

PERSONAL INFORMATION

Irina Zarafu



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 Brain Map ID: U-1700-034V-7325

Sex F | Date of birth 27/10/1968 | Nationality Romanian

WORK EXPERIENCE

2008-present

Associated professor

University of Bucharest, Panduri Street, No. 90-92, Bucharest, www.unibuc.ro
 Teaching and research
 Faculty of Chemistry, Department of Inorganic, Organic Chemistry, Biochemistry and Catalysis

2003-2008

Lecturer

University of Bucharest, Panduri Street, No. 90-92, Bucharest, www.unibuc.ro
 Teaching and research
 Faculty of Chemistry, Department of Organic Chemistry and Biochemistry

Principal subjects skills covered

Laboratory experience in the following areas:
 -drug synthesis (isoniazid derivatives, carprofen, sulfonamides, antipyrine)
 -nucleoside synthesis
 -synthesis of biologically active heterocyclic compounds (oxadiazoles, thiadiazoles, triazoles, dithiazolium salts, etc.)
 -chemistry of thioamides and multifunctional compounds
 -chemistry of graphenes, nanomaterials, glycosides
 -food chemistry
 -obtention and isolation of volatile oils
 -methods and techniques of physicochemical analysis in organic chemistry-TLS, IR, UV-VIS, NMR, HR-SM;
 methods and techniques of extraction of natural compounds.

1995-2003

Junior assistant, Professor assistant

University of Bucharest, Panduri Street, No. 90-92, Bucharest, www.unibuc.ro
 Teaching and research
 Faculty of Chemistry, Department of Organic Chemistry and Biochemistry

EDUCATION AND TRAINING

1996-2004

Doctor of Chemistry

EQF Level 8

Name and type of organisation
 Principal subjects skills covered

University of Bucharest, Faculty of Chemistry, Department of Organic Chemistry and Biochemistry
 Thesis Title: "Syntheses of new pentaatomic heterocyclic compounds with potential biological activity, using dithiazolium salts as synthons"

1987-1992

Bachelor of Science

EQF Level 7

Name and type of organisation
 Principal subjects skills covered

University of Bucharest, Faculty of Chemistry, Department of Organic Chemistry and Biochemistry
 Thesis Title: "Diels-Alder reaction-use of dienes and dienophiles containing heteroatoms"

PERSONAL SKILLS

Mother tongue(s)
 Other language(s)

Romanian

UNDERSTANDING

SPEAKING

WRITING

Listening

Reading

Spoken interaction Spoken production

English	B2	B2	B2	B2	B2
French	C2	C2	C2	C2	C2
Russian	A1	A1	A1	A1	A1

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

EXPERTISE FIELD

- Organic Chemistry
- Biochemistry
- Organic Food

EXTRACURRICULAR ACTIVITIES

Teaching activity: over 15 courses taught; responsible for pedagogical practice(1995-2004), responsible for technological practice (2004-2009); responsible for the first training in medicine and pharmacy (2002-2017).

Organizational skills and abilities:

President of the 1st Bucharest Branch-Romanian Chemical Society (since 2010).

Member of the organizing committee and (committee chairman) of the evaluation committees of the papers of the symposium "Chemistry - friend or enemy?"-2007-2025.

Member of the "Societe des Docteurs et Amis du CERMN"-University of Caen (2013)

Member of the Catalysis Society of Romania (from 2009 to present)

Member of the European Federation of Biotechnology-EFB-(from 2020 to present)

Member of the organizing team of the international Franco-Romanian colloquium -COFrRoCA - 2006, 2008.

Chairman of the committee in the special inspections for grade I and in the baccalaureate committee

Member of the committees of the competitions for the appointment of pre-university teachers (2005-2008).

Member of the Bachelor's and Dissertation Committees from 2005 to present.

Member of the evaluation committees for papers at the Student Communication Session (2006-2013).

Member of the Evaluation and Quality Assurance Committee of the University of Bucharest (CEAC-UB) from May 2015-present.

Member of the Monitoring and Analysis Committee for the Use of Resources from April 2016-2019.

Member of the scientific committee of the International Symposium on Scientific Communications "Dr. Mioara Mincu" – Traditional and modern in medicine and pharmacy - Editions I, II, III, IV, V (2015-2019).

