NASTAVNO-NAUČNOM VEĆU
TEHNOLOŠKO-METALURŠKI FAKULTET
UNIVERZITETA U BEOGRADU

Odlukom broj 35/51 Nastavno-naučnog veća Tehnološko-metalurškog fakulteta Univerziteta u Beogradu od 10.03.2022. godine, imenovani smo za članove Komisije za ocenu ispunjenosti uslova za izbor **dr Marije Milić** u zvanje **VIŠI NAUČNI SARADNIK** u oblasti Biotehničkih nauka. Na osnovu pregleda i analize dostavljenog materijala i uvida u dosadašnji rad kandidatkinje, a u skladu sa Zakonom o nauci i istraživanjima, i Pravilnikom o sticanju istraživačkih i naučnih zvanja ("Službeni glasnik RS", broj 159 od 30. decembra 2020), podnosimo sledeći

IZVEŠTAJ

1. OPŠTI BIOGRAFSKI PODACI

Dr Marija (Dragan) Milić (rođ. Pavlović) rođena je 19. jula 1987. godine u Surdulici, Republika Srbija, gde je završila osnovnu školu i gimnaziju „Svetozar Marković“. Školske 2006/2007. godine upisala je Tehnološko-metalurški fakultet, Univerziteta u Beogradu, na studijskom programu Biohemijsko inženjerstvo i biotehnologija. Diplomirala je 7. septembra 2010. godine, sa prosečnom ocenom 8,86. Oktobra 2010. godine upisala je Master studije na istom fakultetu, u okviru studijskog programa Biohemijsko inženjerstvo i biotehnologija, smer Prehrambena biotehnologija. Završni master rad odbranila je 22. jula 2011. godine sa ocenom 10 i prosečnom ocenom u toku studija 9,75. Od avgusta do oktobra 2011. godine boravila je na radnoj praksi na Univerzitetu „Estadual Paulista Julio de Mesquita Filho, UNESP, Araraquara – Sao Paulo“, u Brazilu. Doktorske akademske studije na Tehnološko-metalurškom fakultetu, u Beogradu, na katedri za Biohemijsko inženjerstvo i biotehnologiju upisala je školske 2011/2012. godine. Položila je sve ispite predviđene planom i programom doktorskih studija, uključujući i završni ispit, sa prosečnom ocenom 10,00. Doktorsku disertaciju pod nazivom „Izolovanje bioaktivnih jedinjenja iz otpadne kafe i njeno potpuno iskorišćenje kao adsorbenta“, je odbranila 28. decembra 2015. godine, pod mentorstvom prof. dr Slavice Šiler-Marinković i time stekla zvanje Doktor nauka-tehnološko inženjerstvo- biotehnologija.

Od marta 2012. godine do aprila 2015. godine bila je angažovana kao stipendista Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije na Tehnološko-metalurškom fakultetu na Katedri za Biohemijsko inženjerstvo i biotehnologiju, a od 1. aprila 2015. godine zasniva radni odnos na matičnom fakultetu. U zvanje Istraživač saradnik izabrana je 11. maja 2015. godine (Odluka br. 35/179), dok je u naučno zvanje Naučni saradnik izabrana 30. novembra 2016. godine, Odlukom Komisije za sticanje naučnih zvanja (Odluka br. 660-01-00001/258), (**Prilog 1**).

Od 2012-2019. godine bila je angažovana na projektu tehnološkog razvoja pod nazivom „Primena biotehnoloških metoda u održivom iskorišćenju nus-proizvoda agroindustrije“, (TR 31035, Ministarstvo za nauku i tehnološki razvoj Republike Srbije).

Od 2019-2021 godine učestvovala je na međunarodnom bilateralnom projektu sa Republikom Hrvatskom pod nazivom “*Primena lignocelulozne biomase za dobijanje biogoriva*” Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije (broj projekta 337-22-205/2019-09/35).

Od februara do avgusta 2020. godine bila je angažovana u okviru programa Inovacioni Vaučer, finansiranog od strane Fonda za inovacionu delatnost, pod identifikacionim brojem 582 i nazivom "Optimizacija ekstrakcije i parametara sušenja u cilju očuvanja biološke vrednosti utrobice (*Gentiana asclepiadea*)".

Od oktobra 2020 do marta 2022. godine angažovana je u okviru programa Dokaz koncepta finansiranog od strane Fonda za Inovacionu delatnost Republike Srbije, pod brojem PoC5634 i nazivom "*Green biocatalyst for decolorization and degradation of azo dyes from industrial wastewater: a white-rot fungal laccase immobilized on recycled agro-industrial waste*".

Od 2019. godine dr Marija Milić je član COST Akcije u okviru radne grupe WG7 pod nazivom "*SOURDOugh biotechnology network towards novel, healthier and sustainable food and bIoproCesseS*" (CA18101)".

Od školske 2015/2016 (zimski semestar) i 2016/2017 godine (zimski semestar), dr Marija Milić je angažovana na izvođenju eksperimentalnih vežbi na osnovnim studijama iz predmeta Biotehnološki praktikum 1 na Katedri za Biohemijsko inženjerstvo i biotehnologiju.

Tokom svog dosadašnjeg rada dr Marija Milić je učestvovala u izradi više završnih radova, master radova, 1 naučnog rada i 1 doktorskog rada koji su rađeni na Tehnološko- metalurškom fakultetu u Beogardu. Od 2017/2018. godine kandidatkinja je bila član Komisije za ocenu i odbranu jedne doktorske disertacije kao i 7 master radova koji su realizovani na Tehnološko-metalurškom fakultetu u Beogradu.

Dr Marija Milić je bila polaznik nekoliko radionica i seminara: Priprema uspešnih projekata za program "HORIZONT 2020" (2015), *How to prepare budget for EU funds* (2019), *Climate Launchpad* (2019).

Dr Marija Milić je dobitnik dve nagrade i to:

- Nagrada za Prvo mesto na nacionalnom takmičenju zelenih poslovnih ideja „*Climate Launchpad*", tim "*Biocircle tech*", održanom 12.10.2019. godine u Privrednoj komori Srbije, u Beogradu, i time stekla uslove za plasman i učešće na finalnom svetskom takmičenju u Amsterdamu, Holandija, održanom 12-13.11.2019. godine, pod pokroviteljstvom Privredne komore Srbije (https://climatelaunchpad.org/finalists/biocircle-tech-2/).
- Nagrada za plasman u IV krug takmičenja „Najbolja tehnološka inovacija", u kategoriji Realizovane inovacije, tim "Kafologija", 28.10.2019. godine, Privredna komora Srbije, Beograd (http://inovacija.org/spisak-nagradjenih-timova/).

Istraživački rad dr Marije Milić je posvećen ispitivanju mogućnosti iskorišćenja otpadnih proizvoda prehrambene industrije. S tim u vezi, otpadni materijali agroindustrije su korišćeni kao polazne sirovine u procesima biotransformacije za dobijanje novih proizvoda dodatne vrednosti, u skladu sa principima cirkularne bioekonomije. Tokom ovih istraživanja, kandidatkinja se bavila optimizacijom procesa fermentacije biljnih matrica pomoću mikroorganizama. Tom prilikom ispitan je i potencijal proizvodnje mikrobnih enzima, gajenjem novoizolovanih bakterijskih sojeva, koji su potom korišćeni u postupcima hidrolize lignoceluloznih sirovina za dobijanje biogoriva – bioetanola. Jedan deo istraživanja posvećen je i ispitivanju uticaja novoizolovanih sojeva bakterija na mogućnost stimulacije rasta biljaka, a takođe, poseban aspekt interesovanja vezan je i za ispitivanje mikrobnog potencijala u oblasti zaštite životne sredine, na primerima biorazgranje nekoliko model supstanci koje se ubrajaju u česte zagađivače prirodnih vodotokova.

U svom dosadašnjem naučno-istraživačkom radu dr Marija Milić je autor/koautor ukupno **46** bibliografskih jedinica i to: **1** poglavlja u knjizi vodećeg međunarodnog značaja iz kategorije M13, **21** naučnog rada iz kategorije M20, od kojih u međunarodnom časopisu izuzetnih vrednosti (M21a) 3 rada, u vrhunskom međunarodnom časopisu (M21) 8 radova, u istaknutom međunarodnom časopisu (M22) 4 rada i u međunarodnom časopisu (M23) 6 radova; **1** rada objavljenog u vrhunskom časopisu nacionalnog značaja (M51) i **1** rada objavljenog u časopisu nacionalnog značaja (M52); **1** predavanja po pozivu sa međunarodnog skupa štampanog u izvodu (M32); **7** saopštenja sa međunarodnog skupa štampanih u celini (M33); **11** saopštenja sa međunarodnog skupa štampanih u izvodu (M34); **1** saopštenja sa skupa nacionalnog značaja štampananog u celini (M63); **1** doktorska disertacija (M71) i **1** tehničkog rešenja iz kategorije M82.

Prema bazi Scopus (na dan 30.03.2022.), radovi dr Marije Milić su do sada citirani **333** puta. Kandidatkinja je recenzent 10 međunarodnih časopisa kategorija M20, za koje je do sada uradila ukupno 34 recenzija.

2. PREGLED DOSADAŠNJEG NAUČNOG I STRUČNOG RADA

Dosadašnji naučni i stručni rad dr Marije Milić obuhvata objavljeno poglavlje u knjizi, naučne radove, saopštenja na naučnim skupovima i tehničko rešenje u periodu 2011-2022. godine. Klasifikacija naučnih rezultata izvršena je prema Pravilniku o sticanju istraživačkih i naučnih zvanja ("Službeni glasnik RS", broj 159 od 30. decembra 2020).

2.1. SPISAK OBJAVLJENIH RADOVA PRE IZBORA U ZVANJE NAUČNI SARADNIK

Rad u međunarodnom časopisu izuzetnih vrednosti (M21a=10)

1. Ranić M., Nikolić M., **Pavlović M.**, Buntić A., Šiler-Marinković S., Dimitrijević-Branković S., Optimization of microwave-assisted extraction of natural antioxidants from spent espresso coffee grounds by response surface methodology, (2014), *Journal of Cleaner Production*, 80, 69-79. (ISSN: 0959-6526; IF (2014) = 3,844, Engineering, Environmental, 10/47). *Broj heterocitata = 81.*
   https://doi.org/10.1016/j.jclepro.2014.05.060

Rad u vrhunskom međunarodnom časopisu (M21=8)

2. **Pavlović M. D.**, Buntić A. V., Šiler-Marinković S. S., Dimitrijević-Branković S. I., Ethanol Influenced Fast Microwave-Assisted Extraction for Natural Antioxidants Obtaining from Spent Filter Coffee, (2013), *Separation and Purification Technology*, 118, 503–510. (ISSN: 1383-5866; IF (2013) = 3,065, Engineering, Chemical, 17/133). *Broj heterocitata = 43.*
   https://doi.org/10.1016/j.seppur.2013.07.035
3. **Pavlović M. D.**, Buntić A. V., Mihajlovski K. R., Šiler-Marinković S. S., Antonović D. G., Radovanović Ž., Dimitrijević-Branković S. I., Rapid cationic dye adsorption on polyphenol-extracted coffee grounds—A response surface methodology approach, (2014), *Journal of the Taiwan Institute of Chemical Engineers*, 45:4, 1691-1699. (ISSN: 1876-1070; IF (2014) = 3,000, Engineering, Chemical, 19/135). *Broj heterocitata = 44.*
   https://doi.org/10.1016/j.jtice.2013.12.018

4. Ranić M., Konić-Ristić A., Takić M., Glibetić M., Pavlović Z., **Pavlović M.**, Dimitrijević-Branković S., Nutrient profile of black coffee consumed in Serbia: Filling a gap in the food composition database, (2014), *Journal of Food Composition and Analysis*, 40, 61-69. (ISSN: 0889-1575; IF (2014) = 1,985, Food Science & Technology, 33/122). *Broj heterocitata = 10.*
https://doi.org/10.1016/j.jfca.2014.11.008

Rad u istaknutom međunarodnom časopisu (M22 = 5)

