
302. Stoean, Bianca; Lupan, Iulia; Cristea, Castelia; Silion, Mihaela; **Silaghi-Dumitrescu, Radu**; Gaina, Luiza Ioana. **Outcomes of folic acid esterification upon the properties of hydrophilic phenothiazinium dyes: New photosensitizers for antimicrobial photodynamic therapy**. Journal of Photochemistry and Photobiology A: Chemistry, 2024, 451, 115500. <https://doi.org/10.1016/j.jphotochem.2024.115500>
301. Pesek, Szilard; **Silaghi-Dumitrescu, Radu**. **The Iodine/Iodide/Starch Supramolecular Complex**. Molecules, 2024, 29(3), 641. <https://doi.org/10.3390/molecules29030641>
300. **Silaghi-Dumitrescu, Radu**. **The king, the communists and the roman blood: an automated analysis of the Romanian national anthems**. Proglas, 2023, 32(2), 147-157. <https://doi.org/10.54664/GGAE2354>
299. Benedec, Daniela; Oniga, Ilioaara; Hanganu, Daniela; Tiperciuc, Brîndușa; Nistor, Adriana; Vlase, Ana-Maria; Vlase, Laurian; Pușcaș, Cristina; Duma, Mihaela; Login, Cristian Cezar; Niculae, Mihaela; **Silaghi-Dumitrescu, Radu**. **Stachys species: comparative evaluation of phenolic profile and antimicrobial and antioxidant potential**. Antibiotics, 2023, 12(11), 1644. <https://doi.org/10.3390/antibiotics12111644>
298. Dănescu, Theodor; Lupan, Alexandru; **Silaghi-Dumitrescu, Radu**; King, R. Bruce. **Theoretical study of the effect of phosphorus and nitrogen heteroatoms on pentahapto coordination of diazaphosphoryl ligands in binuclear ruthenium and iron carbonyl derivatives**. Journal of Organometallic Chemistry, 2023, 122949. <https://doi.org/10.1016/j.jorganchem.2023.122949>
297. Coman, Cristina; Hadade, Niculina; Pesek, Szilard, **Silaghi-Dumitrescu, Radu**; Mot, Augustin C. **Removal and degradation of sodium diclofenac via radical-based mechanisms using S. sclerotiorum laccase**. Journal of Inorganic Biochemistry, 2023, 112400. <https://doi.org/10.1016/j.jinorgbio.2023.112400>
296. Fischer-Fodor, Eva; Szabo, Kinga; Scurtu, Florina; Lehene, Maria; **Silaghi-Dumitrescu, Radu**. **Toxicity of hemoglobin derivatized with oxidized adenosine triphosphate against tumoral human cells**. Studia UBB Chemia, 2023, LXVIII(3), 153-160.

DOI:10.24193/subbchem.2023.3.10.

