

CURRICULUM VITAE

Personal information



Surname(s) / First name(s) **TOȘA MONICA IOANA**
Telephone(s); Fax(es) 40- 264-593833; 40-264-590818
E-mail mtosa@chem.ubbcluj.ro; tosamonica@yahoo.com
Webpage <http://www.chem.ubbcluj.ro/BIO/CENTRU/>
Date of birth 01.05.1967

Academic training and positions

Dates 2015
Title of qualification awarded Abilitation in Chemistry: *BIOCATALYTIC APPROACHES FOR THE STEREOSELECTIVE SYNTHESIS OF CHIRAL BUILDING BLOCKS*
Dates 1991-2001
Title of qualification awarded PhD in Chemistry: *STEREOSELECTIVE SYNTHESIS IN THE PHENOTHIAZINE SERIE*
Name and type of organisation Babes-Bolyai University, Cluj-Napoca
Dates 1985-1990
Title of qualification awarded Chemical Engineer, Diploma *Magna cum Laude*
Name and type of organisation Babes-Bolyai University of Cluj-Napoca, Faculty of Chemistry and Chemical Engineering

Work experience

Name and address of employer Babes-Bolyai University of Cluj Napoca, Faculty of Chemistry and Chemical Engineering , Department of Biochemistry and Biochemical Engineering, M. Kogălniceanu nr.1
Date **2017-present**
Occupation or position held Professor
Main activities and responsibilities *Teaching:* Biotechnology of drugs, Biotechnology of Foods, Biotransformation; Applied bioprocesses; responsible for Biochemical Engineering, Organic and Biochemical Process Engineering programs
Research: Chiral drug and building blocks by biotransformation and chemoenzymatic synthesis; immobilized biocatalysts; bioreactors and bioprocesses

Dates	2008-2017
Occupation or position held	Associated professor
Dates	1998-2008
Occupation or position held	Lecturer
Dates	1994-1998
Occupation or position held	Teaching assistant
Dates	1990-1994
Occupation or position held	Research assistant
Dates	July 2004-september 2004
Occupation or position held	Researcher – DAAD fellowship
Name and address of employer	Technical University Karlsruhe, Institute for Organic Chemistry and Biochemistry, Germany
Dates	1993-1998
Occupation or position held	Teaching assistant
Dates	May 1997-september 1998
Occupation or position held	Researcher – DAAD fellowship
Name and address of employer	Technical University Karlsruhe, Institute for Food Technology, Germany
Dates	1990-1993
Occupation or position held	Laboratory assistant

Personal skills and competences

Mother tongue(s)	Romanian
Other language(s)	German, English
Social skills and competences	Team spirit, good communication skills
Organizational skills and competences	Good experience in team and projects management Reviewer for relevant journals in the field of bioorganic synthesis, bioprocess and bioengineering
Technical skills and competences	Useful skills in purification and immobilization of enzymes, biocatalysis, designing and control of drug synthesis, pilot plant for organic synthesis, biotransformations, organic compounds spectral analysis
Computer skills and competences	Good experience with Microsoft Office tools (word, excel, power-point, chem-office)
Research interests	Biocatalysis, Bioorganic synthesis, Drug development, Bioprocesses and bioreactors

researcherid: B-5618-2011; orcid: 0000-0003-3240-706X
H-index: 16 (71 articles in ISI journals)