5. Buntić A., **Pavlović M.**, Mihajlovski K., Randjelović M., Rajić N., Antonović D., Šiler-Marinković S., Dimitrijević-Branković S.: Removal of a Cationic Dye from Aqueous Solution by Microwave Activated Clinoptilolite - Response Surface Methodology Approach, (2014), *Water, Air and Soil Pollution*, 225, 1816-1828. (ISSN: 0049-6979; IF (2014) = 1,554, Water Resources, 35/83). *Broj heterocitata = 9.*
https://doi.org/10.1007/s11270-013-1816-6
6. **Pavlović M. D.**, Buntić A. V., Šiler-Marinković S. S., Antonović D. G., Dimitrijević-Branković S. I., Recovery of (−)-epigallocatechingallate (EGCG) from aqueous solution by selective adsorption onto spent coffee grounds, (2015), *European Food Research and Technology*, 241:3, 399-412. (ISSN:1438-2377; IF (2014) = 1,559, Food Science & Technology, 53/122). *Broj heterocitata =3.*
https://doi.org/10.1007/s00217-015-2472-4

Rad u međunarodnom časopisu (M23 = 3)

7. Milutinović M. D., Šiler-Marinković S. S., Antonović D. G., Mihajlovski K. R., **Pavlović M. D.**, Dimitrijević Branković S. I., Antioksidativna svojstva sušenih ekstrakata iz otpadne espreso kafe, (2013), *Hemijska Industrija*, 67:2, 261-267. (ISSN: 1451-9372; IF (2013) = 0,659, Engineering, Chemical, 103/133). *Broj heterocitata =3.*
https://doi.org/10.2298/HEMIND120410074M
8. **Pavlović M. D.**, Nikolić I. R., Milutinović M. D., Dimitrijević-Branković S. I., Šiler-Marinković S. S., Antonović D. G., Plant waste materials from restaurants as the adsorbents for dyes, (2014), *Hemijska Industrija*, 69:6, 667-677. (ISSN: 1451-9372; IF (2014) = 0,364, Engineering, Chemical, 121/135). *Broj heterocitata = 6.*
https://doi.org/10.2298/HEMIND140917089P

Saopštenje na međunarodnom skupu štampano u celini (M33 = 1)

9. Mihajlovski K., **Pavlović M.**, Milutinović M., Šiler-Marinković S., Dimitrijević-Branković S., Effect of fermentation by Streptomyces sp. on atioxidant properties of spent coffee extracts, CEFOOD, Novi Sad, Srbija, 23 - 26 maj, 2012, Institute of food technology, Novi Sad, (2012), 424, ISBN: 978-7994-028-5.
https://www.scopus.com/record/display.uri?eid=2-s2.0-84961340815&origin=inward&txGid=21c538afab4a3da2bd04d6031a2191ec
10. **Pavlović M. D.**, Buntić A. V., Šiler-Marinković S. S., Antonović D. G., Milutinović M. D., Radovanović N. R., Dimitrijević Branković S. I., Spent coffee grounds as adsorbents for pesticide paraquat removal from its aqueous solutions, International conference on civil, biological and environmental engineering (CBEE), Istanbul, Turska, 27-28 maj, 2014, International Institute of Chemical, Biological and Environmental Engineering, Kuala Lumpur, Malezija, (2014), 60-65, ISBN: 978-93- 82242-94-9.
https://iicbe.org/upload/9375C514541.pdf
11. Buntić A. V., **Pavlović M. D.**, Šiler-Marinković S. S., Miljković M. G., Davidović S. Z., Mihajlovski K. R., Dimitrijević Branković S. I., Screening for factors affecting cellulose

adsorption from solutions by modified coffee residues, International conference on civil, biological and environmental engineering (CBEE), Istanbul, Turska, 27-28 maj, 2014, International Institute of Chemical, Biological and Environmental Engineering, Kuala Lumpur, Malezija, (2014), 54-59, ISBN: 978-93-82242-94-9. https://iicbe.org/upload/7317C514540.pdf

12. Buntić A. V., **Pavlović M. D.**, Šiler-Marinković S. S., Dimitrijević Branković S. I., Biological Treatment of Colored Wastewater by *Streptomyces fulvissimus* CKS 7, 7th Eastern European Young Water Professionals Conference, Beograd, Srbija, 17-19 Septembar, 2015, The International Water Association (IWA), (2015), 429-435. https://wsdac.jcerni.rs/wp-content/uploads/2020/10/Proceedings-7th-IWA-YWP-Belgrade.pdf

Saopštenje na međunarodnom skupu štampano u izvodu (M34 = 0.5) (Prilog 2)

13. **Pavlović M.**, Dimitrijević-Branković S., Šiler-Marinković S., Mogućnosti proizvodnje suplemenata sa antioksidativnom aktivnošću od otpadne kafe, Program i zbornik apstrakata, Treći kongres o dijetetskim suplementima sa međunarodnim učešćem, Beograd, Srbija, 25-26. novembar 2011., 35-36.
14. Šiler-Marinković S., Dimitrijević-Branković S., **Pavlović M.**: Proteinski hidrolizati graška kao antioksidanti, 12. Kongres o ishrani sa međunarodnim učešćem, Beograd, Srbija, 31. oktobar – 3. novembar 2012, Društvo za ishranu Srbije, (2012), 248-249, ISBN: 978-86-909633-2-4 http://www.hrana-ishrana.org/wp-content/uploads/2012/10/PROGRAM-KONGRESA-FINALNIx.pdf
15. Šiler-Marinković S., Dimitrijević-Branković S., **Pavlović M.**: Proteinski hidrolizati pasulja kao antioksidanti, 12. Kongres o ishrani sa međunarodnim učešćem, Beograd, Srbija, 31. oktobar – 3. novembar 2012, Društvo za ishranu Srbije, 2012., 246-247. ISBN: 978-86-909633-2-4 http://www.hrana-ishrana.org/wp-content/uploads/2012/10/PROGRAM-KONGRESA-FINALNIx.pdf
16. Milutinović M. D., **Pavlović M. D.**, Šiler-Marinković S. S., Stojanović-Rajilić M. D., Dimitrijević-Branković S. I., Fermentation of spent espresso coffee by *Hymenobacter psychrotolerans*, 8th International Conference of the Chemical Societies of the South-East European Countries - Icosecs 8, Beograd, Srbija, 27-29 Jun, 2013., 245, ISBN: 978-86-7132-053-5.
17. Buntić A. V., **Pavlović M. D.**, Šiler-Marinković S. S., Antonović D. G., Dimitrijević-Branković S. I., Adsorption of green tea polyphenols onto spent coffee grounds, 8th International Conference of the Chemical Societies of the South-East European Countries-Icosecs 8, Beograd, Srbija, 27-29 Jun 2013., 265, ISBN:978-86-7132-053-5.
18. Ranić M. R., **Pavlović M. D.**, Šiler-Marinković S. S., Dimitrijević-Branković S. I., A Study on Total Polyphenols Content in Spent Coffee Extracts (Black, Espresso and Filter Coffee), Meeting Abstract: Annals of Nutrition and Metabolism, 2013, 63, 1655-1656, ISSN: 0250-6807.

Rad u časopisu nacionalnog značaja (M52 = 1.5)

19. Šiler-Marinković S., Dimitrijević-Branković S., Đorđević T., **Pavlović M.**, Antioksidativni kapacitet fermentisanog crvenog pasulja i njegovih proteinskih hidrolizata, Hrana i ishrana, (2012), 53:2, 69-74. UDK: 635.652:577.122; 577.334:546.

http://hrana-ishrana.org/wp-content/uploads/2013/07/HRANA-I-ISHRANA-53-2.pdf

Saopštenje na nacionalnom skupu štampano u celini (M63 = 0.5)

20. Dimitrijević-Branković S., **Pavlović M.**, Buntić A., Ranđelović M., Mihajlovski K., Rajić N., Antonović D., Šiler-Marinković S.: Determination of the natural zeolite capacity for the adsorptive removal of crystal violet dye from aqueous solution using response surface method, 50. Savetovanje srpskog hemijskog društva, Beograd, Srbija, 14. i 15. jun 2012., Serbian Chemical Society, 2012, 132-136. ISBN: 978-86-7132-049-8. http://www.chem.bg.ac.rs/~ijuranic/50.%20Savetovanje%20SHD%202012%20Beograd.pdf

Odbranjena doktorska disertacija (M71 = 6)

21. **Marija D. Pavlović**, „Izolovanje bioaktivnih jedinjenja iz otpadne kafe i njeno potpuno iskorišćenje kao adsorbenta“, Beograd, 28. decembar 2015. (UDK: 678.048:628.477:641.87:661.183)

https://nardus.mpn.gov.rs/handle/123456789/5859

Učešće u projektima finansiranim od strane nadležnog Ministarstva (pre izbora u zvanje naučni saradnik)

22. Projekat tehnološkog razvoja Ministarstva prosvete, nauke i tehnološkog razvoja “Primena biotehnoloških metoda u održivom iskorišćenju nus-proizvoda agroindustrije” (TR 31035, rukovodilac projekta Prof. dr Suzana Dimitrijević-Branković)
Uloga u projektu: istraživač

2.2.SPISAK OBJAVLJENIH RADOVA POSLE IZBORA U ZVANJE NAUČNI SARADNIK

Monografska studija/poglavlje u knjizi M11 ili rad u tematskom zborniku vodećeg međunarodnog značaja (M13)

1. Belozertseva I.A., **Milić M**, Tošić S., Saljnikov E., Environmental Pollution in the Vicinity of an Aluminium Smelter in Siberia, *Advances in Understanding Soil Degradation*, Eds. Saljnikov E., Mueller L., Lavrishchev A., Eulenstein F., (2022), pp. 379-402, Innovations in Landscape Research. Springer, Cham. (ISBN: 978-3-030-85682-3) *Broj heterocitata =0.* https://doi.org/10.1007/978-3-030-85682-3_18

Rad u međunarodnom časopisu izuzetnih vrednosti (M21a=10)

2. Buntić A. V., **Pavlović M. D.**, Antonović D. G., Šiler-Marinković S. S., Dimitrijević-Branković S. I., A treatment of wastewater containing basic dyes by the use of new strain *Streptomyces microflavus* CKS6, (2017), *Journal of Cleaner Production,* 148, 347-354. (ISSN: 0959-6526; IF (2017) = 5,651, Engineering, Environmental, 7/50). *Broj heterocitata = 21.*
https://doi.org/10.1016/j.jclepro.2017.01.164
3. Dimitrijević S., **Pavlović M.**, Maksimović S., Ristić M., Filipović V., Antonović D., Dimitrijević-Branković S., Plant growth promoting bacteria elevate the nutritional and functional properties of Black cumin and Flaxseed fixed oil, (2017), *Journal of The Science of Food and Agriculture*, 98:4, 1584-1590. (ISSN: 0022-5142; IF (2017) = 2,379, Agriculture, Multidisciplinary, 8/57). *Broj heterocitata = 12.*
https://doi.org/10.1002/jsfa.8631

Rad u vrhunskom međunarodnom časopisu (M21=8)

4. Buntić A., **Pavlović M.**, Antonović D., Pavlović V., Vrućinić D., Šiler-Marinković S., Dimitrijević-Branković S., Customizing the spent coffee for *Trichoderma reesei* cellulase

immobilization by modification with activating agents, (2017), *International Journal of Biological Macromolecules*, 107: B, 1856-1863. (ISSN: 0141-8130; IF (2017) = 3,909, Biochemistry & Molecular Biology, 79/293). *Broj heterocitata =6.*
https://doi.org/10.1016/j.ijbiomac.2017.10.060

5. Rudić S., Dimitrijević-Branković S., Dimitrijević S., **Milić M**., Valorization of unexploited artichoke leaves dust for obtaining of extracts rich in natural antioxidants, (2021), *Separation and Purification Technology*, 256, 117714. (ISSN: 1383-5866; IF (2020) = 7,312, Engineering, Chemical, 16/143). Broj heterocitata = 4.
https://doi.org/10.1016/j.seppur.2020.117714
6. **Milić M. D.,** Buntić A. V., Mihajlovski K. R., Ilić N. V., Davidović S. Z., Dimitrijević-Branković S. I., The development of a combined enzymatic and microbial fermentation as a viable technology for the spent coffee ground full utilization, (2021), *Biomass Conversion and Biorefinery*, 1-13. (ISSN: 2190-6815; IF (2020) = 4,987, Engineering, Chemical, 31/143). Broj heterocitata = 1.
https://doi.org/10.1007/s13399-021-01605-8
7. Knežević, M. M., Stajković-Srbinović, O. S., Assel, M., **Milić, M. D.,** Mihajlovski, K. R., Delić, D. I., Buntić, A. V., The ability of a new strain of *Bacillus pseudomycoides* to improve the germination of alfalfa seeds in the presence of fungal infection or chromium, (2021), *Rhizosphere*, 100353. (ISSN:2452-2198; IF (2020) = 3,129, Plant Sciences, 69/235).
https://doi.org/10.1016/j.rhisph.2021.100353
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Rad u vodećem međunarodnom časopisu (M22 = 5)