295. Lehene, Maria; Zagrean-Tuza, Cezara; Hadade, Niculina; Aghion, Andreea; Septelean, Raluca; Iancu, Stefania; Brânzanic Adrian M.V.; **Silaghi-Dumitrescu, Radu. A complex of cobalamin with an organic peroxide.** *New Journal of Chemistry*, 2023, 47(39), 18178-18185. <https://doi.org/10.1039/D3NJ03307D>.
294. **Silaghi-Dumitrescu, Radu. Trends in the texts of national anthems: a comparative study.** *Heliyon*, 2023 e19105. <https://doi.org/10.1016/j.heliyon.2023.e19105>
293. **Silaghi-Dumitrescu, Radu; Patrascu, Iulia; Lehene, Maria; Bercea, Iulia. Comorbidities of COVID-19 patients.** *Medicina*, 2023, 59(8), 1393. <https://doi.org/10.3390/medicina59081393>
292. Doukeh, Rami; Craciun, Daniela; Lupan, Alexandru; Brânzanic Adrian M.V.; **Silaghi-Dumitrescu, Radu. Effect of the coordination environment on the ability of iron to bind/activate N₂: a theoretical study with relevance to the nitrogenase mechanism.** *Polyhedron*, 2023, 116571. DOI: 10.1016/J.POLY.2023.116571
291. Lehene, Maria; Brânzanic Adrian M.V.; **Silaghi-Dumitrescu, Radu. The adducts of cyano- and aquacobalamin with hypochlorite.** *Journal of Biological Inorganic Chemistry*, 2023, 28(6),583-589. doi: 10.1007/s00775-023-02015-z
290. Plesa, Diana; Lehene, Maria; **Silaghi-Dumitrescu, Radu. On the reaction of Co(II) cobalamin with hydrogen peroxide.** *Reaction Kinetics, Mechanisms and Catalysis*, 2023, 136,1791–1799. <https://doi.org/10.1007/s11144-023-02441-9>
289. Irsai, Izabella; Pesek, Szilard, **Silaghi-Dumitrescu, Radu. A critical review of computational efforts towards identifying secondary structure elements in polylactic acid (PLA).** *Revue Roumaine de Chimie*, 2023, 68(9), 471–477. DOI: 10.33224/rrch.2023.68.9.08
288. Gaina-Gardiuta, Artiom; Lupan, Alexandru; Branzanic, Adrian M. V.; **Silaghi-Dumitrescu, Radu. Study of cobalamin adducts with cysteine and its oxidized sulfenic, sulfinic and sulfonic derivatives.** *Revue Roumaine de Chimie*, 2023, 68(3–4), 143–151. DOI: 10.33224/rrch.2023.68.3-4.04
287. Branzanic, Adrian M. V.; **Silaghi-Dumitrescu, Radu. Quale Mechanics as a Metaphysical Weltanschauung of Quantum Mechanics.** *History of science and technology*, 2023, 13(1), 10-33, DOI: 10.32703/2415-7422-2023-13-1-10-33
286. Arkosi, Mariann-Kinga; Mot, Augustin C.; Lupan, Iulia; Ghinia Tegla, Miruna Georgiana; **Silaghi-Dumitrescu, Radu. Selective attachment of polyethylene glycol to hemerythrin for potential use in blood substitutes.** *Protein Journal*, 2023, 42, 374–382. <https://doi.org/10.1007/s10930-023-10118-4>
285. Rudenco, Oleg; Lehene, Maria; Lupan, Alexandru; Zagrean-Tuza, Cezara; Stoean, Bianca; Gaina-Gardiuta, Artiom; Ulici, Adelina Maria; **Silaghi-Dumitrescu, Radu. Versatility of thiourea dioxide as redox agent in globins: case study with myoglobin.** *Inorganica Chimica Acta*, 2023, 121474. <https://doi.org/10.1016/j.ica.2023.121474>
284. Stoica, Anca D.; Toma, Vlad-Al.; Roman, Ioana; Sevastre, Bogdan; Scurtu, Florina; **Silaghi-Dumitrescu, Radu. Glutaraldehyde-polymerized hemerythrin: evaluation of performance as an oxygen carrier in hemorrhage models.** *Bioinorganic Chemistry and Applications*, 2022, 2209101. <https://doi.org/10.1155/2022/2209101>
283. Pesek, Szilard; Lehene, Maria; Branzanic, Adrian M. V.; **Silaghi-Dumitrescu, Radu. On the origin of the blue color in the iodine / iodide / starch supramolecular complex.** *Molecules*, 2022, 27(24), 8974. <https://doi.org/10.3390/molecules27248974>
282. Irsai, Izabella; Pesek, Szilard, **Silaghi-Dumitrescu, Radu. Polylactic acid inter-chain interactions.** *Studia Universitatis Babeș-Bolyai Seria Chemia*, 2022, LXVII, 47-71. DOI:10.24193/subbchem.2022.4.04
281. Stoean, Bianca; Gaina, Luiza; Cristea, Castelia; **Silaghi-Dumitrescu, Radu; Branzanic, Adrian M. V.; Focsan, Monica; Fischer-Fodor, Eva; Tigu, Bogdan; Moldovan, Cristian; Cecan, Andra Diana; Achimas-Cadariu, Patriciu; Astilean, Simion; Silaghi-Dumitrescu Luminita. New methylene blue analogues with N-piperidinyl-carbinol units: Synthesis, optical properties and in vitro internalization in human ovarian cancer cells.** *Dyes and Pigments*, 2022, 205, 110460. <https://doi.org/10.1016/j.dyepig.2022.110460>
280. Osokin, Vladimir S.; Dereven'kov, Ilia A.; Makarov, Sergei V.; Gaina-Gardiuta, Artiom; **Silaghi-Dumitrescu, Radu. Effect of trans-ligand on properties of nitric oxide motif in nitrosylcobinamide.** *Journal of Coordination Chemistry*, 2022, 75(11–14), 1606–1616. <https://doi.org/10.1080/00958972.2022.2079409>
279. Carrascoza, Francisco; Branzanic, Adrian M. V.; **Silaghi-Dumitrescu, Radu. The dynamics of hemerythrin and hemerythrin derivatives.** *Studia Universitatis Babeș-Bolyai Seria Chemia*, 2021, 64(4), 397-404.
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2. **Radu Silaghi-Dumitrescu, Bonding in biologically-relevant high-valent iron centers,** in „Quantum Frontiers of Atoms and Molecules”, Ed. Mihai V. Putz, NOVA Publishing Inc. (New York), 22pp, 2010

