

Fișa de îndeplinire a standardelor minimale UBB pentru înscrierea la concurs pentru poziția de conferențiar, domeniul CHIMIE:

I. Îndeplinirea criteriilor minimale CNATDCU pentru postul de conferențiar/CSII, domeniul CHIMIE

Lista celor 30 de lucrări selectate numerotate 1-30 în ordinea descrescătoare a factorului de impact

1. Nagy, Emma Z. A.; Tork, S. D.; Lang, P. A.; Filip, A.; Irimie, F. D.; Poppe, L.; Toșa, M. I.; Schofield, C. J.; Brem, J.; Paizs, C., **Bencze, L. C.*** Mapping the Hydrophobic Substrate Binding Site of Phenylalanine Ammonia-Lyase from *Petroselinum crispum*. *ACS Catalysis*, **2019**, *9*, 8825-8834. (I. f. 13.084) doi.org/10.1021/acscatal.9b02108
2. **Bencze, L. C.**, Bartha-Vári, J., Katona, G., Toșa, M. I., Paizs, C., Irimie, F. D. Nanobioconjugates of *Candida antarctica* lipase B and single-walled carbon nanotubes in biodiesel production. *Bioresource Technology*, **2016**, *200*, 853-860. (I. f. 9.642) doi.org/10.1016/j.biortech.2015.10.072
3. Dudu, A. M., Lăcătuș M. A., **Bencze, L. C.**, Paizs, C., Toșa, M. I., Green Process for the Enzymatic Synthesis of Aroma Compounds Mediated by Lipases Entrapped in Tailored Sol-Gel Matrices. *ACS Sustainable Chemistry & Engineering*, **2021**, *9*, 5461-5469. (I. f. 8.198) doi.org/10.1021/acssuschemeng.1c00965
4. Lăcătuș M. A., Dudu, A., **Bencze, L. C.**, Katona, G., Irimie, F. D., Paizs, C., Toșa, M. I. Solvent-Free Biocatalytic Synthesis of 2,5-bis-(Hydroxymethyl)Furan Fatty Acid Diesters from Renewable Resources. *ACS Sustainable Chemistry & Engineering*, **2020**, *8*, 1611-1617. (I. f. 8.198) doi: 10.1021/acssuschemeng.9b06442
5. Lăcătuș M. A., **Bencze, L. C.**, Toșa, M. I., Paizs, C., Irimie, F. D. Eco-Friendly Enzymatic Production of 2,5-Bis(hydroxymethyl)furan Fatty Acid Diesters, Potential Biodiesel Additives. *ACS Sustainable Chemistry & Engineering*, **2018**, *6*, 11353-11359. (I. f. 8.198) doi:10.1021/acssuschemeng.8b01206
6. Varga, A., Csuka, P., Sonosouphapa, O., Bánóczy, G., Toșa, M. I., Katona, G., Molnár, Z., **Bencze, L. C.***, Poppe, L., Paizs, C.* A novel phenylalanine ammonia-lyase from *Pseudozyma antarctica* for stereoselective biotransformations of unnatural amino acids. *Catalysis Today*, **2021**, *366*, 185-194 (I. f. 6.766) doi: 10.1016/j.cattod.2020.04.002
7. Boros, K., Moisă, M. E., Nagy, L. C., Paizs, C., Toșa, M. I., **Bencze, L. C.*** (2021) Robust, site-specifically immobilized phenylalanine ammonia-lyases for the enantioselective ammonia addition of cinnamic acids. *Catalysis Science &*, **11**, 5553-5563. (I. f. 6.119) doi.org/10.1039/D1CY00195G