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Rad u međunarodnom časopisu (M23 = 3)

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Predavanje po pozivu sa međunarodnog skupa štampano u izvodu (M32 = 1.5) (Prilog 3)

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17. Buntić A. V., Stajković-Srbinović O. S., **Milić M. D.**, Dubljanin T. B., Kuzmanović Dj. Ž., Knežević M. M., Delić D. I., Utilization of miscanthus waste biomass for xylanase production by soil bacterium *Sinorhizobium meliloti*, 1st International Symposium: Modern Trends in Agricultural Production and Environmental Protection, Tivat, Crna Gora, 2-5. jul 2019, Proceedings, The Balkans Scientific Center of the Russian Academy of Natural Sciences, 2019, 151-163, ISBN: 978-86-6042-008-6. http://www.raen-bnc.info/konferencije/arhiva/Proceedings%20Tivat%202019.pdf

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Saopštenje na međunarodnom skupu štampano u izvodu (M34 = 0.5)

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associated pseudomonades, 1st International Online Conference on Agriculture - Advances in Agricultural Science and Technology, Section: Zero-Pollution Solutions in Crop Protection, 10–25 February, 2022.
https://sciforum.net/event/IOCAG2022#session2155

Rad u vodećem časopisu nacionalnog značaja (M51 = 2)

25. Radovanović N., Davidović S., Miljković M., **Pavlović M.**, Buntić A., Lazić V., Mihajlovski K., β-amylase production by a novel strain *Paenibacillus chitinolyticus* CKS1 using commercial and waste substrates, (2018), *Journal on Processing and Energy in Agriculture*, 22:1, 18-22. (ISSN 1821-4487).
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Rad u naučnom časopisu bez kategorije

26. Buntić A.V., **Pavlović M.D.**, Antonović D.G., Šiler-Marinković S.S., Dimitrijević-Branković S.I., Utilization of spent coffee grounds for isolation and stabilization of *Paenibacillus chitinolyticus* CKS1 cellulase by immobilization, (2016), *Heliyon*, 2:8, e00146. (ISSN:2405-8440). *Broj heterocitata =11.*
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Novo tehničko rešenje (metoda) primenjeno na nacionalnom nivou (M82 = 6) (Prilog 4)

27. Vladimir Filipović, Vladan Ugrenović, Zoran Maksimović, Snežana Dimitrijević, **Marija Milić**, Vera Popović, Dragan Terzić (2022), "Vegetativno razmnožavanje panonskog timijana (Thymus pannonicus All.) uz primenu fitohormona", Korisnik: Biogranum doo za istraživanje razvoj usluge i konsalting u agro biotehnologiji Novi Sad, Novi Sad, Konsultantska agencija BIOTECH SOLUTIONS Novi Sad, Novi Sad i PG Zoran Maksimović, Novi Sad, Prihvaćeno od: Biogranum doo za istraživanje razvoj usluge i konsalting u agro biotehnologiji Novi Sad, Novi Sad, Konsultantska agencija BIOTECH SOLUTIONS Novi Sad, Novi Sad i PG Zoran Maksimović, Novi Sad. Odgovorno lice: dr Vladimir Filipović.

Učešće u projektima finansiranim od strane nadležnog Ministarstva (posle izbora u zvanje naučni saradnik)

28. Projekat tehnološkog razvoja Ministarstva prosvete, nauke i tehnološkog razvoja "Primena biotehnoloških metoda u održivom iskorišćenju nus-proizvoda agroindustrije" (TR 31035) (Rukovodilac projekta Prof. dr Suzana Dimitrijević-Branković)
Uloga u projektu: istraživač
29. Međunarodni projekat bilateralne saradnje Srbije sa Hrvatskom pod nazivom "Primena lignocelulozne biomase za dobijanje biogoriva" Ministarstva prosvete, nauke i tehnološkog razvoja Republike Srbije (broj projekta 337-22-205/2019-09/35) za period 2019-2021 godine. Rukovodilac projekta dr Katarina Mihajlovski. (rukovodilac projekta u Hrvatskoj, prof. dr Mirela Ivančić-Šantek, Prehrambeno-biotehnološki fakultet u Zagrebu) **(Prilog 5)**
Uloga u projektu: istraživač

Učešće u projektima finansiranim od strane Fonda za inovacionu delatnost Republike Srbije (posle izbora u zvanje naučni saradnik) (Prilog 6)

30. Projekat Fonda za inovacionu delatnost – program Inovacioni Vaučer: "Optimizacija ekstrakcije i parametara sušenja u cilju očuvanja biološke vrednosti utrobice (*Gentiana asclepiadea*)", Vaučer ID: 582, rukovodilac projekta dr Mirjana Rajilić-Stojanović, nosilac projekta Tehnološko-metalurški fakultet (februar – avgust 2020).

Uloga u projektu: istraživač

31. Projekat Fonda za inovacionu delatnost- Dokaz koncepta, (*Proof of concept*), broj projekta PoC5634 pod nazivom "*Green biocatalyst for decolorization and degradation of azo dyes from industrial wastewater: a white-rot fungal laccase immobilized on recycled agro-industrial waste*", rukovodilac projekta dr Katarina Mihajlovski (2020-2022), nosilac projekta Tehnološko-metalurški fakultet u Beogradu.
    Uloga u projektu: istraživač

Učešće u projektima međunarodne saradnje finansiranim od strane EU (Prilog 7)

32. Član radne grupe WG7 u COST action CA 18101 "*SOURDOugh biotechnology network towards novel, healthier and sustainable food and bIoproCesseS*" (2019-2023).

Stručno predavanje

Marija Milić, Stručno predavanje pod nazivom "Mogućnosti iskrišćenja otpadne kafe: od izvora fitohemikalija do proizvodnje aktivnog uglja", 13. Međunarodni sajam zaštite životne sredine i prirodnih resursa *Ecofair*, 12.-14. oktobar, 2016. godine, Beogradski sajam, Beograd.

2.3.PET NAJZNAČAJNIJIH NAUČNIH OSTVARENJA KANDIDATKINJE POSLE PRETHODNOG IZBORA U ZVANJE

1. Buntić A. V., **Pavlović M. D.**, Antonović D. G., Šiler-Marinković S. S., Dimitrijević-Branković S. I. (2017): A treatment of wastewater containing basic dyes by the use of new strain Streptomyces microflavus CKS6, *Journal of Cleaner Production,* 148, 347-354. (ISSN: 0959-6526; IF (2017) = 5,651, Engineering, Environmental, 7/50).
2. Dimitrijević S., **Pavlović M.**, Maksimović S., Ristić M., Filipović V., Antonović D., Dimitrijević-Branković S. (2017): Plant growth promoting bacteria elevate the nutritional and functional properties of Black cumin and Flaxseed fixed oil. *Journal of The Science of Food and Agriculture*, 98:4, 1584-1590. (IF (2017) = 2,379; ISSN: 0022-5142)
3. Buntić A., **Pavlović M.**, Antonović D., Pavlović V., Vrućinić D., Šiler-Marinković S., Dimitrijević-Branković S. (2017): Customizing the spent coffee for *Trichoderma reesei* cellulase immobilization by modification with activating agents, *International Journal of Biological Macromolecules*, 107: B, 1856-1863. (IF (2017) = 3,909; ISSN: 0141-8130)
4. Rudić S., Dimitrijević-Branković S., Dimitrijević S., **Milić M**. (2021): Valorization of unexploited artichoke leaves dust for obtaining of extracts rich in natural antioxidants, *Separation and Purification Technology*, 256, 117714, https://doi.org/10.1016/j.seppur.2020.117714. (IF (2020) = 7,312; ISSN: 1383-5866)
5. **Milić, M. D.,** Buntić, A. V., Mihajlovski, K. R., Ilić, N. V., Davidović, S. Z., Dimitrijević-Branković, S. I. (2021): The development of a combined enzymatic and microbial fermentation as a viable technology for the spent coffee ground full utilization, *Biomass Conversion and Biorefinery*, 1-13, https://doi.org/10.1007/s13399-021-01605-8, (IF (2020) = 4,987; ISSN: 2190-6815)

Svih pet navedenih naučnih ostvarenja su rezultat rada na nacionalnom projektu Ministarstva prosvete, nauke i tehnološkog razvoja "Primena biotehnoloških metoda u održivom iskorišćenju nus-proizvoda agroindustrije" (TR 31035).

2.4.ANALIZA RADOVA KOJI KANDIDATKINJU KVALIFIKUJU ZA IZBOR U ZVANJE VIŠI NAUČNI SARADNIK

Naučni rad dr Marije Milić zasniva se, najvećim delom, na ispitivanju i pronalaženju profitabilnih načina iskorišćenja nus-proizvoda agroindustrije i to, najčešće, primenom mikrobnih sojeva širokog spektra delovanja.

Tako je u radu **2.2/6** predstavljen inovativni postupak biotransformacije otpadne kafe primenom jedinstvene kombinacije hidrolitičkih enzima i bakterija mlečne kiseline *Lactobacillus rhamnosus* (ATCC® 7469™), za dobijanje fermentisanog proizvoda dodatne vrednosti i poboljšane bioraspoloživosti za potrebe primene u stočnoj ishrani. Pod optimalnim uslovima, polifenoli su povećani za 67%, redukujući šećeri 57%, α-amino azot 80%, sadržaj hlorogenske kiseline je udvostručen, dok je kofein smanjen za 38%. Otpadna kafa je, sa druge strane, korišćena i za potrebe imobilizacije enzima, sa aspekta alternativnog nosača. S tim u vezi, u radovima **2.2/4** i **2.2/26** pokazano je da se otpadna kafa može veoma uspešno iskoristiti i kao nosač za imobilizaciju enzima celulaza, čime se dobijeni preparat pokazao stabilnijim i produktivnijim od nativnog enzima. U prvom radu je ispitivan i uticaj modifikacije površine kafe različitim aktivacionim agensima, u cilju unapređenjenja postupka imobilizacije. Najveći prinos imobilizacije (55%) i efikasnost imobilizacije (45%) postignuti su tokom 30 min vremena tretmana, primenom 30% vodenog rastvora hlor dioksida u odnosu 6 mL/g aktivator/nosač. U drugom radu je, na sličan način, ispitana mogućnost imobilizacije celulaze porekom iz prirodnog izolata *Paenibacillus chitinoliticus* CKS1. Ovom prilikom utvrđeno je da je pod optimalnim uslovima prinos imobilizacije dostigao oko 71% za 45 minuta trajanja reakcije. Još jedna veoma isplativa mogućnost iskorišćenja otpadne kafe, a to je za potrebe izolovanja dovoljnih količina antioksidativnih jedinjenja, predstavljena je tokom predavanja (**2.2/15**) koje je održano po pozivu na 13.om međunarodnom Kongresu o ishrani, gde su prikazani aspekti primene mikrotalasa u obradi hrane. Dokazano je da je mikrotalasnom ekstrakcijom postignut viši prinos za kraće vreme, pri istoj temperaturi, uz upotrebu manje količine rastvarača, u odnosu na ekstrakte iz klasične ili ultrazvučne ekstrakcije, što se energetski i ekonomski pokazalo kao veoma isplativo. Po istom principu, korišćenjem energije mikrotalasa, ispitana je, potom, i mogućnost ekstrakcije antioksidanasa iz otpadne prašine lista artičoke (publikacija **2.2/5**). Primenom metodologije odzivnih površina dobijeni su optimalni uslovi za dobijanje maksimalnih prinosa polifenola i flavonoida sa antioksidativnom aktivnošću (koncentracija etanola 67,81%, vreme ekstrakcije 50 s, odnos tečnost/čvrsta faza 41,78 mL/g, snaga mikrotalasa 180 W). Prilikom merenja i analize antioksidativne aktivnosti polifenolnih jedinjenja poreklom iz različitih prirodnih biljnih matrica, ispitana je i mogućnost polimerizacije i umrežavanja fenolnih jedinjenja, pod uticajem enzima lakaze, a u cilju poboljšane bioaktivnosti, kao što je prikazano u publikaciji **2.2/22**. Ovom prilikom istražene su strukturne promene na model supstancama - dva tipa polifenola prisutnih u prirodi, pod dejstvom lakaza, kao i promena njihovog antioksidativnog potencijala. Ispitano je i delovanje lakaze različitog porekla – lakaze gljivica bele truleži (*Ganoderma* spp.) i komercijalne lakaze iz Novozim® 51003. Na osnovu rezultata dobijenih nakon inkubacije polifenola i enzima (24 h, 50ºC), uzorak koji je sadržao mešavinu polifenola, ispoljio je vidljive promene u očitavanju UV-Vis spektra, kao i povećanu antioksidativnu aktivnost, sa malim razlikama između komercijalne lakaze i lakaze iz gljivica bele truleži.