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- a. Radu Silaghi-Dumitrescu, **Metalele in sistemele vii**, 2011, Presa Universitara Clujeana, Cluj-Napoca.
- b. **Radu Silaghi-Dumitrescu**, Mariann Kinga Árkosi, **Fémek az elő rendszerekben**. 2014, Presa Universitara Clujeana, Cluj-Napoca. (traducere în limba maghiară)
- c. **Radu Silaghi-Dumitrescu**, Daniela Cioloboc. **An introduction to bioinorganic chemistry**, 2015, Presa Universitara Clujeana, Cluj-Napoca. (traducere în engleză)
- d. Radu Silaghi-Dumitrescu, Daniela Cioloboc, Mariann Kinga Árkosi, Nicoleta Tomoiogă, **Metalele in sistemele vii – ediția a II-a**, 2023, Presa Universitara Clujeana, Cluj-Napoca, ISBN 978-606-37-1937-0.
4. Radu Ghinga, Iulia Ghinga, **Radu Silaghi-Dumitrescu**, **Notiuni de baza in chimia organica**, 2012, Presa Universitara Clujeana, Cluj-Napoca.
5. **Radu Silaghi-Dumitrescu**, Luminita Silaghi-Dumitrescu, **On binary logic in Chemistry and beyond**, in "On psychology and beyond", Ed. Enikő Batiz, 2012, Presa Universitara Clujeana, Cluj-Napoca
6. **Radu Silaghi-Dumitrescu**, Cristina Bischin, **Interactions Between Proteins and Platinum-Containing Anticancer Drugs**, in V.N. Uversky, R.H. Kretsinger, E.A. Permyakov (eds.), Encyclopedia of Metalloproteins, Springer Science+Business Media, LLC 2012. DOI 10.1007/978-1-4614-1533-6
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10. **Radu Silaghi-Dumitrescu**, Flavia-Malina Oana (Gadina), Maria Lehene. **The Action of Antioxidants in Clinical Treatments - A Case Study with Vitamin C: Antioxidants in Clinical Treatments - Vitamin C**. In **Fundamental and Biomedical Aspects of Redox Processes**. Eds. Gheorghe Duca, Ashok Vaseashta, 2023, IGI Global, ISBN13: 9781668471982|ISBN10: 1668471981|EISBN13: 9781668472002, pp 315-326, DOI: 10.4018/978-1-6684-7198-2.ch014.
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Patents

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2. Prejmerean Cristina, Moldovan Marioara, Prodan Doina, Silaghi-Dumitrescu Laura, Furtos Gabriel, Iovu Horia, Damian Celina Maria, Popescu Violeta, Pascalau Violeta, Sarosi Liana-Codruta, Boboia Stanca, Filip Miuta, Colceriu-Burtea Adela Loredana, **Silaghi-Dumitrescu Radu Lucian**. MATRICE ORGANICA SI COMPOZIT DE RESTAURARE INDIRECTA PENTRU UTILIZAREA IN STOMATOLOGIE, RO 128800 B1, 30.06.2017.

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2. **Silaghi-Dumitrescu, Radu**. Contribuție la interviul " Ce resetare? Ce schimbări sunt esențiale în politică și în societate – sunt și în economie? Foreign Policy Romania Decembrie 2015/Ianuarie 2016, 26-27.
3. **Radu Silaghi-Dumitrescu**. **Considerations on public perceptions within Romanian public discourse**. Lambert Academic Publishing, 2017, Saarbrücken, 49 pp. ISBN 978-3-330-03040-4.
4. Radu Silaghi-Dumitrescu, **Crima la sugestia unei oi vorbitoare**, 2016, Lulu Press, Inc., 87 pp. ISBN 978-1-329-99360-0 <http://www.lulu.com/shop/radu-silaghi-dumitrescu/crim%C4%83-la-sugestia-unei-oi-vorbitoare/ebook/product-22618659.html>
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Talks at conferences, seminars:

96. Case studies in bioinorganic coordination chemistry: interplay between electronic properties, dynamics, and biological relevance

17th Symposium New Trends in Chemistry Research, Timisoara, Romania, 2025

95. Blood proteins and light: spectroscopy with a vampire touch

The 14th International Conference on Protein Stabilization, Timisoara, Romania, September 2025

94. Do you even own a proton? The awkward spectroscopic quirks of globin-(like) ferryls

21st International Conference on Biological Inorganic Chemistry, Long Beach, CA, USA, August 2025

93. Spectroscopic assignment of difficult intermediates/complexes involved in small molecule activation at biological metal centers: things you can say about experiments but not about DFT calculations

7th EuChemS Inorganic Chemistry Conference, Belgrade, Serbia, September 2025

92. Heme vs. Cobalamin, Iron vs. Cobalt – and Beyond: Rationalization of Differing Reactivity in Redox and Coordination

53rd International Symposium on Thermodynamics of Metal Complexes (ISMEC 2025), Granada, Spain, June 2025

