

**Europass
Curriculum Vitae**



Personal information

First name(s) / Surname(s) **Irina ZARAFU**
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 Nationality Romanian
 Date of birth 27.10.1968

Work experience

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| Dates | 1995-2003 |
| Occupation or position held | Assistant Professor |
| Main activities and responsibilities | Teaching activity(Organic Chemistry) ;Research in organic synthesis, |
| Name and address of employer | University of Bucharest, 90-92 Panduri Sos., Bucharest |
| Dates | 2003-2008 |
| Occupation or position held | Lecturer PhD |
| Main activities and responsibilities | Teaching activity(Organic Chemistry) ;Research in organic synthesis, |
| Name and address of employer | University of Bucharest, 90-92 Panduri Sos., Bucharest |
| Dates | 2008-present |
| Occupation or position held | Associate Professor |
| Main activities and responsibilities | Teaching activity(Organic Chemistry) ;Research in organic synthesis of the heterocyclic compounds |
| Name and address of employer | Department of Organic Chemistry, Biochemistry and Catalysis, Faculty of Chemistry, 90-92 Panduri Sos., Bucharest |

Education and training

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| Dates | 1996-2004 |
| Title of qualification awarded | PhD |
| Principal subjects/occupational skills covered | Chemistry |
| Name and type of organisation providing education and training | University of Bucharest |
| Dates | February-July 2001 |
| Principal subjects/occupational skills covered | Modern organic synthesis of nucleoside analogues directed against HIV replication. |
| Name and type of organisation providing education and training | University of Caen Basse-Normandie, Faculty of Pharmacy, Center for Drug Research and Studies of Normandy (CERMN) |
| Dates | March-July 2002 |
| Principal subjects/occupational skills covered | Synthesis of compounds with biological activity; Modern organic synthesis of nucleoside analogues directed against HIV replication; Physical chemistry methods used for characterization of substances : FTIR, RMN spectroscopy, Mass Spectrometry, GC-MS |
| Name and type of organisation providing education and training | University of Caen Basse-Normandie, Faculty of Pharmacy, Center for Drug Research and Studies of Normandy (CERMN) |
| Dates | August-October 2004 |

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| Principal subjects/occupational skills covered | Synthesis of compounds with biological activity; Modern organic synthesis of nucleoside analogues directed against HIV replication; Physical chemistry methods used for characterization of substances : FTIR, RMN spectroscopy, Mass Spectrometry, GC-MS |
| Name and type of organisation providing education and training | University of Caen Basse-Normandie, Faculty of Pharmacy, Center for Drug Research and Studies of Normandy (CERMN) |
| Dates | october 2006 |
| Principal subjects/occupational skills covered | Methods of analysis of biologically active compounds Methods of analysis used in food chemistry |
| Name and type of organisation providing education and training | University of Chisinau |
| Dates | March 2013, sept-2016, juin 2018, juin 2023 |
| Principal subjects/occupational skills covered | Synthesis of compounds with biological activity; Modern organic synthesis of glycosides. |
| Name and type of organisation providing education and training | University of Orleans-ICOA-France |
| Social skills and competences | <ul style="list-style-type: none"> o President of the Faculty union |
| Organisational skills and competences | <ul style="list-style-type: none"> o President of Branch 1 Bucharest-Romanian Chemical Society o Organization committee member of the Francophone International Colloquium "COFrRoCA-2008". |
| Technical skills and competences | Laboratory experience and main areas of research interests: <ul style="list-style-type: none"> -chemistry of tioamides, chemistry of heterocycle compounds; -organic and analytical skills - synthesis of drugs - synthesis of nucleosides -experience with spectro-chemical and physico-chemical analysis (IR, UV-VIS, NMR); -chromatographic techniques (TLC, RPTLC); |
| Additional information | <ul style="list-style-type: none"> • Diploma of Honor, for contribution to the promotion of chemistry in Romania, given by the Society of Chemistry in Romania (2009, 2011, 2015, 2019) • Petru Poni Medal <ul style="list-style-type: none"> o Member of Society of Catalysis in Romania o Member of Society of PhD's of CERMN o Member of European Federation of Biotechnology |

RESEARCH INTEREST

Synthesis and structure determination of new heterocyclic compounds with potential biological activity (anticancer and antimicrobial.)