8. Bata, Z., Qian, R., Roller, A., Horak, J., **Bencze, L. C.**, Paizs, C., Hammerschmidt, F., Vértessy, B. G., Poppe, L. A Methylidene Group in the Phosphonic Acid Analogue of Phenylalanine Reverses the Enantioference of Binding to Phenylalanine Ammonia-Lyases. *Advanced Synthesis and Catalysis*, **2017**, *359*, 2109-2120. (I. f. 5.851) doi:10.1002/adsc.201700428
9. **Bencze, L. C.**, Paizs, C., Toşa, M. I., Irimie, F. D. Rétey, J. Chemoenzymatic One-Pot Synthesis of both (*R*)- and (*S*)-aryl-1,2-ethanediols. *ChemCatChem* **2011**, *3*, 343-346. (I. f. 5.686) doi.org/10.1002/cctc.201000295
10. Filip, A., Nagy, E. Z. A., Tork, S. D., G. Bánóczy, G., Toşa, M. I., Irimie, F. D., Poppe, L., Paizs, C., **Bencze, L. C.*** Tailored mutants of phenylalanine ammonia-lyase from *Petroselinum crispum* for the synthesis of bulky L- and D-arylanines. *ChemCatChem*, **2018**, *10*, 2627-2633. (I. f. 5.686) doi.org/10.1002/cctc.201800258
11. Andolina, G., **Bencze, L.C.**, Zerbe, K., Müller, M., Steinmann, J., Kocherla, H., Mondal, M., Sobek, J., Moehle, K., Malojčić, G., Wollscheid, B., Robinson, J.A. A Peptidomimetic Antibiotic Interacts with the Periplasmic Domain of LptD from *Pseudomonas aeruginosa*, *ACS Chemical Biology*, **2018**, *13*, 666-675, (I.f. 5.100) doi:10.1021/acscchembio.7b00822– **prim autor**
12. Tomoiagă R.B., Tork S.D., Horváth I., Filip A., Nagy L.C., **Bencze L.C.*** Saturation mutagenesis for phenylalanine ammonia lyases of enhanced catalytic properties, *Biomolecules*, **2020**, *10(6)*: 838, (I.f. 4.879) doi: 10.3390/biom10060838.
13. Spelmezan, C. G., Bencze, L. C., Katona, G., Irimie, F. D., **Paizs, C., Toşa, M. I.** Efficient and stable magnetic chitosan-lipase B from *Candida antarctica* bioconjugates in the enzymatic kinetic resolution of racemic heteroarylethanol. *Molecules*, **2020**, *25*, 350. (I. f. 4.412) doi: 10.3390/molecules25020350
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15. Nagy, E. Z. A.; Nagy, C. L., Filip, A.; Nagy, K., Gál, E.; Tóth, R.; Poppe, L.; Paizs, C.; **Bencze L.C.*** Exploring the substrate scope of ferulic acid decarboxylase (FDC1) from *Saccharomyces cerevisiae*. *Scientific Reports*, **2019**, *9*, 647. (I. f. 4.38) doi:10.1038/s41598-018-36977-x
16. Tork, S. D., Nagy, E. Z. A., Cserepes, L., Bordea, D. M., Nagy, B., Toşa, M. I., Paizs, C., **Bencze L.C.*** The production of L- and D-phenylalanines using engineered phenylalanine ammonia lyases from *Petroselinum crispum*. *Scientific Reports*, **2019**, *9*, 20123. (I. f. 4.38) doi: 10.1038/s41598-019-56554-0
17. Moisă, M. E., Amariei, D., Nagy, E. Z. A., Szarvas, N., Toşa, M. I., Paizs, C., **Bencze L.C.*** Fluorescent enzyme-coupled activity assay for phenylalanine ammonia-lyases. *Scientific Reports*, **2020**, *10*, 18418. (I. f. 4.38) doi: 10.1038/s41598-020-75474-y

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19. Moisă, M. E., Poppe, L., Gal, C. A., Bencze, L. C., Irimie, F. D., Paizs, C., Peter, F., Toşa, M. I. Click reaction-aided enzymatic kinetic resolution of secondary alcohols. *Reaction Chemistry and Engineering*, **2018**, *3*, 790-798. (I. f. 4.239) doi:10.1039/C8RE00091C
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22. Bencze, L. C., Filip, A., Bánóczy, G., Toşa, M. I., Irimie, F. D., Gellért, Á., Poppe, L., Paizs, C. Expanding the substrate scope of phenylalanine ammonia-lyase from *Petroselinum crispum* towards styrylalanines. *Organic and Biomolecular Chemistry*, **2017**, *17*, 3717-3727. (I. f. 3.876) doi:10.1039/C7OB00562H
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28. **Bencze, L. C., Paizs, C., Tosa, M. I., Trif, M., Irimie, F. D.:** CaL-B, a highly selective biocatalyst in the kinetic resolution of furilbenzthiazole-2-yl ethanols and acetates, *Tetrahedron: Asymmetry*, **2010**, *21*, 1999-2004, (I.f. 2.126) doi: 10.1016/j.tetasy.2010.06.010
29. **Bencze, L. C., Paizs, C., Tosa, M. I., Irimie, F. D.:** Substituent effects on the stereochemical outcome of the baker's yeast-mediated biotransformation of α -hydroxy- and α -acetoxymethyl-5-phenylfuran-2-yl-ethanones, *Tetrahedron: Asymmetry*, **2010**, *21*, 356-364, (I.f. 2.126) doi: 10.1016/j.tetasy.2010.02.004
30. **Bencze, L. C., Paizs, C., Tosa, M. I., Vass, E., Irimie, F. D.:** Synthesis of enantiomerically enriched (*R*)- and (*S*)-benzofuranyl- and benzo[*b*]thiophenyl-1,2-ethanediols via enantiopure cyanohydrins as intermediates, *Tetrahedron: Asymmetry*, **2010**, *21*, 443-450, (I.f. 2.126) doi:10.1016/j.tetasy.2010.01.018

Tabelul 1.