91. Beyond the coordination chemistry of metal-corrin / cobalamin derivatives with oxidizing agents: exploring the scope and the physiological relevance

EUROBIC 17 - The European Biological Inorganic Chemistry Conference, Munster, Germany, August 2024

90. Binding of biomedically relevant agents to hemoglobin and related proteins

16th Symposium New Trends in Chemistry Research, Timisoara, Romania, 2024

89. Synergy between computations and experiments on transition metal complexes: challenges with isomerism, spin states and spectroscopy

37th Conference of the Romanian chemical society, September 2024, Targoviste, Romania

88. Cum recunoaștem cercetarea și la ce folosește asta?

Centrul pentru Orientarea în Cariera a Cercetătorilor, Cluj-Napoca, Romania, 2024

87. Small Molecule Activation at Biological Metal-Macrocyclic Complexes: Contrasts between Heme and Vitamin B₁₂

3rd International Conference on Reaction Kinetics, Mechanisms and Catalysis, Budapest, Hungary, 2024

86. Synergy between computations and experiments on transition metal complexes: challenges with isomerism, spin states and spectroscopy

BioMat4CAST Training Workshop, Iasi, Romania, 2024

85. Virusurile și vaccinarea

Universitatea vârstei a treia – U3a, UBB and the Mayory of the city of Cluj-Napoca, Romania, 2024

84. Seria spectrochimică: ce măsoară ea și pentru cine? Considerente dintr-un unghi bioanorganic

Joint anniversary symposium of the Romanian Chemical Society and American Chemical Society – Romanian Chapter, Bucharest, Romania, 2023

83. Small Molecule Activation at Biological Metal-Macrocyclic Complexes: Contrasts between Heme and Vitamin B₁₂

15th Symposium New Trends in Chemistry Research, Timisoara, Romania, 2023

82. The “UV-vis-silent” coordination chemistry of cobalamin with oxidizing agents: contrasts between iron-porphyrin and cobalt-corrin complexes

The 20th International Conference on Biological Inorganic Chemistry ICBIC20, Adelaide, Australia, 2023

81. Considerente despre clasamentele internaționale ale universităților din Metaranking-RO

Consiliul Național de Statistică și Prognoză a Învățământului Superior (CNSPIS), Workshop “Rankinguri Internaționale Utilizate în Metarankinguri”, Oradea, Romania, 2023

80. Case study of interdisciplinary teamwork: a European blood substitutes consortium - invited conference

EUTOPIA doctoral summer school, Lisbon, Portugal, 2023

79. Old dogs, old tricks, new glasses: new chemistry with cobalamin and redox agents

State University of Moldova, Chisinau, Moldova, 2023 - invited conference

78. Coordination and redox chemistry with metalloproteins and agents of oxidative/nitrosative stress

State University of Moldova, Chisinau, Moldova, 2023 - invited conference

77. Transient species in biological metal centers and where to find them - invited conference

International Conference "Students for Students", Cluj-Napoca, Romania, 2023

76. Old dogs, old tricks, new glasses: new chemistry with cobalamin and redox agents

36th Conference of the Romanian chemical society, October 2022, Calimanesti-Caciulata, Romania

75. Virusurile și vaccinarea

Universitatea vârstei a treia – U3a, UBB and the Mayory of the city of Cluj-Napoca, Romania, 2020

74. Sistemul imunitar și virusurile

Ziua Porților Deschise – Facultate ade Chimie și Inginerie Chimică, Cluj-Napoca, Romania, 2021

73. Metalele din noi

Studium Generale UBB, Cluj-Napoca, 2021

72. Structura materiei (vii)

Studium Generale UBB, Cluj-Napoca, 2020

71. Minoritatea cercetătorilor

The 11th Rationalist Conference of the Romanian Secular-Humanist Association, 2022, Alba-iulia, Romania, September 2022

70. Old dogs, old tricks, new glasses: hydrogen peroxide, cobalamin and others

EUROBIC 16 - The European Biological Inorganic Chemistry Conference, Grenoble, France, August 2022

69. Spectral simulations for bioinorganic centers: in the eye of the beholder – invited conference

18th Central European Symposium on Theoretical Chemistry, Balatonszárszó, Hungary, September 2022

68. Linkage isomerism in bioinorganic chemistry

12th European Conference on Computational and Theoretical Chemistry, Perugia, Italy, September 2019

67. Redox reactivity in globins: modulation by covalent and non-covalent modifications with biomedical relevance

Annual International Conference of the Romanian Society of Biochemistry and Molecular Biology, Iasi, Romania, September 2019