Synthesis, purification and characterization new heterocyclic compounds, particularly *oxadiazoles*, *thiadiazoles*, *triazoles* and also other molecules biologically active with antibacterial and antioxidant properties. Synthesis and characterization of new heterocyclic compounds with NMR, MS, UV-Vis, IR spectra.

Modern organic synthesis applied to obtain heterocyclic compounds with S, N and O, as well as tioamidelor α , β -unsaturated. Study the structure-reactivity relationships (photochemical properties, thermal stability, coordination properties, biological activity, etc.).

Study of antiviral compounds (anti-HIV) and methods of analysis of biologically active compounds.

Extraction of volatile oils from plants and determining of the composition, antioxidant activity, biological properties, applications in medicine and cosmetics.

List of selected publications

1. C. D. Bădiceanu, C. Sogor, D. C. Nuță, S. Avram, C. Drăghici, A.-M. Udrea, **I. Zarafu**, C. Chiriță, M. V. Hovaneț, C. Limban, „*N-Substituted (hexahydro)-1H-isoindole-1,3(2H)-dione derivatives: new insights into synthesis and characterization*”, *Processes* **2023**, 11, 1616. <https://doi.org/10.3390/pr11061616> ISI-3.352
2. R. Roman, L. Pintilie, M. T. C?proiu, F. Dumitra?cu, 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
3. 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
4. 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