Imajući u vidu proizvodnju mikrobnih enzima na agroindustrijskom otpadu, u narednim publikacijama predstavljen je širi spektar mogućnosti iskorišćenja različitih otpadnih sirovina poljoprivrednog porekla za gajenje novoizolovanih bakterijskih sojeva i za proizvodnju mikrobnih enzima, a potom za primenu dobijenih enzima u postupcima hidrolize lignoceluloznih sirovina i dobijanje biogoriva – bioetanola. Konkretno, u radu **2.2/8** je praćen rast i enzimski potencijal novoizolovanih sojeva gljivica bele truleži tokom gajenja na neiskorišćenom lignoceluloznom otpadu. Pronađeno je da je suncokretova sačma bila pogodan supstrat za sintezu lakaze od strane soja *Fomes fomentarius* TMF2, kao i karboksimetil celulaze i Avicelaze od strane *Bjerkandera adusta* TMF1. *B. adusta* TMF1 je, takođe, sintetisao amilazu i ksilanazu tokom rasta na otpadnom pivskom kvascu, što je do sada najbolji rezultat zabeležen za soj *B. adusta*. Sojina sačma je bila najpogodniji supstrat za stimulisanje proizvodnje pektinaze od strane *Bjerkandera adusta* TMF1 i *Schizophillum commune* TMF3. Otpadna duvanska prašina je, takođe, korišćena kao supstrat za ispitivanje mogućnosti proizvodnje celulaze pomoću sojeva *Sinorhizobium meliloti* 224 (**2.2/9**) i *Paenibacillus chitinoliticus* CKS1 (**2.2/12**). U prvom radu ispitan je i uticaj hemijske modifikacije supstrata, nakon čega je dobijeno da tokom 48 sati fermentacije na čvrstom supstratu korišćenjem 10% inokuluma, na 28 °C, proizvedena celulaza aktivnosti Avicelaze od 1,503 U/g i aktivnost CMC-aze od 1,615 U/g, dok je u drugom radu postignuta maksimalna aktivnost CMCase od 0,878 U/g i avicelaza od 1,417 U/g korišćenjem soja *Paenibacillus chitinoliticus* CKS1. Soj *Sinorhizobium meliloti* 224 je, takođe, uzgajan i na otpadnim materijalima poreklom od stabljike soje i praha ovsa (**2.2/16**), pri čemu je došlo do proizvodnje celulaze čija je maksimalna aktivnost Avicelaze iznosila 1,295 U/g. Na sličan način, iskorišćen je i otpad poreklom od slonove trave (*Miscanthus giganteus*), koji se sastoji od oko 30% ksilana, koji kao takav predstavlja dobru osnovu za ispitivanje mogućnosti proizvodnje ksilanaza. Korišćenjem soja *Sinorhizobium meliloti* 207 maksimalna aktivnost ksilanaze od 1,215 U/mL dobijena je nakon 48 sati fermentacije na modifikovanom supstratu od miskantusa i sa 10% inokuluma (**2.2/17**). Još jedan primer iskorišćenja otpadnog biljnog materijala, u ovom slučaju biljne mase zaostale nakon etanolne ekstrakcije različitog lekovitog bilja (cveta nevena i kamilice, lista matičnjaka, artičoke, koprive, timijana, nadzemnog dela hajdučke trave, lincure, jagorčevine i valerijane i semena divljeg kestena i gloga), prikazan je u radu **2.2/25,** gde je biljni supstrat korišćen za rast mikroorganizma *Paenibacillus chitinolyticus* CKS1 i proizvodnju enzima. Tom prilikom proizvedene su β-amilaze sa aktivnošću od 0,569 U/mL. Nakon mikrobne proizvodnje enzima, dalje je ispitana mogućnost proizvodnje bioetanola koristeći različite agro-industrijske supstate. Tako je u radovima **2.2/10, 2.2/19** i **2.2/20** prikazano da je novi bakterijski soj *Streptomyces fulvissimus* CKS7 veoma uspešno porizvodio sirove enzime (enzimski koktel) na ražanim mekinjama koji se dalje može koristiti u hidrolizi otpadnog lignoceluloznog bilja (rastavića) i pamučnog materijala za dobijanje redukujućih šećera. Dobijeni hidrolizati rastavića i pamučnog materijala (celulozni otpadni supstrat) su pomoću otpadnog pivska kvasca iskorišćeni za dobijanje bioetanola. Na sličan način je i hidrolizat otpadnog hleba, koji je dobijen korišćenjem sirovih hidrolitičkih enzima proizvedenih od strane *Hymenobacter* sp. CKS3, iskorišćen za proizvodnju bioetanola fermentacijom pomoću otpadnog pivskog kvasca (publikacija **2.2/14**). Ovom prilikom su, metodom odzivnih površina, optimizovani uslovi fermentacije (48,6 sati fermentacije i 2,85 % inokuluma kvasca), pri čemu je dobijena maksimalna koncentracija etanola koja je iznosila 2,06%.

U saradnji sa Institutom za proučavanje lekovitog bilja „Dr Josif Pančić“, kao i Institutom za zemljište, ispitan je uticaj bakterija na mogućnost stimulacije rasta biljaka (PGPB). Tako su u radu **2.2/3** sprovedeni dvogodišnji terenski eksperimenti u cilju ispitivanja uticaja PGPB bakterija, iz rodova *Streptomices sp*., *Paenibacillus sp*. i *Hymenibacter sp*, na sadržaj masnog ulja u uljanom lanu kao i u crnom kimu. Kao rezultat ovih istraživanja dobijeno je značajno povećanje sadržaja masnih kiselina C18:1 i C18:3 u uljanom lanu i C18:2 i C20:2 u ulju crnog kima, pri čemu je i sadržaj ukupnih polifenola, flavonoida i karotenoida, kao i antioksidativne aktivnosti veći u ulju iz semena biljaka tretiranih sa PGPB, u poređenju sa odgovarajućim netretiranim uzorcima. Dalje, novi soj *Bacillus pseudomicoides* BM1 je iskorišćen za poboljšanje klijavosti semena lucerke u uslovima stresa (povišene koncentracije hroma ili inokulacije semena gljivicama iz roda *Fusarium*), pri čemu je uočeno da je procenat inhibicije rasta sadnica lucerke inokulisanih sa *F. okisporum f. sp. medicaginis* (*in vitro*) smanjen sa 27,87% na 2,46%, dok je najveći porast dužine korena i izdanka bio 12,36% i 21,43%, redom (publikacija **2.2/7**). U publikaciji **2.2/23** ispitan je uticaj pepela biomase sagorevanjem sojine slame, samostalno ili u kombinaciji sa bakterijskim inokulumima na prinos useva ječma, kao i na kvalitet zemljišta i biljaka, pri čemu su korišćeni bakterijski sojevi *Streptomices fulvissimus* CKS7, *Himenobacter* sp. CKS3 i *Sinorhizobijum (ensifer) meliloti* 207. Rezultati su pokazali da je dodavanje biomase od pepela značajno smanjilo kiselost zemljišta i povećalo sadržaj biljnih dostupnih P i K u poređenju sa kontrolama (u svim tretmanima). Na sličan način, ispitan je potencijal *Pseudomonas* sp. sojeva izolovanih iz *Vigna radiata* (Vig3Psd1 i Vig3Psd2) i *Medicago sativa* (LA1Psd1 i LA1Psd2) u poboljšanju klijavosti semena ovsa inficiranim *Fusarium* rodom, metodom *in vitro* (publikacija **2.2/24**). Rezultati su pokazali da inokulum zasnovan na Vig3Psd2 ima potencijal da se koristi u zelenoj poljoprivredi, nakon daljih eksperimenata u staklenicima i na terenu. U publikacijama **2.2/21** i **2.2/27**, od kojih se drugo odnosi na tehničko rešenje, ispitan je uticaj fitohormona na vegetativno razmnožavanje panonskog timijana (*Thymus pannonicus* All.), pri čemu su vršene i analize merenja sadržaja bioaktivnih jedinjenja (polifenola i flavonoida), kao i ispitivanje biološke aktivnosti tj. antioksidativna aktivnost. Na osnovu rezultata utvrđeno je da u zaštićenom prostoru u dva termina zasnivanja reznica najbolje rezultate postigla je primena INCIT 8. U proseku bolji kvalitet, odnosno veće vrednosti ispitivanih parametara hemijskog sastava i biološke aktivnosti zabeležen je u stabljikama mladih biljaka, nego u listovima. Što se tiče sadržaja bioaktivnih jedinjenja i biološke aktivnosti najbolje rezultate ostvarile su biljčice tretirane fitohormonom INCIT 8.

Veoma važan aspekt iskorišćenja mikrobnog potencijala, u oblasti zaštite životne sredine, prikazan je u radovima **2.2/2** i **2.2/13** gde je ispitivan razgradni kapacitet sojeva *Streptomyces microflavus* CKS6, kao i *Streptomyces fulvissimus* CKS7 (**2.2/11**), za potrebe biorazgradnje obojenih otpadnih voda, korišćenjem model supstanci boja Kristal violet i Safranin T. Za optimizaciju procesnih promenljivih korišćena je metoda odzivne površine i tom prilikom utvrđenio je da su optimalni tehnološki uslovi, generalno blagi, imajući u vidu temperaturu reakcije od 27-30°C i pH 6-7. Iz oblasti zaštite životne sredine, dr Marija Milić je učestvovala u pisanju poglavlja u knjizi, (publikacija **2.2/1**) u kome su prikazani aspekti zagađenja zemljišta u blizini aluminijumskog metalurškog kombinata u Sibiru, u saradnji sa istraživačem iz Rusije, pri čemu je razmatran potencijal prirodne biorazgradnje potencijalno toksičnih elemenata u zemljištu.

Dr Marija Milić je, takođe, doprinela i razvoju inovativnih biofilmova na bazi nanočestica srebra sa antimikrobnom aktivnošću (publikacija **2.2/18**), koji mogu imati imaju potencijalnu

primenu u oblastima gde je poželjna upotreba biorazgradivih i biokompatibilnih materijala sa visokom antibakterijskom aktivnošću, kao što su pakovanja hrane, zarastanje rana, premazi za medicinske uređaje, i slično.

Rezultati prikazani u navednim radovima i saopštenjima nastali su kao rezultat rada na nacionalnom projektu 2.2/28 finansiranom od strane Ministarstva za prosvetu, nauku i tehnološki razvoj Republike Srbije, kao i Međunarodnom projektu bilateralne saradnje Srbije sa Hrvatskom 2.2/29, takođe finansiranog od strane Ministarstva za prosvetu, nauku i tehnološki razvoj Republike Srbije.

2.5.CITIRANOST NAUČNIH RADOVA (bez autocitata) PREMA BAZI SCOPUS (na dan 30.03.2022.)