66. Linkage isomerism in bioinorganic chemistry

Molecular modeling in chemistry and biochemistry MOLMOD 2018, Cluj-Napoca, October 2018

65. Antioxidant and prooxidant reactivity in natural compounds: mechanisms, interactions with (metallo)proteins, and practical applications

35th conference of the Romanian chemical society, October 2018, Calimanesti-Caciulata, Romania

64. Substitute de sânge: cât de artificiali putem fi?

Atelierul De Filosofie Si Antropologie Medicală, 2016, Cluj-Napoca, Romania

63. Fără număr: traficareea informației și democrația biochimică

Atelierul De Filosofie Si Antropologie Medicală, 2015, Cluj-Napoca, Romania

62. Hemoglobin versus hemerythrin - based blood substitutes

Bio-Nano-Math-Chem 2017, June 2017, Cluj-Napoca, Romania

61. Evaluarea academică: între numerologie și substanță

Educația și cercetarea românească - Starea prezentă și perspectiva, March 2017, Bucharest, Romania

60. Metal-induced protein and DNA radical chemistry: the cases of bleomycin and haptoglobin

XXI conference of the Serbian crystallographic society, June 2017, Vrsac, Serbia

59. Hemoglobin versus hemerythrin - based blood substitutes: data from top-up and hemorrhagic shock models

Nanomateriale și dispozitive inovative cu aplicații biomedicale – symposium, November 2016, Cluj-Napoca, Romania

58. Sulfite reductase and nitrite reductase chemistry: similarities in linkage and redox isomerism

34th conference of the Romanian chemical society, October 2016, Calimanesti-Caciulata, Romania

57. Hemoglobin versus hemerythrin - based blood substitutes: data from top-up and hemorrhagic shock models

7th International Conference “Biomaterials, Tissue Engineering & Medical Devices” BIOMMEDD’2016, September 2016, Constanta, Romania

56. Shedding Blood Over Magnets – invited lecture

9th International Physics Conference of the Balkan Physical Union – BPU9 , August 2015 , Istanbul University, Istanbul , Turkey

55. Hemoglobin/hemerythrin based oxygen carriers – invited lecture

Molecular Biology – Current Aspects and Prospects, November 2015, Cluj-Napoca, Romania

54. Probing supramolecular interactions in oxygen-carrying proteins

Nanoscience in Chemistry, Physics, Biology and Mathematics, 2015, Cluj-Napoca, Romania

53. Manifestul de la Leiden: un simptom și un îndemn – invited lecture

Conferința Națională ”Acces la literatură științifică: Rolul structurilor informaționale pentru dezvoltarea cunoașterii, inovare și sisteme de inovare” – Ediția a III-a –October 2015, Timisoara, Romania

52. (Per)oxidation cascades induced by globins and related proteins: towards analytical tools of possible use for antiparasitic drugs

COST Action CM1307 Meeting, October 2015, Belgrade, Serbia,

51. (Per)oxidation cascades induced by metallo proteins: analytical uses, mechanistic insights

COST Action CM1201 Meeting, September 2015, Lodz, Poland,

50. High-valent reactivity in superoxide reductase, bleomycin and porphyrazines: similarities and differences

Metal Elements in Environment, Medicine and Biology, 11th edn., November 2011, Cluj-Napoca, Romania

49. Something old, something new, something borrowed, something blue: some bonding considerations based on DFT results

Molecular modeling in chemistry and biochemistry MOLMOD, November 2011, Cluj-Napoca, Romania

48. Modeling transition-metal biological centers

Molecular modeling in chemistry and biochemistry MOLMOD, November 2011, Cluj-Napoca, Romania

47. Substitute de sânge: stadiul actual

Filiala Timișoara a Academiei Române, ianuarie 2015

46. Hemoglobin/hemerythrin-based oxygen carriers (HBOC): radical view, conservative solutions

33rd CONFERENCE OF THE ROMANIAN CHEMICAL SOCIETY, September 2014, Calimanesti-Caciulata, Romania

45. Exploring unusual ligands at biological metal centers: from molecular nitrogen to peroxochlorate

Molecular modeling in chemistry and biochemistry MOLMOD, November 2014, Cluj-Napoca, Romania

44. ***

Serile Fundatiei Miscarea Populara, November 2013, Cluj-Napoca, Romania

43. Lead, follow, or get out of the way

Serile de leadership, Cluj-Napoca, Fundatia Leaders Romania, 2014

42. Hemoglobin/hemerythrin-based blood substitutes (HBOC)

YES (Young European Scientists) Meeting, University of Porto, September 2014, invited lecture

41. Shallow potential surfaces in small molecule activation by biological metal centers: from multiple reactivity to supramolecular association

Summer School on Supramolecular Chemistry, University of Belgrade, August 2014, invited lecture