Editorial activity: reviewer for various publications, Chemistry Review, AiChimie Review

Activities -CIVIS

within the CIVIS Hub on Health - Domain 18 Pharmacy, Pharmacology, Nutrition, Nanosciences and Nanoformulations-presented the conference: „*Flavors in Food Chemistry. Natural and Synthetic Compounds*„, (Webinar : Food chemistry, nutrition and health, circular economy, and future food sustainability, march 2022, coordinator Univ. of Tesalonik-Greece) and the conference „*Retrosynthesis of pharmaceutical compounds with antimicrobial activity*„, (Webinar: Pharmacy, Pharmacology, Nutrition, Nanosciences and Nanoformulations- Current Progress in the Development of Novel Antimicrobials-juin 2022- coordinator University of Bucharest).

In the Service-learning project June 2023 (organized within the Erasmus+ project SL-ICP-coordinator Univ. Madrid)-presented together with other colleagues from the University of Madrid, the work entitled *Renaturalization of an area affected by a forest fire*.

MENTOR OF STUDENTS

- Bachelor- 15 students (last 5 years)
- Master of Science-10 students (last 5 years)

ISI PUBLICATIONS

1. M. Vlad, D.C.Nuță, M.T. Căproiu, F. Dumitrașcu, E. Kapronczai, G. R. Mük, S. Avram, A. G. Niculescu, I. Zarafu, V.A. Ciorobescu, A.M. Brezeanu, C. Limban, Synthesis and characterization of new derivatives of (EZ)-N'-benzylidene-(2RS)-2-(6-chloro-9H-carbazol-2-yl)propanohydrazide as potential tuberculostatic agents, Antibiotics, **2024**, 13 (2), 212; <https://doi.org/10.3390/antibiotics13030212>

2. R. Roman, L. Pintilie, D. C. Nuta, M. T. Caproiu, F. Dumitrascu, I. Zarafu, P. Ionita, I.- C. Marinas, L. G. Marutescu, E. Kapronczai, S. A.Ardelean, C. Limban, Contribution to the synthesis, characterization, separation and quantification of new N-acyl thiourea derivatives with antimicrobial and antioxidant potential, *Pharmaceutics* **2023**, 15, 2501. <https://doi.org/10.3390/pharmaceutics15102501>. ISI-5.40
3. F. Dumitrascu, Mino R. Caira, S. Avram, C. Buiu, A. M. Udrea, I. M. Vlad, I. Zarafu, P. Ionita, D. C. Nuta, M. Popa, M. C. Chifiriuc, C. Limban, Repurposing anti-inflammatory drugs for fighting bacterial biofilms. New carbazole derivatives based on the NSAID carprofen: synthesis, insilico and in vitro biological evaluation, *Frontiers in Cellular and Infection Microbiology* 2023 (Front. Cell. Infect. Microbiol. 13:1181516.) doi: 10.3389/fcimb.2023.1181516 ISI-5.70
4. C. D. Badiceanu, C. Sogor, D. C. Nuta, S. Avram, C. Draghici, A.-M. Udrea, I. Zarafu, C. Chirita, M. V. Hovanet, C. Limban, "N-Substituted (hexahydro)-1H-isoindole-1,3(2H)-dione deriva-tives: new insights into synthesis and characterization", *Processes* **2023**, 11,1616. <https://doi.org/10.3390/pr11061616> ISI-3.352
5. R. Roman, L. Pintilie, M. T. C?proiu, F. Dumitrascu, D. C. Nuta, I. Zarafu, P. Ionita, M.C. Chifiriuc, C. Chirita, A. Morosan, M. Popa, C.Bleotu, C. Limban, "The synthesis and in vitro evaluation of antimicrobial and antioxidant activity for a series of new N-acyl thiourea derivatives", *Antibiotics*, **2023**, 12, 807, <https://doi.org/10.3390/antibiotics12050807>, ISI 5.222
6. I. M. Vlad, D. C. Nuta, R. V. Ancuceanu, T. Costea, M. Coanda, M. Popa, L. G. Marutescu, I. Zarafu, P. Ionita, C. E. Dinu Pirvu, C. Bleotu, M.-C. Chifiriuc, C. Limban, „Insights into the microbicidal, antibiofilm, antioxidant and toxicity profile of new O-aryl-carbamoyl-oxymino-fluorene derivatives", (*International Journal Of Molecular Sciences*), *Int. J. Mol. Sci.* **2023**, 24, 7020. <https://doi.org/10.3390/ijms24087020>, pg 1-16, ISI-6.21
7. A. Bujor, A. Hanganu, V. Tecuceanu, A. M. Madalan, L. Marutescu, M. Popa, C.M. Chifiriuc, I. Zarafu, P. Ionita, Biological evaluation and structural analysis of some amino-diphenylamine derivatives, *Antioxidants* **2023**, 12(3), 713; <https://doi.org/10.3390/antiox12030713>-ISI-7,675
8. A. T. (Telehoiu) Bordei, C. Limban, D. C. Nuta, I. Zarafu, E. Denes, L. Marutescu, M. C. Chifiriuc, M. Popa, C. Arama, "Recent advances in the study of derivatives of (EZ)-N'-benzylidene-(2RS)-2-(6-chloro-9H-carbazol-2-yl)propanohydrazide", *Farmacia*, vol 70, 4, **2022**, pg. 589-595. DOI <https://doi.org/10.31925/farmacia.2022.4.3> JCR-FI (2019)-1.61
9. I. Zarafu, C. Limban, C. Radulescu, I. D. Dulama, D. C. Nuta, C. Chirita, M. C. Chifiriuc, C. D. Badiceanu, M. Popa, C. Bleotu, L. D. Dragu, R. M. Stirbescu, I. A. Bucurica, S. G. Stanescu, P. Ionita, "Novel structures of functionalized graphene oxide with hydrazide: characterization and bioevaluation of antimicrobial and cytocompatibility features", *Coatings* **2022**, 12(1), 45 (19pgs); <https://doi.org/10.3390/coatings12010045>, -ISI-2.881, JCR - Q2 .
10. I. M. Vlad, D. C. Nuță, R. V. Ancuceanu, M. T. Caproiu, F. Dumitrascu, I. C. Marinas, M. C. Chifiriuc, L. G. Măruțescu, I. Zarafu, I. R. Papacoccea, B. Ș. Vasile, A. I. Nicoară, C.-I. Ilie, A. Ficai and C. Limban, New O-Aryl-CarbamoylOxymino-Fluorene Derivatives with MI-Crobicidal and Antibiofilm Activity Enhanced by Combi-nation with Iron Oxide Nanoparticles,*Molecules* **2021**, 26, 3002.(19 pg), <https://doi.org/10.3390/molecules26103002> FI (2021)-3.267