U svom dosadašnjem naučno-istraživačkom radu (2012-2022), naučni radovi dr Marije Milić citirani su ukupno 333 puta (sa autocitatima svih autora), odnosno 291 put bez autocitata svih autora, dok je Hiršov indeks (h-indeks) 9 (sa autocitatima), a takođe 9 bez autocitata, prema Scopus bazi na dan 30.03.2022. Citirani su sledeći radovi:

Mihajlovski K., **Milić M.**, Pecarski D., Dimitrijević Branković S., Statistical optimization of bioethanol production from waste bread hydrolysate, (2021), *Journal of the Serbian Chemical Society*, 86, (7–8), 651–662. (ISSN 0352-5139; IF (2020) = 1,240, Chemistry, Multidisciplinary 141/178). Broj heterocitata = 1.
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KVALITATIVNA OCENA NAUČNIH REZULTATA

3. KVALITET NAUČNIH REZULTATA

3.1. Naučni nivo, značaj i primenljivost rezultata

Dr Marija Milić se bavi istraživanjima koja su zasnovana na ispitivanju i pronalaženju profitabilnih načina iskorišćenja nus-proizvoda agroindustrije i to, najčešće, primenom mikrobnih sojeva širokog spektra delovanja. U tom smislu, otpadni materijali agroindustrije su korišćeni kao polazne sirovine u procesima biotransformacije za dobijanje novih proizvoda dodatne vrednosti, u skladu sa principima cirkularne bioekonomije, kao i za proizvodnju mikrobnih enzima, gajenjem novoizolovanih bakterijskih sojeva, a potom za primenu istih u postupcima hidrolize lignoceluloznih sirovina i dobijanje biogoriva – bioetanola. Jedan deo istraživanja posvećen je i ispitivanju uticaja novoizolovanih sojeva bakterija na mogućnost stimulacije rasta biljaka, a takođe, poseban aspektinteresovanja vezan je i za ispitivanje mikrobnog potencijala u oblasti zaštite životne sredine, na primerima biorazgranje nekoliko model supstanci koje se ubrajaju u česte zagađivače prirodnih vodotokova.

U svom dosadašnjem naučno-istraživačkom radu (od 2012 godine do sada), objavila je **1** poglavlje u knjizi kategorije M13 (nakon prethodnog izbora u zvanje) i ukupno **21** naučni rad kategorije M20 od kojih su 3 rada u vrhunskom međunarodnom časopisu izuzetnih vrednosti (M21a) (2 rada nakon prethodnog izbora u zvanje), 8 radova u vrhunskom međunarodnom časopisu (M21) (5 radova nakon prethodnog izbora u zvanje), 4 rada u istaknutom međunarodnom časopisu (M22) (2 rada nakon prethodnog izbora u zvanje), 6 radova u časopisu međunarodnog značaja (M23) (4 nakon prethodnog izbora u zvanje), **1** rad u vodećem časopisu nacionalnog značaja (M51) (nakon prethodnog izbora u zvanje), **1** rad u časopisu nacionalnog značaja (M52), **1** rad u naučnom časopisu bez kategorije (nakon prethodnog izbora u zvanje), **1** predavanje po pozivu sa međunarodnog skupa štampano u izvodu kategorije M32 (nakon prethodnog izbora u zvanje), **7** saopštenja sa međunarodnog skupa štampanih u celini (M33) (3 saopštenja nakon prethodnog izbora u zvanje); **12** saopštenja sa međunarodnog skupa štampanih u izvodu (M34) (6 saopštenja nakon prethodnog izbora u zvanje); **1** saopštenje sa skupa nacionalnog značaja

štampanog u celini (M63), **1** doktorsku disertaciju (M71) i **1** tehničko rešenje (M82), sa ukupnim zbirom impakt faktora **58,886** od čega je **42,856** nakon prethodnog izbora u zvanje.

Prema bazi Scopus, do 30.03.2022. radovi su ukupno citirani **333** puta, odnosno **291** put, bez autocitata svih autora, što ukazuje na njihov naučni nivo i uticajnost u ovoj istraživačkoj oblasti i potvrđuje njihov visok kvalitet. Od radova koji su objavljeni posle izbora u prethodno zvanje najveći impakt faktor 7,312 ima rad kategorije M21 2.2/5 sa 4 heterocitata gde je dr Marija Milić poslednji i odgovorni autor. Takođe, od radova koji su objavljeni posle izbora u prethodno zvanje, najveći broj puta (21) (bez autocitata svih autora) citiran je rad kategorije M21a (2.2/2) sa impakt faktorom 5,651, u kome je kandidatkinja kao drugi autor dala značajan doprinos u definisanju uslova mikrobne razgradnje baznih boja i razumevanju mehanizma delovanja, za potrebe prečišćavanja otpadnih obojenih voda biološkim metodama.

3.2 Uticajnost, citiranost i parametri kvaliteta časopisa

U svom dosadašnjem naučno istraživačkom radu dr Marija Milić je bila autor/koautor ukupno **48** bibliografskih jedinica i to: 1 poglavlja u knjizi iz kategorije M13, 21 naučnog rada iz kategorije M20 (od kojih u međunarodnom časopisu časopisu izuzetnih vrednosti (M21a) 3 rada, u vrhunskom međunarodnom časopisu (M21) 8 radova, u istaknutom međunarodnom časopisu (M22) 4 rada i u međunarodnom časopisu (M23) 6 radova); 1 rada objavljenog u vodećem časopisu nacionalnog značaja (M51); 1 rada objavljenog u nacionalnog značaja (M52), 1 rada u naučnom časopisu bez kategorije, 1 predavanja po pozivu sa međunarodnog skupa štampano u izvodu (M32), 7 saopštenja sa međunarodnog skupa štampanih u celini (M33); 12 saopštenja sa međunarodnog skupa štampanih u izvodu (M34), 1 saopštenja sa skupa nacionalnog značaja štampanog u celini (M63), 1 doktorske disertacije (M71) i 1 tehničkog rešenja (M82). Jedan rad je objavljen u časopisu sa impakt faktorom većim od 7, jedan rad u časopisu sa impakt faktorom većim od 5, 2 rada u časopisu sa impakt faktorom većim od 4, 5 rada u časopisu sa impakt faktorom većim od 3, 3 rada u časopisu sa impakt faktorom većim od 2, 7 radova u časopisu sa impact faktorom većim od 1 i 2 rada u časopisu sa impakt faktorom manjim od 1. Ukupan zbir impakt faktora objavljenih naučnih radova je **58,886**. Najcitiraniji rad ima 81 heterocitat i pripada kategoriji M21a (Ranić M., Nikolić M., **Pavlović M.**, Buntić A., Šiler-Marinković S., Dimitrijević-Branković S., Optimization of microwave-assisted extraction of natural antioxidants from spent espresso coffee grounds by response surface methodology, (2014), *Journal of Cleaner Production*, 80, 69-79. (ISSN: 0959-6526; IF (2014) = 3,844, Engineering, Environmental, 10/47, https://doi.org/10.1016/j.jclepro.2014.05.060), prema Scopus bazi podataka na dan 30.03.2022.

Posle izbora u prethodno zvanje, kandidat je autor/koautor 27 bibliografskih jedinica i to: 1 poglavlja u knjizi iz kategorije M13, 13 naučnih radova iz kategorije M20 (od kojih u međunarodnom časopisu izuzetnih vrednosti (M21a) 2 rada, u vrhunskom međunarodnom časopisu (M21) 5 radova, u istaknutom međunarodnom časopisu (M22) 2 rada i u međunarodnom časopisu (M23) 4 rada), 1 predavanja po pozivu sa međunarodnog skupa štampano u izvodu (M32), 3 saopštenja sa međunarodnog skupa štampanih u celini (M33), 6 saopštenja sa međunarodnog skupa štampanih u izvodu (M34), 1 rada objavljenog u vodećem časopisu nacionalnog značaja (M51), 1 tehničkog rešenja (M82) i 1 rada u naučnom časopisu bez kategorije. Jedan rad je objavljen u časopisu sa impakt faktorom većim od 7, jedan rad u časopisu sa impakt faktorom većim od 5, dva rada u časopisu sa impakt faktorom većim od 4, tri rada u časopisu sa impakt faktorom većim od 3, dva rada u časopisu sa impakt faktorom većim od 2 i četiri rada u

časopisu sa impakt faktorom većim od 1. Ukupan zbir impakt faktora objavljenih naučnih radova (posle prethodnog izbora u naučnog saradnika) je 42,856.

Najcitiraniji rad iz perioda koji se uzima za evaluaciju pri izboru u zvanje viši naučni saradnik ima 21 heterocitat prema Scopus bazi podataka na dan 30.03.2022. (Buntić A. V., **Pavlović M. D.**, Antonović D. G., Šiler-Marinković S. S., Dimitrijević-Branković S. I., A treatment of wastewater containing basic dyes by the use of new strain *Streptomyces microflavus* CKS6, (2017), *Journal of Cleaner Production,* 148, 347-354. (ISSN: 0959-6526; IF (2017) = 5,651, Engineering, Environmental, 7/50, https://doi.org/10.1016/j.jclepro.2017.01.164).

Međunarodni časopisi iz kategorije **M20** u kojima su objavljeni radovi dr Marije Milić pre izbora u prethodno zvanje su: **Journal of Cleaner Production** (M21a, IF (2014) = 3,844, Engineering, Environmental, 10/47), **Separation and Purification Technology** (M21, IF (2013) = 3,065, Engineering, Chemical, 17/133), **Journal of the Taiwan Institute of Chemical Engineers** (M21, IF (2014) = 3,000, Engineering, Chemical, 19/135), **Journal of Food Composition and Analysis** (M21, IF (2014) = 1,985, Food Science & Technology, 33/122), **Water, Air and Soil Pollution** (M22, IF (2014) = 1,554, Water Resources, 35/83), **European Food Research and Technology** (M22, IF (2014) = 1,559, Food Science & Technology, 53/122), **Hemijska Industrija** (M23, IF (2013) = 0,659, Engineering, Chemical, 103/133).

Međunarodni časopisi iz kategorije **M20** u kojima su objavljeni radovi dr Marije Milić posle izbora u prethodno zvanje a do pisanja Izveštaja za izbor u zvanje viši naučni saradnik su: **Journal of Cleaner Production** (M21a, IF (2017) = 5,651, Engineering, Environmental, 7/50), **Journal of The Science of Food and Agriculture** (M21a IF (2017) = 2,379, Agriculture, Multidisciplinary, 8/57), **International Journal of Biological Macromolecules** (M21, IF (2017) = 3,909, Biochemistry & Molecular Biology, 79/293), **Separation and Purification Technology** (M21, IF (2020) = 7,312, Engineering, Chemical, 16/143), **Biomass Conversion and Biorefinery** (M21, IF (2020) = 4,987, Engineering, Chemical, 31/143), **Rhizosphere** (M21, IF (2020) = 3,129, Plant Sciences, 69/235), **International Journal of Environmental Science and Technology** (M22, IF (2018) = 2,031, Environmental Sciences, 134/251), **Waste and Biomass Valorization** (M22, IF (2020) = 3,703, Environmental Sciences, 108/274), **Water Science and Technology** (M23, IF (2016) = 1,197, Engineering, Environmental, 38/49), **Journal of the Serbian Chemical Society** (M23, IF (2019) = 1,097, Chemistry, Multidisciplinary, 138/177), **Desalination and Water Treatment** (M23, IF (2018) = 1,234, Engineering, Chemical, 93/138).

Citiranost radova prema Scopus bazi podataka (na dan 30.03.2022.) iznosi ukupno 333 (sa autocitatima), odnosno 291 (bez autocitata svih autora).