40. I remember when oxygen used to be safe – accounts of a tormented oxygen molecule

Oxygen-binding and Sensing Proteins Conference (O2BiP), 6-10 July 2014, Sheffield, UK, invited lecture

39. ***

Fostering Innovation at Cluj Napoca, USAMV Cluj-Napoca, March 2014

38. Developing the artificial blood

Healthcare, Education And Research Talks, Iuliu Hatieganu University of Medicine and Pharmacy Cluj-Napoca, 2014

37. Regele Soare, vile Moldovei si sangele artificial: creatie sau simple consecinte?

TEDx Iasi, 2014, invited lecture

36. Aplicații ale tehnicilor stopped-flow și RES asupra unor specii chimice cu durata de viață limitată

Zilele Academice Clujene, Cluj-Napoca 2014

35. Activation of oxides and oxyanions of halides and sulfur at biologically-relevant iron centers

European Colloquium on Inorganic Reaction Mechanisms, Debrecen, June 2014

34. Weak interactions dictating secondary and tertiary structure in proteins

1st Symposium on Weak Molecular Interactions, March 2013, Pecs, Hungary

33. Shedding blood over magnets. Since 1456TM

COST Action CM1201 / 1st Meeting, Bologna, Italy, May 2013

32. Fast reactions of nitrite with globins: linkage isomerism and redox processes

European Colloquium on Inorganic Reaction Mechanisms, Debrecen, July 2013

31. Biological metal centers and supramolecular interactions: some methodology considerations

Summer School on Supramolecular Chemistry, University of Belgrade, August 2013, invited lecture

30. Hai sa te ReFaci

TEDxCluj, November 2013, invited lecture

29. Biocatalysis

SOE (“Stability Pact for South-Eastern Europe, sponsored by Germany”) Workshop „From Molecules to Functionalised Materials“, October 2013, Cluj-Napoca, Romania

28. O-X (X=O, N, S, halide) bond activation catalysed by transition metal centers: suicidal vs. productive pathways

COST Action CM1201 / 1st WG1 Meeting, Newcastle upon Tyne, UK, October 2013

27. Shedding blood over magnets: some applications on unusual valence states in biological metal centers

EUCMOS 31, August 2012, Cluj-Napoca, Romania – invited lecture

26. The silk, the spin, and the tunnel to China

Advanced Structure-Property Correlation, the Gate for Special Properties at Molecular and Nano Level. Bucharest, Romania, September 2012

25. Biological high-valent metal states: electromerism within them, and en route to their formation

EUROBIC 11 – European Congress on Biological Inorganic Chemistry, Granada, Spain, 2012

24. Molecular modeling of supramolecular interactions in protein structure

32nd CONFERENCE OF THE ROMANIAN CHEMICAL SOCIETY, 2012, Calimanesti-Caciulata, Romania

23. Molecular modeling of supramolecular interactions in protein structure

XIX CONFERENCE OF THE SERBIAN CRYSTALLOGRAPHIC SOCIETY, 2012, Bela Crkva, Serbia

22. Molecular modeling of supramolecular interactions in protein structure

BiomMedD 2012 – 5th Conference on biomaterials, tissue engineering and biomedical devices, 2012, Constanta, Romania

21. Superoxide reductase: a debated mechanism, comparison with superoxide dismutases

Metal Elements in Environment, Medicine and Biology 2010, Timisoara, Romania

20. Walking the plank in small molecule activation by metalloenzymes and related centers

Molecular modeling in chemistry and biochemistry MOLMOD 2010, Cluj-Napoca, May 2010

19. Unusual metal oxidation states in metalloproteins and related complexes: from degenerate orbitals to blood substitutes

7th International Conference of the Chemical Societies of the South-Eastern European Countries – Bucharest, September 2010