5. A. T. (Telehoiu) Bordei, C. Limban, D. C. Nu??, I. Zarafu, E. Denes, L. M?ru?escu, M. C. Chifiriuc, M. Popa, C. Aram?, "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
6. I. Zarafu, C. Limban, C. Radulescu, I. D. Dulama, D. C. Nu??, C. Chiri??, M. C. Chifiriuc, C. D. Badiceanu, M. Popa, C. Bleotu, L. D. Dragu, R. M. Stirbescu, I. A. Bucurica, S. G. St?nescu, P. Ioni??, "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 .
7. M. Marinescu, A. Bercea, I. Ionita, L.-O. Cinteza, I. Zarafu, C. Petcu, A. Matei, C. Constantinescu, "Synthesis, structural properties and nonlinear optical response of some aromatic thioamides in bulk vs. laser-processed films", *Research Square*, 2022, *BMC Chemistry*, <https://doi.org/10.21203/rs.3.rs-2128869/v1>
8. I. M. Vlad, D. C. Nu??, R. V. Ancuceanu, M. T. Caproiu, F. Dumitrascu, I. C. Marinas, M. C. Chifiriuc, L. G. M?ru?escu, I. Zarafu, I. R. Papacocea, B. ?. Vasile, A. I. Nicoar?, C.-I. Ilie, A. Ficai and C. Limban, New O-Aryl-Carbamoyl-Oxymino-Fluorene Derivatives with Microbicidal and Antibiofilm Activity Enhanced by Combination with Iron Oxide Nanoparticles*, *Molecules* 2021, 26, 3002.(19 pg), <https://doi.org/10.3390/molecules26103002> FI (2021)-4.412
9. D. C. Nu??, C. Limban, C. Chiri??, M. C. Chifiriuc, T. Costea, P. Ioni??, I. Nicolau and I. Zarafu, Contribution of Essential Oils to the Fight against Microbial Biofilms- A Review, *Processes* 2021, 9(3), 537 (19pgs); doi:10.3390/pr9030537. IF (2021)-2.85
10. I. Zarafu, Ali Abed Jebur Al Taweel, C. Limban, M. Popa, L. M?ru?escu, M. C. Chifiriuc, G. Gr?di?teanu Pircalabioru, D. Culi??, C. Ghica, P. Ionita, Aminopropyl-silica functionalized with halogen-reactive compounds for antimicrobial applications, *Materials Chemistry and Physics*, 241 122353, 2020. FI (2019)-4.10
11. I. Zarafu, 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)-4.412
12. M. Marinescu, L.-O. Cinteza, I. Zarafu, "Synthesis of some Heterocyclic Compounds with nonlinear Optical Properties", *Proceedings*, vol 57(1), 3, 2020; doi:10.3390/proceedings2020057003 (ISSN 2504-3900).
13. S. Avramescu, S. Petrescu, D. C. Culita, M. Tudose, A. Hanganu, I. Zarafu, 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) -2.26
14. 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. Zarafu, A.L. Arsene, C.E. Dinu Pirvu, D.-I. Udeanu, I.-R. Papacocea, „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)-2.85
15. I. Zarafu, B. P?tra?cu, L. M?ru?escu, C. Bleotu, C. Limban, A. Tatibouët, M.-C. Chifiriuc, D.-C. Nu??, P. Ioni??, „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
16. Alexandra T. Bordei Telehoiu, Diana C. Nu??, Miron T. Caproiu, Florea Dumitrascu, Irina Zarafu, Petre Ioni??, Carmellina D. Badiceanu, Speran?a 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)-4.412
17. Caciuc I.-L., Nu?? D.C., Limban C., Zarafu I., Cazacu D.-C., *Studiul aplica?iilor terapeutice ale glicanilor, Lucr?rile simpozionului interna?ional de comunic?ri ?tiin?ifice „Doctor Mioara Mincu,, V: 25-29 (2019). Ed. Funda?iei Umaniste „Dr. Mioara Mincu,, Bucure?ti 2019, ISBN 978-606-942220-2-1. pg.25-29.*
18. Bordei A., Nu?? D., Mu?at G., Missir A., C?proiu M., Dumitra?cu F., Zarafu I., Ioni?? P., B?diceanu 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. Bérengère Claude, Giuliano Cutolo, Amal Farhat, Irina Zarafu, Petre Ionita, Marie Schuler, Arnaud Tatibouët, Philippe Morin, ReineNehmé, 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)-6.558
20. Irina Zarafu, Rodica Olar, Mariana Carmen Chi?riuc, Coralia Bleotu, Petre Ionita, Mihaela Multescu, Gabriela Ionita, Gratiela Gradisteanu, Arnaud Tatibouët, Mihaela Badea, Synthesis, thermal, spectral, antimicrobial and cytotoxicity profile of the Schiff bases bearing pyrazolone moiety and their Cu(II) complexes, *Journal of Thermal Analysis and Calorimetry*, vol 134, 2018, DOI 10.1007/s10973-018-7681-1, 1851-1861. FI-4.626
21. Irina Zarafu, Mihaela Badea, Gabriela Ionita, Mariana Carmen Chi?riuc, Coralia Bleotu, Marcela Popa, Petre Ionita, Arnaud Tatibouët, Rodica 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-4.626
22. M. Bem, R. Baratoiu, C. Radutiu, C. Lete, S. Mocanu, G. Ionita, S. Lupu, M. T. Caproiu, A.M. Madalan, B. Patrascu, I. Zarafu, P. Ionita, Synthesis and structural characterization of some novel methoxyamino derivatives with acid-basa and redox behavior, *Journal of Molecular Structure*, iulie 2018, DOI 10.1016/j.mol.struc.2018.06.1140022-2860. FI-3.196
23. Irina Zarafu, Ioana Turcu, Daniela C. Culit?, Simona Petrescu, Marcela Popa, Mariana C. Chi?riuc, Carmen Limban, Alexandra Telehoiu and Petre Ionit?, Antimicrobial Features of Organic Functionalized Graphene-Oxide with Selected Amines, *Materials*, 2018, 11, 1704; doi:10.3390/ma11091704. FI-3.63
24. Ioana Turcu, Irina Zarafu, Marcela Popa, Mariana Carmen Chifiriuc, Coralia Bleotu, Daniela Culita, Corneliu Ghica, Petre Ionita, "Lipoic Acid Gold Nanoparticles Functionalized with Organic Compounds as Bioactive Materials", *Nanomaterials*, 2017, 7, 43: doi: 10.3390/nano7020043. FI-5.076