Tabela 1. Citiranost radova prema Scopus bazi podataka na dan 30.03.2022. (bez autocitata)

Rad	Kategorija	Godina publikovanja	Citiranost bez autocitata
2.1/2	M21	2013	43
2.1/7	M23	2013	3
2.1/1	M21a	2014	81
2.1/3	M21	2014	44
2.1/4	M21	2014	10
2.1/5	M22	2014	9
2.1/8	M23	2014	6
2.1/6	M22	2015	3
2.2/11	M23	2016	7

2.2/26	/	2016	11
2.2/2	M21a	2017	21
2.2/3	M21a	2017	12
2.2/4	M21	2017	6
2.2/9	M22	2019	7
2.2/12	M23	2019	6
2.2/13	M23	2019	2
2.2/5	M21	2021	4
2.2/6	M21	2021	1
2.2/10	M22	2021	14
2.2/14	M23	2021	1

Radovi kandidatkinje su citirani u međunarodnim časopisima sa SCI liste iz različitih oblasti: *Chemistry (18.6%), Environmental Science (16.3%), Agricultural and Biologicl Sciences (14.0%), Chemical Engineering (11.6%), Energy (11.6%), Engineering (9.3%), Biochemistry, Genetics and Molecular Biology (7.0%), Business, Manaagement and Acounting (4.7%), Economics, Econometrics and Finance (2.3%), Multidisciplinary (2.3%), Other (2.3%)* (**Prilog 8**). Radovi kandidatkinje su citirani u respektabilnim međunarodnim časopisima kategorije **M21a**: *Renewable and Sustainable Energy Reviews (IF=14.982), Chemical Engineering Journal (IF=13.273), Comprehensive Reviews in Food Science and Food Safety (IF=12.811), Trends in Food Science and Technology (IF=12.563), Bioresource Technology (IF=9.642), ACS Sustainable Chemistry and Engineering, (IF=8.198), Environmental Pollution (IF=8.071), Science of the Total Environment (IF=7.963), Food Chemistry (IF=7.514), Ultrasonics Sonochemistry (IF=7.491), International Journal of Biological Macromolecules (IF=6.953), Fuel (IF=6.609), Food Research International (IF=6.475), Antioxidants (IF=6.313), Construction and Building Materials (IF=6.141), Frontiers in Plant Science (IF=5.754), Microbial Ecology (IF=4.552),* kategorije **M21**: *Journal of Cleaner Production (IF=9.297), Separation and Purification Technology (IF=7.312), Waste Management (IF=7.145), Chemosphere (IF=7.086), Journal of Biological Macromolecules (IF=6.953), Journal of Environmental Management (IF=6.789), Frontiers in Nutrition (IF=6.576), Journal of Molecular Liquids (IF=6.165), Process Safety and Environmental Protection (IF=6.158), Journal of Industrial and Engineering Chemistry (IF=6.064), Talanta (IF=6.057), Innovative Food Science and Emerging Technologies (IF=5.916), Journal of Environmental Chemical Engineering (IF=5.909), International Journal of The Taiwan Institute of Chemical Engineers (IF=5.876), Frontiers in Pharmacology (IF=5.811), Nutrients (IF=5.719), Frontiers In Microbiology (IF=5.640), Journal of Water Process Engineering (IF=5.485), Food and Function (IF=5.396), Journal of Food Engineering (IF=5.354), Colloids and Surfaces B: Biointerface (IF=5.268), Environmental Technology and Innovation (IF=5.263), Marine Drugs (IF=5.118), Journal of Materials Research and Technology (IF=5.039), Industrial Crops and Products (IF=5.000), Sustainable Environment Research (IF=4.980), Applied Microbiology and Biotechnology (IF=4.813), Bioresources and Bioprocessing (IF=4.578), Journal of Food Composition and Analysis (IF=4.556), Food and Bioproducts Processing (IF=4.481), Scientific Reports (IF=4.380), Foods (IF=4.350), Polymers (IF=4.329), Reactive and Functional Polymers (IF=3.975), Journal of Pharmaceutical and Biomedical Analysis (IF=3.935), Journal of Separation Science (IF=3.645), Phytobiomes Journal*

(IF=3.643), Forests (IF=2.634), Horticulturae (IF=2.331), kategorije **M22**: *Materials Research Bulletin (IF=4.641), Chemistry and Pharmacy (IF=4.508), Molecules (IF=4.411), Environmental Science and Pollution Research (IF=4.223), Materials Chemistry and Physics (IF=4.094), Biochemical Engineering Journal (IF=3.978), RSC Advances (IF=3.840), Process Biochemistry (IF=3.757), Waste And Biomass Valorization (IF=3.703), Industrial and Engineering Chemistry Research (IF=3.573), Langmuir (IF=3.557), Food Analytical Methods (IF=3.366), Chemical Engineering Research and Design (IF=3.350), Korean Journal of Chemical Engineering (IF=3.309), Bioprocess and Biosystems Engineering (IF=3.210), Journal of Chemical Technology and Biotechnology (IF=3.174), Journal of Applied Microbiology (IF=3.066), Energy and Environment (IF=2.945), Applied Biochemistry and Biotechnology (IF=2.926), Ecology and Evolution (IF=2.881), Biological Control (IF=2.754), Plos One (IF=2.740), International Journal of Food Properties (IF=2.727), Chinese Journal of Chemical Engineering (IF=2.627),Journal of Polymers and the Environment (IF=2.572), International Journal of Environmental Science and Technology (IF=2.540), Sustainable Water, Air, and Soil Pollution (IF=2.520), Journal of Chemistry (IF=2.506), Journal of Food Measurement and Characterization (IF=2.431), Applied Spectroscopy (IF=2.388), Journal of Food Process Engineering (IF=2.356), Journal of Sol-gel Science and Technology (IF=2.008), Journal of Food Science and Technology (IF=1.946),Chemical Engineering Communications (IF=1.802), Desalination and Water Treatment (IF=1.254),* kategorije **M23**: *Journal of Pharmaceutical Innovation (IF=2.750), Archives of Microbiology (IF=2.552), Brazilian Journal of Microbiology (IF=2.428), Medicinal Chemistry Research (IF=1.965), Water Environment Research (IF=1.946), Journal of Food Processing and Preservation (IF=2.190), Acta Biochimica Polonica (IF=2.149), Chemical Papers (IF=2.097), Journal of Mass Spectrometry (IF=1.982), Materials Research Express (IF=1.929), Anais da Academia Brasileira de Ciencias (IF=1.753), Acta Chimica Slovenica (IF=1.735), Chemical Engineering and Technology (IF=1.728), Arabian Journal for Science and Engineering (IF=1.711), Water Science and Technology (IF=1.638), Periodica Polytechnica Chemical Engineering (IF=1.571), Food Science and Biotechnology (IF=1.513), Journal of Applied Botany and Food Quality (IF=1.451), Journal of Liquid Chromatography and Related Technologies (IF=1.312), Journal of The Serbian Chemical Society (IF=1.097), Pharmacognosy Magazine (IF=1.085), Chemical Research in Chinese Universities (IF=1.069), Global Nest Journal (IF=1.042), Journal of the Faculty of Engineering and Architecture of Gazi University (IF=0.968), Heterocycles (IF=0.831), Chemistry of Natural Compounds (IF=0.809), Indian Journal of Pharmaceutical Education and Research (IF=0.686), Food Science and Technology Research (IF=0.668), Food Technology (IF=0.367), Tecnologia y Ciencias del Agua (IF=0.367).*

Od ukupnog broja časopisa iz kategorije M20 u kojima su radovi kandidatkinje citirani, 13,71% pripada kategoriji M21a, 33,87% kategoriji M21, 28,23% kategoriji M22 i 24,19% kategoriji M23.

Slika 1. Rasprostranjenost citiranosti kandidata u svetu (Izvor: Publons)

3.3. Ocena samostalnosti kandidatkinje

U toku dosadašnjeg naučno-istraživačkog rada Dr Marija Milić je pokazala visok stepen samostalnosti u idejama, kreiranju i realizaciji eksperimenata, interpretaciji rezultata, statističkoj obradi rezultata, optimizaciji procesa, kao i u osmišljavanju i pisanju naučnih publikacija. Uspešno je pokazala sposobnost u ispitivanjima u novim naučnim oblastima i razvoju saradnje u zemlji i inostranstvu. Dr Marija Milić je pokazala kreativnost i originalnost kroz multidisciplinarne oblasti istražvanja. Dobijeni rezultati su objavljeni u visokorangiranim međunarodnim časopisima.

U svom dosadašnjem naučno istraživačkom radu dr Marija Milić je bila autor/koautor ukupno **48** bibliografske jedinice. Od **21** naučnog rada iz kategorije **M20** kandidatkinja je **prvi autor na 5** radova (od kojih: 3 rada M21, 1 rad M22 i 1 rad M23), **drugi autor na 8** radova (od kojih: 2 rada M21a, 1 rad M21, 2 rada M22, 3 rada M23), **pretposlednji autor na 2** rada (od kojih: 1 rad M21 i 1 rad M23), **poslednji autor na 2** rada (od kojih: 1 rad M21 I 1 rad M23), **koresponding autor na 6** radova (od kojih 4 rada M21, 1 rad M22 i 1 rad M23). Od 2 rada objavljena u domaćim časopisima, kandidatkinja je **poslednji autor na 1 radu (M52)**. Na **1 predavanju** po pozivu sa međunarodnog skupa štampanog u izvodu (**M32**) kandidatkinja je **prvi i jedini autor**, na 3 saopštenja štampanim u celini (**M33**) kandidatkinja je **1 bila prvi autor**, a **2 puta drugi autor**, na 10 saopštenja štampanim u izvodu (**M34**) kandidatkinja je **1 bila prvi autor**, **6 puta drugi autor** i **3 puta poslednji autor**. Kandidatkinja je autor **jedne doktorske disertacije** (**M71**).

Dr Marija Milić je aktivno učestvovala kako u osmišljavanju i izvođenju eksperimenata, tako i u pisanju i objavljivanju naučnih radova i saopštenja sa skupova. Najveći deo objavljenih radova je proistekao iz anganžmana na projektima finansiranim od strane Ministarstva prosvete,

nauke i tehnološkog razvoja Republike Srbije. Iz spiska referenci vidi se da su najsnažniji pravci angažovanja u oblasti naučnoistraživačkog rada ostvareni pre svega u iskorišćenju otpadnih sirovina, kao i optimizaciji procesa proizvodnje biološki vrednih proizvoda za potrebe potencijalne primene u prehrambenoj i farmaceutskoj industriji.

Dr Marija Milić je rukovodila projektnim zadatkom definisanim u planu za projektno finansiranje od strane Ministarstva za prosvetu, nauku i tehnološki razvoj Republike Srbije za 2021. godinu, zatim, projektnim zadatkom u okviru međunarodnog projekta bilateralne saradnje sa Republikom Hrvatskom (**2.2/29**), kao i projektnim zadatkom u okviru programa Dokaz koncepta finansiranog od strane Fonda za Inovacionu delatnost Republike Srbije (**2.2/31**), (**Prilog 9**).

Dr Marija Milić je u periodu od februara do avgusta 2020. godine učestvovala u realizaciji programa Inovacioni Vaučer, finansiranog od strane Fonda za inovacionu delatnost, pod identifikacionim brojem 582 i nazivom "Optimizacija ekstrakcije i parametara sušenja u cilju očuvanja biološke vrednosti utrobice (*Gentiana asclepiadea*)" (**2.2/30**). Takođe, dr Marija Milić je od 2019. godine član COST Akcije u okviru radne grupe WG7 pod nazivom "SOURDOugh biotechnology network towards novel, healthier and sustainable food and bIoproCesseS" (CA18101)", (**2.2/32**).

U periodu u kom se bira u naučno zvanje kandidatkinja je održala jedno predavanje po pozivu (**2.2/15**) na međunarodnom skupu koje je štampano u izvodu, na temu " Microwave in food processing " u okviru 13th Congress of Nutrition, koji je 2016. godine organizovan od strane Serbian Nutrition Society, u okviru koga je naučnoj javnosti prezentovala rezultate, dostignuća i buduće pravce u oblasti proizvodnje funkcionalne hrane korišćenjem inovativne tehnologije pomoću mikrotalasa.

Dr Marija Milić je održala i jedno **s**tručno predavanje pod nazivom "Mogućnosti iskrišćenja otpadne kafe: od izvora fitohemikalija do proizvodnje aktivnog uglja", predstavljeno na 13. Međunarodnom sajmu zaštite životne sredine i prirodnih resursa *Ecofair*, održanom 12.-14. oktobra, 2016. godine, na Beogradskom sajmu, u Beogradu.

Takođe, dr Marija Milić je učestvovala u promociji Tehnološko-metalurškog fakulteta na Međunarodnom sajmu tehnike u Beogradu.

Potvrda samostalnosti dr Marije Milić se ogleda i u učestvovanju u radu Komisija na Tehnološko-metalurškom fakultetu Univerziteta u Beogradu. Uz saglasnost Nastavno-naučnog veća Tehnološko-metalurškog fakulteta, dr Marija Milić je imenovana za člana Komisije za ocenu i odbranu doktorske disertacije kandidata Snežane Dimitrijević (**Prilog 10**), kao i za člana Komisije za odbranu sedam master radova sledećih kandidata: Tamara Aleksić (30.09.2019), Đorđe Janjić (15.06.2020), Miloš Kostić (15.06.2020), Una Jusović (30.09.2020), Miljan Rašević (30.09.2021), Uroš Branković (30.09.2021) i Dušica Popović (30.09.2021) (**Prilog 11**).

Takođe, kandidatkinja je učestvovala je u izradi jednog Doktorskog rada kandidata Anete Buntić (30.06.2017), šest Master radova kandidata: Petar Batinić (28.09.2016), Jelena Urošević (22.09.2017), Hristina Lalović (26.09.2017), Dajana Poštić (26.09.2017), Vojkan Stamenković (12.01.2018) i Petar Milanović (02.04.2021), kao i dva završna rada: Milomir Tomić (30.09.2017) i Vuk Šašić (30.09.2020), koji su urađeni u okviru projekta TR31035 i odbranjeni na Tehnološko-metalurškom fakultetu Univerziteta u Beogradu (**Prilog 12**).