Most relevant articles

1. Brem, J., Pilbák, S., Paizs, Cs., Bánoczi, G., Irimie, F. D., Toşa, M. I., Poppe, L. (2011) Lipase-catalyzed kinetic resolutions of racemic 1-(10-ethyl-10*H*-phenothiazin-1,2, and 4-yl)ethanols and their acetates. *Tetrahedron: Asymmetry* **22**, 916-923. (I.f. 2.652)
2. Naghi, M., Bencze, L. Cs., Brem, J., Paizs Cs., Irimie, F. D., Toşa, M.I. (2012) Sequential enzymatic procedure for the preparation of enantiomerically pure 2-heteroaryl-2-hydroxyacetic acids. *Tetrahedron: Asymmetry* **23**, 181-187. (I.f. 2.652)
3. Toşa, M.I., Brem, J., Mantu, A., Irimie, F. D., Paizs Cs., Rétey, J. (2013) The Interaction of Nitrophenylalanines with Wild Type and Mutant 4-Methylideneimidazole-5-one-less Phenylalanine Ammonia Lyase, *ChemCatChem* **5**, 779-783. (I.f. 5.044)
4. Nagy, B., Dima, N., Paizs, C., Brem, J., Irimie, F. D., Toşa, M. I., (2014) New chemo-enzymatic approaches for the synthesis of (*R*)- and (*S*)-bufuralol, *Tetrahedron: Asymmetry* **25**, 1316-1322 (I.f. 2.165)
5. Judith H. Bartha-Vári, Monica I. Toşa, Florin-Dan Irimie, Diána Weiser, Zoltán Boros, Beáta G.Vértessy, Csaba Paizs, László Poppe: (2015) Immobilization of phenylalanine ammonia-lyase on single-walled carbon nanotubes for stereoselective biotransformations in batch and in continuous-flow modes, *ChemCatChem* **7**, 1122-1128 (I.f. 5.044)
6. Dulf, F.; Vodnar, D.; Dulf, E.H.; Tosa, M. (2015): Total Phenolic Contents, Antioxidant Activities and Lipid Fractions from Berry Pomaces Obtained by Solid-State Fermentation of two Sambucus Species with *Aspergillus Niger*, *J. of Agric. and Food Chem.* **63**, 3489-3500 (I.f. 3.107)
7. Bencze, Laszlo Csaba, Komjati Balazs, Pop, Laura-Ancuta, Paizs Csaba, Irimie Florin-Dan, Nagy Jozsef, Poppe Laszlo, Tosa, Monica Ioana, (2015) Synthesis of enantiopure L-(5-phenylfuran-2-yl)alanines by a sequential multienzyme process, *Tetrahedron: Asymmetry* **26**, 1095-1101 (I.f. 2.108)
8. Bencze, Laszlo Csaba; Bartha-Vari, Judith H.; Katona, Gabriel, Tosa Monica-Ioana., Paizs Csaba, irimie Florin Dan (2016) , Nanobioconjugates of *Candida antarctica* lipase B and single-walled carbon nanotubes in biodiesel production, *Biores. Technol.* **200**, 853-860 (I.f. 5.65)
9. Varga Andrea; Banoczi Gergely; Nagy Botond; Bencze L. Csaba, Tosa Monica Ioana, Gellert Akos, Irimie Florin Dan, Retej Janos, Poppe Laszlo, Paizs Csaba (2016) Influence of the aromatic moiety in alpha- and beta-arylalanines on their biotransformation with phenylalanine 2,3-aminomutase from *Pantoea agglomerans* *RSC Advances* **6**, 56412-56420 (I.f. 3.108)
10. Moisa Madalina Elena; Spelmezan Cristina Georgiana; Paul Cristina, Bartha-Vari Judith Hajnal, Bencze Laszlo Csaba, Irimie Florin Dan, Paizs Csaba, Peter Francisc, Tosa Monica Ioana (2017); Tailored sol-gel immobilized lipase prepartes for the enzymatic kinetic resolution of heteroaromatic alcohols in batch and continuous flow systems, *RSC Advances*, **7**, 52977-52987 (I.f. 2.936)