11. D. C. Nuță, C. Limban, C. Chiriță, M. C. Chifiriuc, T. Costea, P. Ioniță, I. Nicolau and I. Zaru, Contribution of Essential Oils to the Fight against Microbial Biofilms- A Review, *Processes* **2021**, 9(3), 537; doi:10.3390/pr9030537. IF (2021)-2.753
12. I. Zaru, Ali Abed Jebur Al Taweel, C. Limban, M. Popa, L. Măruțescu, M. C. Chifiriuc, G. Grădișteanu Pircalabioru, D. Culiță, C. Ghica, P. Ionita, Aminopropyl-silica functionalized with halogen-reactive compounds for antimicrobial applications, *Materials Chemistry and Physics*, 241122353, **2020**. FI (2019)-3.41
13. I. Zaru, L. Matei, C. Bleotu, P. Ionita, A. Tatibouët, A. Paun, I. Nicolau, A. Hanganu, C. Limban, D. C. Nuta, R. M. Nemes, C. C. Diaconu, C. Radulescu, "Synthesis, Characterization, and Biologic Activity of New Acyl Hydrazides and 1,3,4-Oxadiazole Derivatives", *Molecules*, vol 25, 3308, **2020**; <https://doi.org/10.3390/molecules25143308> (27pg) FI (2019)-3.27
14. S. Avramescu, S. Petrescu, D. C. Culita, M. Tudose, A. Hanganu, I. Zaru, P. Ionita, „A mixed organic functionalized silica-graphene oxide as advanced material for pollutant removal”, *J Nanopart Res*, (22), 194, **2020**, <https://doi.org/10.1007/s11051-020-04935-2>. FI(2020) -2.13
15. C. Limban, D. C. Nuta, A.V. Missir, R. Roman, M. T. Caproiu, F. Dumitrascu, L. Pintilie, A. Stefaniu, M.C. Chifiriuc, M. Popa, I. Zaru, A.L. Arsene, C.E. Dinu Pirvu, D.-I. Udeanu, I.-R. Papacoea, „Synthesis and characterization of new fluoro/trifluoromethyl-substituted acylthiourea derivatives with promising activity against planktonic and biofilm-embedded microbial cells”, *Processes*, 8, 503, **2020**; doi:10.3390/pr8050503.(23pg)- FI (2020)-2.76
16. I. Zaru, B. Pătrașcu, L. Măruțescu, C. Bleotu, C. Limban, A. Tatibouët, M.-C. Chifiriuc, D.-C. Nuță, P. Ioniță, „Bioevaluation of the antimicrobial and anti-proliferative potential of some derivatives of 3,5-dinitro-4-methoxyamino-benzoic acid”, *Farmacia*, vol 68, 1, **2020**, pg. 8-14. DOI: <https://doi.org/10.31925/farmacia.2020.1.2> FI (2019)-1.61
17. Alexandra T. Bordei Telehoiu, Diana C. Nuță, Miron T. Caproiu, Florea Dumitrascu, Irina Zaru, Petre Ioniță, Carmellina D. Badiceanu, Speranța Avram, Mariana C. Chifiriuc, Coralia Bleotu and Carmen Limban, „Design, synthesis and in vitro characterization of novel antimicrobial agents based on 6-chloro-9H-carbazol derivatives and 1,3,4-oxadiazole Scaffolds”, *Molecules*, vol 25 (2), 266, **2020**; <https://doi.org/10.3390/molecules25020266> (18 pg), FI (2019)-3.27
18. Bordei A., Nuță D., Mușat G., Missir A., Căproiu M., Dumitrașcu F., Zaru I., Ioniță P., Bădiceanu C., Limban C., Ozon E. Microwave assisted synthesis and spectroscopic characterization of some novel Schiff bases of carprofen hydrazide, *Farmacia*, vol 67, 2019, pg. 955-962. DOI:0.31925/farmacia.**2019**.6.4 -FI (2019)-1.61
19. B. Claude, G. Cutolo, A. Farhat, I. Zaru, P. Ionita, M. Schuler, A. Tatibouët, P. Morin, R. Nehmé, Capillary electrophoresis with dual detection UV/C4D for monitoring myrosinase-mediated hydrolysis of thiol glucosinolate designed for gold nanoparticle conjugation, *Analytica Chimica Acta*, Vol 1085, 28 November **2019**, doi.org/10.1016/j.aca.2019.07.043, pg 117-125.FI(2019)-5.98
20. I. Zaru, M. Badea, G. Ionita, C. Chifiriuc, C. Bleotu, M. Popa, P. Ionita, A. Tatibouët, R. Olar, Thermal, spectral and biological characterisation of copper(II) complexes with isoniazid-based hydrazones, *Journal of Thermal Analysis and Calorimetry*, vol 136, **2019**, DOI 10.1007/s10973-018-7853-z, pg1977-1987.FI-2.73