Kandidatkinja je učestvovala u izradi jednog naučnog rada, pod nazivom "Ispitivanje biološke aktivnosti liofilizovane kozje surutke sa dodatkom osušenog začinskog bilja", kandidata Mihaila Mladenovića, studenta treće godine osnovnih studija (br. indeksa 2018/0096) koji je nagrađen 3. mestom na Maloj smotri radova CNIRS (Centar za naučno-istraživački rad studenata)

TMF-a "Stefan Đokić", održanoj 1. i 2. juna na TMF-u (dodela nagrada održana je na Velikoj smotri radova, 15.11.2021. godine, u Svečanoj sali rektorata u Beogradu) (**Prilog 13**).

Uz saglasnost Nastavno-naučnog veća Tehnološko-metalurškog fakulteta, dr Marija Milić je angažovana na izvođenju eksperimentalnih vežbi na osnovnim studijama iz predmeta Biotehnološki praktikum 1 na Katedri za Biohemijsko inženjerstvo i biotehnologiju, i to: školske 2015/2016 (zimski semestar) i 2016/2017 godine (zimski semestar) (**Prilog 14**).

Dr Marija Milić je bila polaznik nekoliko radionica i seminara: Priprema uspešnih projekata za program "HORIZONT 2020" (28-31.10.2015), *How to prepare budget for EU funds* (31.05.2019), *Climate Launchpad* (12-13.06.2019).

Veliki broj urađenih recenzija (18) u časopisima kategorije M20 (6) u prethodnom periodu takođe potvrđuje samostalnost kandidatkinje (**Prilog 15**).

3.4. Angažovanost u formiranju naučnih kadrova

Pored naučno-istraživačkog rada, dr Marija Milić je dala značajan doprinos u formiranju naučnih kadrova učestvovanjem u izvođenju nastave, pripremi materijala za nastavu, realizaciji završnih, master i doktorskih radova.

Uz saglasnost Nastavno-naučnog veća Tehnološko-metalurškog fakulteta, dr Marija Milić je angažovana na izvođenju eksperimentalnih vežbi na osnovnim studijama iz predmeta Biotehnološki praktikum 1 na Katedri za Biohemijsko inženjerstvo i biotehnologiju, i to: školske 2015/2016 (zimski semestar) i 2016/2017 godine (zimski semestar).

Tokom svog dosadašnjeg rada dr Marija Milić je učestvovala u izradi više završnih radova, master radova, naučnih i doktorskih radova koji su rađeni na Tehnološko-metalurškom fakultetu u Beogardu. Kandidatkinja je bila član jedne Komisije za ocenu i odbranu doktorske disertacije kao i sedam master radova koji su realizovani na Tehnološko-metalurškom fakultetu u Beogradu.

Potvrda o učestvovanju u formiranju naučnih kadrova dr Marije Milić je i učestvovanje u radu Komisija na Tehnološko-metalurškom fakultetu Univerziteta u Beogardu i to:

Komisija za ocenu i odbranu doktorske disertacije (Prilog 10)

1. Prema odluci Nastavno-naučnog veća Tehnološko-metalurškog fakulteta br. 17/270 od 05.07.2018 godine, dr Marija Milić je imenovana za člana Komisije za ocenu i odbranu doktorske disertacije kandidata Snežane Dimitrijević, dipl. inženjera, pod nazivom "Primena novih sojeva bakterija u procesu kompostiranja i u gajenju uljnih kultura sa poboljšanim biološkim svojstvima".

Komisija za odbranu master rada (Prilog 11)

2. Prema Odluci Nastavno-naučnog veća Tehnološkog fakulteta br. 17/532 od 16.10.2019. godine, dr Marija Milić je imenovana za člana Komisije za odbranu master rada sa temom „Uticaj kombinovanog enzimsko-mikrobnog tretmana na sadržaj polifenola, hlorogene kiseline i kofeina u kafi i u otpadnom talogu kafe" studenta Tamare Aleksić (broj indeksa 2018/3142).

3. Prema Odluci Nastavno-naučnog veća Tehnološkog fakulteta br. 17/177 od 18.06.2020. godine, dr Marija Milić je imenovana za člana Komisije za odbranu master rada sa temom „Antioksidativna svojstva ekstrakta dobijenih mikrotalasnom ekstrakcijom otpadne biomase lista koprive (*Urtica dioica*)" studenta Đorđa Janjića (broj indeksa 2018/3069).

4. Prema Odluci Nastavno-naučnog veća Tehnološkog fakulteta br. 17/174 od 18.06.2020. godine, dr Marija Milić je imenovana za člana Komisije za odbranu master rada sa temom

„Antioksidativna svojstva ekstrakta dobijenih iz otpadne biomase korena maslačka (*Taraxum officinale*)“ studenta Miloša Kostića (broj indeksa 2018/3007).

5. Prema Odluci Nastavno-naučnog veća Tehnološkog fakulteta br. 17/621 od 05.11.2020. godine, dr Marija Milić je imenovana za člana Komisije za odbranu master rada sa temom „Analiza dokumentovanog prebiotskog potencijala fenolsnih jedinjenja“ studenta Une Jusović (broj indeksa 2019/3094).

6. Prema Odluci Nastavno-naučnog veća Tehnološkog fakulteta br. 17/551 od 15.10.2021. godine, dr Marija Milić je imenovana za člana Komisije za odbranu master rada sa temom „Mogućnosti iskorišćenja otpadne kafe u skladu sa principima cirkularne bioekonomije“ studenta Uroša Brankovića (broj indeksa 2017/3092).

7. Prema Odluci Nastavno-naučnog veća Tehnološkog fakulteta br. 17/573 od 18.10.2021. godine, dr Marija Milić je imenovana za člana Komisije za odbranu master rada sa temom „Otpadna biomasa lista artičoke (Cynara scolimus) za dobijanje ekstrakta sa antimikrobnim i antioksidativnim svojstvima“ studenta Dušice Popović (broj indeksa 2018/3094).

8. Prema Odluci Nastavno-naučnog veća Tehnološkog fakulteta br. 17/585 od 19.10.2021. godine, dr Marija Milić je imenovana za člana Komisije za odbranu master rada sa temom „Optimizacija parametara fermentacije praha hajdučke trave bakterijom *Lacticasibacillus rhamnosus* A71 u cilju dobijanja ekstrakta unapređene biološke vrednosti“ studenta Miljana Raševića (broj indeksa 2020/3099).

3.5. Normiranje broja poena prema broju koautora

Prema kriterijumima Pravilnika o sticanju istraživačkih i naučnih zvanja ("Službeni glasnik RS", broj 159 od 30. decembra 2020), normiranju podleže 1 rad kategorije M21 (rad 2.2/8) (6,67 poena ima umesto 8 poena), 1 rad kategorije M22 (rad 2.1/5) (4,17 poena ima umesto 5 poena) i 1 saopštenja kategorije M63 (rad 2.1/20) (0,42 poena ima umesto 0,5 poena), što je uzeto u obzir pri kvantitativnom iskazivanju naučno-istraživačkih rezultata kandidatkinje.

U tabeli 2 su prikazani brojevi radova u periodu od 2013-2022 godine.

Tabela 2. Efektivni broj radova i broj radova normiran na osnovu broja koautora

Rad	Broj/Od prethodnog izbora	Vrednost	Ukupno/Od prethodnog izbora
M13, do 7 autora	1/1	7	7/7
M21a, do 7 autora	3/2	10	30/20
M21, više od 7 autora	8/5	8/6,67*	62,67/38,67
M22, više od 7 autora	4/2	5/4,17*	19,17/10
M23, do 7 autora	6/4	3	18/12
M32, do 7 autora	1/1	1,5	1,5/1,5
M33, do 7 autora	7/3	1	7/3
M34, do 7 autora	12/6	0,5	6/3
M51, do 7 autora	1/1	2	2/2
M52, do 7 autora	1/0	1,5	1,5/0
M63, više od 7 autora	1/0	0,5/0,42*	0,42/0
M82, do 7 autora	1/1	6	6/6
Ukupno			**161,26/103,17**

*U skladu sa pravilnikom MPNTR normirano na broj autora po formuli K/(1+0,2(n-7)), n>7;
*U kategoriji M21, 1 rad je normiran, umesto 8 poena ima 6,67 poena;
*U kategoriji M22, 1 rad je normiran, umesto 5 poena ima 4,17 poena;
* U kategoriji M63, 1 saopštenje je normirano, umesto 0,5 poena ima 0,42 poena.

3.6. Rukovođenje projektima, potprojektima i projektnim zadacima

Dr Marija Milić je rukovodila sledećim projektnim zadacima (**Prilog 9**):

1. Projektni zadatak koji je definisan u planu za projektno finansiranje od strane Ministarstva za prosvetu, nauku i tehnološki razvoj Republike Srbije za 2021. godinu, kojim rukovodi prof. dr Suzana Dimitrijević-Branković. Odgovornost dr Marije Milić bila je rukovođenje timom za određivanje nutritivnih karakteristika ekstrakta lista artičoke i korena maslačka kao i razvijanje i optimizacija postupka mikrotalasne ekstrakcije polifenola i flavonoida sa antioksidativnom aktivnošću iz miloduha (*Hyssopus officinalis*) i ispitivanje antimikrobne aktivnosti dobijenih ekstrakta.

2. Projektni zadatak u okviru međunarodnog projekta bilateralne saradnje sa Republikom Hrvatskom, pod nazivom "Primena lignocelulozne biomase za dobijanje biogoriva" (broj projekta 337-22-205/2019-09/35) za period 2019-2021 godine, finansiranim od strane Ministarstva za prosvetu, nauku i tehnološki razvoj Republike Srbije (**2.2/29**), kojim rukovodi naučni saradnik Katarina Mihajovski, a gde je odgovornost dr Marije Milić bila je da rukovodi timom u realizaciji istraživanja vezanim za optimizaciju procesnih uslova u postupku hidrolize otpadnih lignoceluloznih sirovina korišćenjem komercijalne smeše enzima i primenom metode odzivne površine u cilju odabira optimalnih uslova i supstrata za dobijanje maksimalnih količina redukujućih šećera i, kasnije, proizvodnje bioetanola.

3. Projektni zadatak u okviru programa Dokaz koncepta finansiranog od strane Fonda za Inovacionu delatnost Republike Srbije, pod brojem PoC5634 i nazivom „Green biocatalyst for decolorization and degradation of azo dyes from industrial wastewater: a white-rot fungal laccase immobilized on recycled agro-industrial waste", za period 2020-2022 (**2.2/31**), kojim rukovodi naučni saradnik Katarina Mihajovski, a gde je odgovornost dr Marije Milić bila je da rukovodi timom u realizaciji istraživanja stepena dekolorizacije i biorazgradnje nekoliko model supstanci azo boja pomoću lakaze iz gljive belog truljenja imobilisane na recikliranom agroindustrijskom otpadu, kao i identifikacije metabolita nastalih kao rezultat procesa degradacije i merenja nivoa fitotoksičnosti.

3.7. Doprinos kandidata u realizaciji radova u naučnim centrima u zemlji i inostranstvu

Prosečan broj autora po radu za period posle izbora u prethodno zvanje iznosi **5,54** i to: za M13 prosek autora je 4; za M21a prosek autora je 6; za M21 prosek autora je 6,4; za M22 prosek autora je 5,5; M23 prosek autora je 4,5; za M32 prosek autora je 1; za M33 prosek autora je 6,7; za M34 prosek autora je 5,5; za M51 prosek autora je 7 i za M82 prosek autora je 7.