18. Walking the plank in small molecule activation by metalloenzymes and related centers

Humboldt Conference on non-covalent interactions, Vrsac, Serbia, 2009

17. Fe(I) and Fe(0) states in biologically-relevant systems
Molecular modeling in chemistry and biochemistry MOLMOD 2009, Cluj-Napoca, May 2009
16. Fe(I) states in biologically-relevant systems
The 30th National Chemistry Conference, Calimanesti-Caciulata, Romania, October 2008
15. Bioinorganic spectroscopy
SOE Workshop "From Molecules to Functionalised Materials" – Cluj-Napoca, October 2009
14. The redox reactivity of globins: the chicken and egg paradox
Metal Elements in Environment, Medicine and Biology, 8th edn., Timisoara, Romania, 2008
13. Unusual metal oxidation states in metalloproteins and related complexes: from degenerate orbitals to apoptosis
Metal Elements in Environment, Medicine and Biology, 9th edn., Cluj-Napoca, Romania, 2009
12. Sang et orbitales
Le Cinquième Colloque Franco – Roumain De Chimie Appliquée (COFrRoCA), Bacau, Romania, 2008
11. The Sarajevo train: stress and unusual valence
Exploratory workshop in Chemistry with the Scientific Romanian Diaspora, Bucharest, Romania, 2008
10. The reactivity of myoglobin towards sulfoxylate
The Fifth International Conference on Porphyrins and Phthalocyanines (ICPP5), Moscow, 2008
9. Drawing blood over computational arguments: the ferryl case
From Molecular Informatics to Bioinformatics – an International Symposium, Budapest, Hungary, 2008
8. Nitrite linkage isomerism in hemoproteins and related complexes: experimental and theoretical evidence
37th Inorganic Reaction Mechanisms Group Meeting, 37IRMG, Barcelona, Spain, 2008
7. Nitrite linkage isomerism in hemoproteins and related complexes: experimental and theoretical evidence
Molecular and supramolecular chemistry of multimetallic systems, Bucharest, Romania, 2007
6. Artificial blood: how and why do we make it?
Workshop in Material Science and Engineering, Cluj-Napoca, Romania, 2007
5. Nitrite linkage isomerism in hemoproteins and related complexes – a case for mechanistic promiscuity
From Molecular Informatics to Bioinformatics – an International Symposium, Budapest, Hungary, 2007
4. Nitrite linkage isomerism in hemoproteins and related complexes: experimental and theoretical evidence
Molecular Modelling in Chemistry and Biochemistry – MolMod, Arcalia, Romania, 2007
3. Ferryl heme protonation gates reactivity in hemoproteins
The 29th National Chemistry Conference, Calimanesti-Caciulata, Romania, October 2006
2. Transient species involved in catalytic dioxygen/peroxide activation by hemoproteins: possible involvement of protonated Compound I species
Dalton Discussions 8, Metals: Centers of Biological Activity, Nottingham, UK, 2005
1. Ferryl heme protonation gates reactivity in hemoproteins
Young Researchers Forum, 8th European Biological Chemistry Conference, EUROBIC 8, Aveiro, Portugal, 2006

Grants:

1. Nitro/nitrito isomerism in biocatalytically relevant metal complexes, CEEX-ET Director 2006-2008
2. Bacterial Proteins Containing Novel Iron Sites, NIH, SUA team member 2000-2004
3. Genomics and Blood Substitutes for 21st Century Europe, European Union 6th Framework Programme, Marea Britanie team member 2004-2007
4. Metalloprotein-based blood substitutes – PNII Idei Director 2007-2010
5. Superoxide dismutases and superoxide reductasee – Academia Romana Director 2007-2008
6. Center for molecular modeling and computational quantum chemistry - PNII Capacitati Partner 2007-2010
7. Biologically relevant metal complexes of nitrite - Rusia + Acad. Romana Co-director 2008-2009
8. Organometallic reagents and intermediates in stereocontrolled synthesis with derivatives of biological relevance - CEEX team member 2006-2008
9. Bio-medical applications of metal compounds – metallomics – PCCE Director of one of 6 teams within the project 2010-2013