Nr lucrare	Punctaje				observatii
	FIC	FIC _D	FIC _{AP}	FIC _{AC}	
Standardele	50	-	20	-	
1	13.084	13.084	13.084	13.084	TOP 10
2	9.642	9.642	9.642		TOP 1
3	8.198	8.198			TOP 10
4	8.198	8.198			TOP 10
5	8.198	8.198			TOP 10
6	6.766	6.766	6.766	6.766	
7	6.119	6.119	6.119	6.119	
8	5.851	5.851	5.851		
9	5.686	5.686	5.686		
10	5.686	5.686	5.686	5.686	
11	5.100	5.100	5.100		
12	4.879	4.879	4.879	4.879	
13	4.412	4.412			
14	4.412	4.412			
15	4.38	4.38	4.38	4.38	
16	4.38	4.38	4.38	4.38	

17	4.38	4.38	4.38	4.38	
18	4.38	4.38	4.38	4.38	
19	4.239	4.239			
20	4.239	4.239			
21	4.239	4.239			
22	3.876	3.876	3.876		
23	3.361	3.361			
24	3,164	3,164			
25	3.021	3.021			
26	3.021	3.021			
27	2.164	2.164	2.164		
28	2.164	2.164	2.164		
29	2.164	2.164	2.164		
30	2.164	2.164	2.164		
TOTAL	128.947	128.947	70.245	36.534	
Grad de îndeplinire Da/Nu	DA	DA	DA	DA	

Tabelul 2

h indexul realizat	13	13
Sursa	Scopus	Web of Science
Barem h index	9	
Grad de indeplinire Da/Nu	Da	

II. Îndeplinirea criteriilor suplimentare **specifice UBB** pentru postul de conferențiar, domeniul CHIMIE

Director sau responsabil al unui proiect sau membru în echipa a cel puțin 3 proiecte de cercetare:

	Proiect	Poziția	Perioada	Sursa de finanțare
1	RARE-PAL - Rational redesign of phenylalanine ammonia-lyases for reversing their natural selectivity- PN-III-P1-1.1-TE-2019-2118	Director de proiect	2020-2022	100.000 EUR, UEFISCDI
2	MIO-enzyme toolbox for the synthesis of non-natural amino acids, PROMYS, IZ11Z0_166543/1 (echipa de 5 membrii cu ocupatie 100%)	Director de proiect	2016-2021	625.000 CHF, SNSF (Swiss National Science Foundation)
3	MIO-enzyme toolkit with expanded and defined targetability, PN-II-RU-TE-2014-4-1668	Director de proiect	2015-2017	125.000 EUR, UEFISCDI

4	Developing novel peptidomimetics based on unnatural amino acids, post-doctoral project POSDRU/159/1.5/S/137750	Director de proiect	2014-2015	10.000 EUR, POSDRU
5	Stereoselective biotransformations of homo- and heteroaromatic diols, BD 384/2008	Director de proiect	2008-2010	10.000 EUR, CNCSIS
6	Novel approaches to bacterial target identification, validation and inhibition - NABATIVI	Membru	2011-2013	FP7-HEALTH
7	Biocatalysis Engineering–Selective Magnetic nanoparticles-based Reactor Technology (BE-SMART)- PN-III-P2-2.1-PED-2019-5031	Membru	2020-2022	UEFISCDI
8	Integrated green technology system for producing advanced biofuels; PN-II-PT-PCCA-2013-4- 1006; 65/2014	Membru	2014-2016	UEFCSDI
9	Continuous flow enzymatic dynamic kinetic resolutions for stereoselective bioorganic processes, PCE-2011-3-0775	Membru	2011-2016	UEFCSDI

SAU

Susținerea unei prelegeri în conferință națională sau internațională sau la evenimente științifice organizate de instituție

SAU

Autor al unui caiet/culegeri/îndrumător de laborator sau carte/capitol în domeniul postului.

1. Nagy, E.Z.A., Tork S.D., Filip A., Poppe L., Toșa M.I., Paizs, C., Bencze, L.C. 5.5 Production of L-and D-Phenylalanine Analogues Using Tailored Phenylalanine Ammonia-Lyases, chapter in book entitled Applied Biocatalysis: The Chemist's Enzyme Toolbox, 2021, Editor: Wiley-VCH, ISBN: 9781119487012
2. Irimie, F.D., Paizs, C., Toșa, M.I., Bencze, L.C. Biodiesel, a Green Fuel Obtained Through Enzymatic Catalysis, bookchapter in Biomass as Renewable Raw Material to Obtain Bioproducts of High-Tech Value, 2018, pg. 191-234, Editor: Elsevier, ISBN: 9780444637741
3. Filip, A., Bencze, L.C. Biochimie avansată, lucrări practice, Editor: Napoca Star, Cluj-Napoca, 2017, ISBN:978-606-690-518-3
4. Paizs, C., Katona, A., Bencze, L.C., Brem, J. Insights in pure and applied biocatalysis, Editor: Napoca Star, Cluj-Napoca, 2015, ISBN:978-606-690-258-8

Criteriu suplimentar îndeplinit

Cluj-Napoca,
03.06.2022

Lect. Dr. László Csaba Bencze