11. Bencze Laszlo Csaba; Filip Alina; Banoczi Gergely; Tosa Monica Ioana, Irimie Florin Dan, Gellert Akos, Poppe Laszlo, Paizs Csaba (2017) Expanding the substrate scope of phenylalanine ammonia-lyase from *Petroselinum crispum* towards styrylalanines, *Org. Biomol. Chem.*, **15**, 3717-3727 (I.f. 3.423)
12. Nagy, Botond; Galla, Zsolt; Bencze, Laszlo Csaba, Tosa, Monica Ioana, Paizs, Csaba, Forro, Eniko, Fulop Ferenc (2017), Covalently Immobilized Lipases are Efficient Stereoselective Catalysts for the Kinetic Resolution of rac-(5-Phenylfuran-2-yl)-beta-alanine Ethyl Ester Hydrochlorides, *Eur. J. Org. Chem.*, **20**, 2878-2882 (I.f. 2.882)
13. Granold, Matthias; Hajjeva, Parvana; Tosa, Monica Ioana, Irimie Florin Dan, Moosmann Bernd (2018) Modern diversification of the amino acid repertoire driven by oxygen, *PNAS*, **115**, 41-46 (I.f. 9.504)
14. Filip Alina; Nagy Emma Z. A.; Tork Souad D. Banoczi Gergely, Tosa Monica I., Irimie Florin D., Poppe Laszlo, Paizs Csaba, Bencze Laszlo C (2018), Tailored Mutants of Phenylalanine Ammonia-Lyase from *Petroselinum crispum* for the Synthesis of Bulky L- and D-Arylalanines, *ChemCatChem*, **10**, 2627-2633 (I.f. 4.674)
15. Lacatus, Mihai A.; Bencze, Laszlo C.; Tosa, Monica I, Paizs Csaba, Irimie Florin Dan (2018), Eco-Friendly Enzymatic Production of 2,5-Bis(hydroxymethyl)furan Fatty Acid Diesters, Potential Biodiesel Additives, *ACS Sust. Chem. Eng.* **6**, 11353-11359 (I.f. 6.14) .
16. Mădălina Elena Moisă, László Poppe, Cristian Andrei Gal, László Csaba Bencze, Florin Dan Irimie, Csaba Paizs, Francisc Peter, Monica Ioana Toşa (2018), Click reaction-aided enzymatic kinetic resolution of secondary alcohols, *React. Chem. Eng.*, **3**, 790-798 (I.f. 4.641)
17. Emma Z.A. Nagy, Diana S. Tork, P.A. Lang, Alina Filip, Florin D. Irimie, László Poppe, Monica I. Tosa, Christian J. Schofield, Jurgen Brem, Csaba Paizs, László C. Bencze (2019), Mapping the Hydrophobic Substrate Binding Site of Phenylalanine Ammonia-Lyase from *Petroselinum crispum*, *ACS Catalysis*, **9**(9), 8825-8834 (I.f. 12.221)
18. Francisc V. Dulf, Dan C. Vodnar, Monica I. Toşa, Eva V. Dulf (2020), Simultaneous enrichment of grape pomace with γ -linolenic acid and carotenoids by solid-state fermentation with *Zygomycetes* fungi and antioxidant potential of the bioprocessed substrates, *Food Chemistry*, **310**, Article number 125927, DOI: 10.1016/j.foodchem.2019.125927 (I.f. 5.399)
19. Mihai A. Lăcătuş, Adrian I. Dudu, László C. Bencze, Katona Gabriel, Florin-Dan Irimie, Csaba Paizs, Monica I. Toşa (2020), Solvent-free biocatalytic synthesis of 2,5-bis-(hydroxylmethyl)furan fatty acid diesters from renewable resources, *ACS Sust. Chem. Eng.* <https://dx.doi.org/10.1021/acssuschemeng.9b06442>
20. Cristina G. Spelmezan, László C. Bencze, Gabriel Katona, Florin D. Irimie, Csaba Paizs, Monica I. Toşa, (2020) Efficient and Stable Magnetic Chitosan-Lipase B from *Candida Antarctica* Bioconjugates in the Enzymatic Kinetic Resolution of Racemic Heteroarylethanols, *Molecules*, **25**(2), 350; <https://doi.org/10.3390/molecules25020350>