10. Nanomanipulation of biomolecules using atomic force microscopy PCCE Director of one of 6 teams within the project 2010-2013
11. Redox activation of small molecules by metal centers of biological relevance – PCE Director 2013-2016
12. Molecular Modeling in Chemistry and Biochemistry –conferinta internationale Director 2011
13. New generations of biomaterials for cosmetic dentistry – PCCA (“Parteneriate”) team member 2012-2015
14. Composite biomaterials based on new systems of fluorinated monomers reinforced with nano and micro bioactive fillers with residual anticariogenic properties and superior adhesion to hard dental tissues – PCCA Director 2008-2011
15. New advanced biomaterials, intelligent giomer type with various applications in dentistry – PCCA -team member - 2012-2015
16. Complex biomaterials with an advanced degree of specificity used in endodontic treatments – PCCA - team member - 2008-2011
17. Elaboration of the national strategy in the field of research, technological development and innovation for the period 2014-2020, - membru - 2013-2014
18. CNFIS-FDI-2017- 0539 Complex support of internationalization at Babeş-Bolyai University– 2017 – Project Manager, 400000 RON
19. Country delegate for Romania, COST Action CM1201 - Biomimetic Radical Chemistry, European Cooperation in Science and Technology
20. Country delegate for România, COST Action CM1307 - Targeted chemotherapy towards diseases caused by endoparasites , European Cooperation in Science and Technology
21. Supporting research excellence at Babes-Bolyai University on directions related to study programs – SCPS-UBB 2020, FDI – CNFIS, director
22. PN-III-P1-1.1-PD-2021-0286 2022 - 2024 Preventing the oxidative side effects of nonsteroidal anti-inflammatory drugs by peg-linking them with natural antioxidants – mentor for postdoctoral grant
23. PN-III-P1-1.1-PD-2021-0279 2022 - 2024 Heme edge reactivity towards sulfur- and oxygen-based stress agents – mentor for postdoctoral grant
24. PN-III-P4-ID-PCCF-2016-0142 2018 - 2022 - New targeted optical imaging nanoprobe for near-infrared (nir) real-time (rt)image-guided surgery of ovarian cancer, team member
25. CNFIS-FDI-2018-0447 2018 - Supporting excellent research at Universitatea Babeş-Bolyai, team member
26. National institutional development project - financing excellence in RDI Strategic infrastructure at Babes-Bolyai University in the context of developing new and emerging technologies 2018-2020, 33PFE/2018, team member
27. National institutional development project - Academic Research Network of Excellence STAR-UBB – STAR-UBB-N, 21PFE/30.12.2022, 2022-2024, team member
28. CNFIS-FDI-2019-0351 - Supporting research excellence at Babes-Bolyai University at its centenary 1919-2019, team member
29. CNFIS-FDI-2021-0061- Supporting institutional capacity for research at Babeş-Bolyai University (UBB) through multi- and transdisciplinary research projects/themes within the UBB Academic Schools of Science, team member
30. CNFIS-FDI-2022-0179 - Promoting and supporting Open Science practices in research excellence at Universitatea Babeş-Bolyai din Cluj-Napoca, team member
31. CNFIS-FDI-2023-F-0214 - Strengthening Open Science practices in scientific research excellence at Universitatea Babeş-Bolyai din Cluj-Napoca, team member
32. PNRR-III-C9-2023-I8-CF76 Terapii anti-tumorale tintite cu conjugati multifunctionali de platina(IV) (T3-Pt) / Targeted Tumor Therapy with multifunctional platinum(IV)-drug conjugates (T3-Pt), 2024-2026, team leader

Awards:

From scientific bodies:

The Maria Brezeanu Award for Excellence in Inorganic Chemistry, of the Romanian International Chapter of the American Chemical Society, 2023

Top 2% scientists cf. Ioannidis JPA, Boyack KW, Baas J (2020) Updated science-wide author databases of standardized citation indicators. PLoS Biol 18(10): e3000918. <https://doi.org/10.1371/journal.pbio.3000918>:

2023 all career all fields; all career field: Inorganic & Nuclear Chemistry

2023 single-year, field: Inorganic & Nuclear Chemistry
2022 all career all fields; all career field: Inorganic & Nuclear Chemistry
2021 all career, all fields
2021 all career, field: Inorganic & Nuclear Chemistry
2021 single-year, field: Inorganic & Nuclear Chemistry
2020 all career, all fields
2020 all career, field: Inorganic & Nuclear Chemistry
2019 all career, all fields
2019 all career, field: Inorganic & Nuclear Chemistry
Award for Excellence in Scientific Research at Universitatea Babeş-Bolyai, 2021, 2022, 2023
Excellence Award for Institutional Development at Universitatea Babeş-Bolyai, 2016, 2018
Award for Scientific Research at Universitatea Babeş-Bolyai, 2014
Scientific Research Award at Universitatea Babeş-Bolyai, 2010
Included in Publons' 2016 Sentinels of Science report for reviewer activity in chemistry, top 100 (<https://publons.com/community/sentinels-of-science-recipients-2016/>)
Annual Costin D Nenitescu prize of the Romanian Academy, 2013
1st prize, 2004 Procter & Gamble Poster Competition (University of Georgia, 2004)
Honorable mention, 2003 Procter & Gamble Poster Competition (University of Georgia, 2003)
Prizes (1st, 2nd, 3rd, honorable mentions), National Chemistry, Physics and/or Mathematics contests ("Olympics"), Interdisciplinary contest (science-humanities) – Romania, 1988-1992

Other awards:

Candidate for elections - (local council –commune of Floresti, national parliament, European parliament – 2016-2019, Romania)
"Senior al cetatii", on behalf of the Cluj-Napoca Municipality, 2014
"Onoare pentru Cluj" - annual prize for research awarded by the county of Cluj, December 2013
"Pro Familia" annual prize for research, December 1st 2013, Bucharest
"Pretuieste Viata" trophy, National (government-funded) Romanian Television - TVR1, Bucharest, December 2013
"Oameni care misca Romania in directii bune" – Gala Foreign Policy Romania, 2014
Gala Superlativelor VIP 2013 – premiul "Stiinta si viata"
Other awards (non-chemistry related, 1987-1998) - National/local contests of chess, history, geography, classical music, literature