25. Irina Zarafu, Mihaela Badea, Gabriela Ionita, Petre Ionita, Anca Paun, Marcela Bucur, Mariana Carmen Chifiriuc, Coralia Bleotu, Rodica Olar, "Spectral, magnetic, thermal and biological studies on Ca(II) and Cu(II) complexes with a novel crowned Schiff base", *J Therm Anal Calorim* 2017, 127: 1511-1521, DOI 10.1007/s10973-016-5573-9. FI-4.626
26. A. Paun, M. Matache, F. Enache, I. Nicolau, C.C. Paraschivescu, P. Ionita, I. Zarafu, V.I. Parvulescu, G. Guillaumet, "Convenient synthesis of 2-alkynylbenzazoles through Sonogashira cross-coupling reaction between thioethers and terminal alkynes", *Tetrahedron Lett*, 56, 2015, 5349-5352. FI(2014)-2,415.
27. Madalina Tudose, Daniela C Culita, Cornel Munteanu, Jeanina Pandeale, Elena Hristea, Petre Ionita, **Irina Zarafu**, Mariana Carmen Chifiriuc, „Antibacterial Activity Evaluation of Silver Nanoparticles Entrapped in Silica Matrix Functionalized with Antibiotics”, *Journal of Inorganic and Organometallic Polymers and Materials*, **2015**, pg 1-10.
28. Matei L., Bleotu C., Baciui I., Diaconu C.C., Hanganu A., Banu O., Ionita P., Paun A., **Zarafu I.**, "The biological activities of some new isonicotinic acid (2-hydroxy-8-substituted-tricyclo[7.3.1.0^{2,7}]tridec-13-ylidene)-hydrazides", *Bioorganic and Medicinal Chem*, **2015**, 23, 401-410.
29. Lilia Matei, Coralia Bleotu, Ion Baciui, Constantin Draghici, Petre Ionita, Anca Paun, Mariana Carmen Chifiriuc, Adriana Sbarcea, **Irina Zarafu***, "Synthesis and Bioevaluation of Some New Isoniazid Derivatives", *Bioorganic and Medicinal Chemistry*, **2013**, 21, 5355-5361.
30. A. Paun, **I. Zarafu**, M. T. Caproiu, P. Ionita, „Synthesis and structural characterization of a betainic imino-nitroxide stable free diradical”, *ARKIVOC*, **2013**(iv), 144-151.
31. A. Paun, **I. Zarafu**, M. T. Caproiu, C. Draghici, M. Maganu, P. Ionita, A. I. Cotar, M. C. Chifiriuc, „Synthesis and evaluation of several benzocaine derivatives”, *Comptes Rendus Chimie*, **2013**, 16, 665-671.
32. C. Remes, A. Paun, **I. Zarafu**, M. Tudose, M.T. Caproiu, G. Ionita, C. Bleotu, L. Matei, P. Ionita, "Chemical and biological evaluation of some new antipyrene derivatives with particular properties", *Bioorganic Chemistry*, **2012**, 41-42, 6-12.
33. G. Ionita, I. Zarafu, A. Paun, P. Ionita, "EPR spectra of a mono- and a hetero di-radical in nematic and isotropic phases" *Mol. Cryst. Liq. Cryst.*, **2012**.
34. Corina Toader, Ion Baciui, **Irina Zarafu** „A new study on (2s,3s)-1,4-bis-sulfanylbutane-2,3-diol", *Revista de Chimie*, **2009**, 60 (9), 909-914.
35. Corina Toader, **Irina Zarafu** si Ion Baciui, "Note II. A new research on biological activity of (2s,3s)-1,4-bis-sulfanylbutane-2,3-diol", *Scientific Study and Research*, **2009**, vol. 10 (I), ISSN 1582-540 X.
36. **I. Zarafu**, L.-V. Ivan, I. Harasim, « Nota IV. Cercetări privind sinteza și activitatea biologică a 1,2,4-tiadiazolilor-3,5-disubstituiți utilizând ca precursori sărurile de ditiiazoliu”, *Revista de Chimie*, **2008**, 59(1), 101-105.
37. Christine Fossey, Anh-Hoang Vu, Anamaria Vidu, **Irina Zarafu**, Daniel Ladurée, Sylvie Schmidt, Géraldine Laumond, Anne-marie Aubertin, "Synthesis of Prodrug-type anti-HIV agents conjugating a Reverse Transcriptase Inhibitor to a HIV-1 Integrase Inhibitor by a Spontaneously Cleavable Linker", *J. Enz. Inh. Med. Chem.*, **2007**, 22(5), 591-607.
38. Christine Fossey, Ngoc-Trinh Huynh, Anh-Hoang Vu, Anamaria Vidu, **Irina Zarafu**, Daniel Ladurée, Sylvie Schmidt, Géraldine Laumond, Anne-marie Aubertin, "Synthesis and anti-HIV Evaluation of Hybrid-type Prodrugs Conjugating HIV Integrase Inhibitors with d4T by Self-Cleavable Spacers containing an Amino Acid Residue", *Journal of Enzyme Inhibition and Medicinal Chemistry*, **2007**, 22(5), 608-619.

july 2nd 2023
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