NON- ISI 20
PUBLICATIONS
PATENTS 1
BOOKS

9 Published books

1. IRINA ZARAFU, I. NICOLAU, P. IONITA, 2019, "Natural and synthetic drugs. Practical work notebook", Bucharest University Publishing House, ISBN 978-606-16-1061-7, 139 pages.
2. C.M.Zălaru, P.Ioniță, I. ZARAFU, M. Marinescu, I.Nicolau, L. Ruță, 2016, "Organic chemistry-Biologically active compounds-Practical work", University of Bucharest Publishing House, ISBN 978-606-16-0742-6.
3. IRINA ZARAFU, PETRE IONITA, 2015, "Retrosynthesis, synthesis and semisynthesis of bioactive compounds", Bucharest University Publishing House, ISBN 978-606-16-0606-1.
4. MARIA MARINESCU and IRINA ZARAFU, 2011, "Organic Chemistry through Exercises and Problems (Part II)", University of Bucharest Publishing House.
5. IRINA ZARAFU "Didactics of the Chemistry specialty", 2013, - course developed within the training program included in the project POSDRU 87/1.3/S/63709: Quality, innovation, communication in the system of continuous training of teachers in higher education".
6. IRINA ZARAFU, LUCIA IVAN, 2008, "Reagents and syntheses in modern organic chemistry", University of Bucharest Publishing House, ISBN 978-973-737-483-7.
7. IRINA ZARAFU, LUCIA IVAN, 2008, "Travaux pratiques de chimie organique" - Published with the support of the Francophone University Agency, University of Bucharest Publishing House, ISBN 978-973-737-433-2.
8. IRINA ZARAFU, LUCIA IVAN, 2003, "Fine organic syntheses", University of Bucharest Publishing House, ISBN 973-575-733-8.
9. MARIA MARINESCU and IRINA ZARAFU, 2009, "Organic Chemistry through Exercises and Problems", University of Bucharest Publishing House, ISBN 978-973-737-636-7.

PROJECTS

Institutional projects

2021-2022-CIVIS OpenLab-UB *The Traveling Laboratory* project Nr.612648-
Programme Call European Universities 2019 EAC-A03.

1 proiect UB- (2018-2020)

National Projects

4 projects

1 International projects