Tabela 3. Doprinos realizaciji koautorskih radova posle izbora u prethodno zvanje (period od 2016-2022): pozicije i uloga na listi autora za objavljeno poglavlje u knjizi, radove, saopštenja, I tehničko rešenje

Pozicija autora	1	2	3	4	5	6	7	Ukupno	Procenat (%)	Korespodencija br.radova-(%)
M13		1						**1**	3,85	0

M21a		2					**2**	7,69	0
M21	1	1	1	1		1	**5**	19,23	3–(60%)
M22		1	1				**2**	7,69	0
M23		3			1		**4**	15,38	0
M32	1						**1**	3,85	1–(100%)
M33			3				**3**	11,54	0
M34		3		2		1	**6**	23,08	1–(16,67%)
M51				1			**1**	3,85	0
M82					1		**1**	3,85	0
Ukupno	**2**	**11**	**5**	**4**	**2**	**2**	**26**	**100,0**	**5–(19,23)**
Procenat (%)	**7,69**	**42,31**	**19,23**	**15,38**	**7,69**	**7,69**	**100,0**		

U svom dosadašnjem radu dr Marija Milić ostvaruje značajnu saradnju sa sledećim institucijama u zemlji: Institut za medicinska istraživanja Univerziteta u Beogradu (rad 2.1/1, 2.1/4, 2.1/18), Institut za zemljište (rad 2.2./1, 2.2/2, 2.2/4, 2.2/6, 2.2/7, 2.2/9, 2.2/10, 2.2/11, 2.2/12, 2.2/13, 2.2/16, 2.2/17, 2.2/23, 2.2/24), Institut za proučavanje lekovitog bilja "Dr Josif Pančić" (rad 2.2/3, 2.2/21, 2.2/27), Visoka zdravstvena škola strukovnih studija u Beogradu (rad 2.2/8, 2.2/14), Institut za nuklearne nauke Vinča u Beogradu (rad 2.2/25), kao i sa naučnim centrima u inostranstvu: Geografski Institut, Irkusk, Rusija (2.2/1), Kazahstanski Nacionalni Agrarni Istraživački Univerzitet, Odsek za nauku o tlu i agrohemiju (2.2/7 i 2.2/24) i Prehrambeno-biotehnološki fakultet u Zagrebu, Hrvatska (2.2/8).

4. OSTALI POKAZATELJI USPEHA U NAUČNOM RADU

4.1. Nagrade i priznanja

Dr Marija Milić je dobitnik dve nagrade, i to kao:

1. Rukovodilac tima "*Biocircle tech*", dobitnik nagrade za Prvo mesto na nacionalnom takmičenju zelenih poslovnih ideja „*Climate Launchpad*", održanom 12.10.2019. godine u Privrednoj komori Srbije, u Beogradu, i time stekla uslove za plasman i učešće na finalnom svetskom takmičenju u Amsterdamu, Holandija, održanom 12-13.11.2019. godine, pod pokroviteljstvom Privredne komore Srbije (https://climatelaunchpad.org/finalists/biocircle-tech-2/).
2. Rukovodilac tima „Kafologija", dobitnik nagrade za plasman u IV krug takmičenja „Najbolja tehnološka inovacija", u kategoriji Realizovane inovacije, 28.10.2019. godine, Privredna komora Srbije, Beograd (http://inovacija.org/spisak-nagradjenih-timova/).

4.2. Recenzije naučnih radova

Dr Marija Milić je recenzent 6 međunarodnih časopisa iz kategorije M20 i 1 međunarodnog časopisa sa SCI liste bez impakt faktora, za koje je uradila ukupno 34 recenzija, odnosno 18 recenzija nakon izbora u prethodno zvanje. Prikazani su časopisi, njihovi impact faktori za 2020 godinu i recenzirani radovi nakon izbora u prethodno zvanje **(Prilog 15)**:

*Časopisi iz kategorije **M21a**:*

1. Journal of Cleaner Production (IF=9,297), (1 recenzija) (Manuscript ID: JCLEPRO-D-16-04527)

2. Food Research International (IF=6,475) (1 recenzija) (Manuscript ID: FOODRES-D-19-02836)
3. Industrial Crops and Products (IF=5,645) (1 recenzija) (Manuscript ID: INDCRO-D-21-05369R1)

*Časopisi iz kategorije **M21**:*

4. Separation and Purification Technology (IF=7,312) (8 recenzija) (Manuscript ID: SEPPUR-D-16-00051, Manuscript ID: SEPPUR-D-16-01005, Manuscript ID: SEPPUR_2018_506, Manuscript ID: SEPPUR_2018_4251, Manuscript ID: SEPPUR_2019_5273, Manuscript ID: SEPPUR_2020_344, Manuscript ID: SEPPUR-D-20-04119, Manuscript ID: SEPPUR-D-21-02055)

*Časopisi iz kategorije **M22**:*

5. European Food Research and Technology (IF=2,998) (2 recenzije) (Manuscript ID: EFRT-16-1149, Manuscript ID: EFRT-16-1149.R1)

*Časopisi iz kategorije **M23**:*

6. Desalination and Water Treatment (IF=1,254) (2 recenzije) (Manuscript ID: TDWT-2016-0732, Manuscript ID: TDWT-2016-0732.R1)

Međunarodni časopisi bez IF:

1. Heliyon (3 recenzije) (Manuscript ID: Fertilization of Tempranillo Grapevines with Foliar Urea: Nitrogen Composition of Must, Manuscript ID: HELIYON_2018_8703, Manuscript ID: HELIYON_2019_387)

*Kao dokaz priložene su potvrde o recenziranju

5. KVANTITATIVNA OCENA NAUČNIH REZULTATA

Pregled ukupnih koeficijenata naučne kompetentnosti dr Marije Milić posle izbora u naučno zvanje naučni saradnik je prikazan u Tabeli 4.

Tabela 4. Pregled broja radova i koeficijenata naučne kompetentnosti ostvarenih posle izbora u prethodno zvanje (period 2016-2022. godine)

Grupa	Naziv grupe	Vrsta rezultata	Oznaka rezultata	Vredn. Koeficij.	Broj radova	Σ
M10	Monografska studija/poglavlje u knjizi M11 ili rad u tematskom zborniku vodećeg međunarodnog značaja	Poglavlje u knjizi	M13	7	1	7
M20	Radovi objavljeni u naučnim časopisima	Rad u međunarodnom časopisu izuzetnih vrednosti	M21a	10	2	20
		Rad u vrhunskom	M21	8 (6,67*)	4+1*	38,67

	međunarodnog značaja	međunarodnom časopisu				
		Rad u istaknutom međunarodnom časopisu	M22	5	2	10
		Rad u međunarodnom časopisu	M23	4	3	12
M30	Zbornici međunarodnih skupova	Predavanje po pozivu sa međunarodnog skupa štampano u izvodu	M32	1,5	1	1,5
		Saopštenje na međunarodnom skupu štampano u celini	M33	1	3	3
		Saopštenje na međunarodnom skupu štampano u izvodu	M34	0,5	6	3
M50	Radovi u časopisima nacionalnog značaja	Rad u vodećem časopisu nacionalnog značaja	M51	2	1	2
M80	Tehnička rešenja	**Novo tehničko rešenje (metoda) primenjeno na nacionalnom nivou**	M82	6	1	6
Ukupno						**103,17**
*U skladu sa pravilnikom MPNTR normirano na broj autora po formuli K/(1+0,2(n-7)), n>7; *U kategoriji M21, 1 rad je normiran, umesto 8 poena ima 6,67 poena.						

Tabela 5. Minimalni kvantitativni zahtevi za sticanje naučnog zvanja viši naučni saradnik za tehničko-tehnološke i biotehničke nauke

Diferencijalni uslov- od prvog izbora u prethodno zvanje do izbora u zvanje viši naučni saradnik	**Nephodno**	**Ostvareno**
Ukupno	50	**103,17**
Obavezni (1): M10+M20+M31+M32+M33+M41+M42+M51+M80+M90+M100	40	**100,17**
Obavezni (2): M21+M22+M23+M81-85+M90-96+M101-103+M108	22	**86,67**
M21+M22+M23	11	**80,67**
M81-85+M90-96+M101-103+M108	5	**6**

6. ZAKLJUČAK

Na osnovu uvida u priloženu dokumentaciju i ostvarenih kvantitativnih i kvalitativnih rezultata kandidatkinje, Komisija za utvrđivanje naučne kompetentnosti konstatuje da rezultati naučno istraživačkog rada Dr Marije Milić predstavljaju značajan naučni doprinos u oblasti iskorišćenja nus-proizvoda agroindustrije, primenom mikrobnih sojeva širokog spektra delovanja, i to uglavnom u inovativnim procesima biotransformacije za dobijanje novih proizvoda dodatne vrednosti, kao i za proizvodnju mikrobnih enzima.

U svom dosadašnjem radu dr Marija Milić je bila autor/koautor ukupno **48** bibliografskih jedinica i to: **1** poglavlja u knjizi, **24** naučna rada, **1** predavanja po pozivu, **20** saopštenja, **1** tehničkog rešenja i **1** doktorske disertacije. Ukupan zbir impakt faktora objavljenih naučnih radova je **58,886**, citirani su **333** puta, odnosno **291** put (bez autocitata svih autora), a Hiršov indeks (h-index) je **9**, kao i u slučaju bez autocitata svih autora, što ukazuje na njihovu veliku uticajnost.

Posle izbora u prethodno zvanje, kandidat je autor/koautor **27** bibliografskih jedinica i to: **1** poglavlja u knjizi iz kategorije M13; **13** naučnih radova iz kategorije M20 (od kojih u međunarodnom časopisu izuzetnih vrednosti (M21a) 2 rada, u vrhunskom međunarodnom časopisu (M21) 5 radova, u istaknutom međunarodnom časopisu (M22) 2 rada i u međunarodnom časopisu (M23) 4 rada); **1** predavanja po pozivu sa međunarodnog skupa štampanog u izvodu (M32); **3** saopštenja sa međunarodnog skupa štampanih u celini (M33); **6** saopštenja sa međunarodnog skupa štampanih u izvodu (M34); **1** rada objavljenog u vrhunskom časopisu nacionalnog značaja (M51); **1** tehničkog rešenja (M82) i **1** rada u naučnom časopisu bez kategorije. Rezultati naučnoistraživačkog rada dr Marije Milić predstavljaju značajan naučni doprinos u oblastima valorizacije otpadne lignocelulozne biomase za dobijanje novih funkcionalnih proizvoda sa dodatnom vrednošću i biološki aktivnih jedinjenja u procesima biotranformacija, kao i razvoju metoda za ispitivanje stimulatornog delovanja na biljke, ali i biorazgradnog potencijala novoizolovanih bakterijskih sojeva prema supstancama sa toskičnim delovanjem po životnu sredinu, a sve to u skladu sa principima cirkularne ekonomije.

Dr Marija Milić je pokazala izuzetan nivo samostalnosti i kreativnosti u organizaciji naučnog rada, planiranju i realizaciji eksperimenata, analizi i obradi rezultata, kao i u pisanju radova i saopštenja. Pored angažovanja u realizaciji nacionalnog projekta, dr Marija Milić je učestvovala i u jednom međunarodnom projektu bilateralne saradnje i jednom projektu Fonda za inovacionu delatnost, gde je bila rukovodilac projektnih zadataka. Pored toga, učestvovala je i u realizaciji jednog Inovacionog Vaučera. Kandidatkinja je ostvarala i značajan doprinos u formiranju naučnih kadrova kao i radu sa studentima Tehnološko-metalurškog fakulteta. Kroz učešće u realizaciji tema završnih, diplomskih, master radova i doktorskih disertacija, kandidatkinja je pokazala sposobnost samostalnog organizovanja naučnog rada. Takođe, dr Marija Milić je bila angažovana i kao član jedne Komisije za ocenu i odbranu doktorske teze i sedam Komisija za odbranu master radova; učestvovala u razvoju domaćih i međunarodnih saradnji, zatim i kao recenzent respektabilnih međunarodnih časopisa. Na osnovu detaljne analize dosadašnjeg rada i ostvarenih rezultata Komisija je zaključila da rad dr Marije Milić predstavlja značajan naučni doprinos i da je kandidatkinja afirmisani istraživač u oblasti biotehnologije i poljoprivrede, koju uspešno unapređuje primenjujući naučna saznanja, i prenoseći nova saznanja mlađim naučnim i stručnim kadrovima. U periodu u kom se bira, kandidatkinja ima dovoljan broj objavljenih naučnih radova i ispunjava kriterijume za sticanje zvanja Viši naučni saradnik prema

aktuelnom Pravilniku o sticanju istraživačkih i naučnih zvanja ("Službeni glasnik RS", broj 159 od 30. decembra 2020.).

Imajući u vidu originalnost istraživanja i značajan doprinos naučnim saznanjima, kao i kvalitet publikovanih rezultata i sposobnost za organizaciju naučnoistraživačkog rada, Komisija smatra da su postignuti rezultati naučno-istraživačkog rada kandidatkinje značajni i da **dr Marija Milić** ispunjava sve uslove za sticanje naučnog zvanja **VIŠI NAUČNI SARADNIK** u oblasti Biotehničkih nauka u skladu sa Pravilnikom o sticanju istraživačkih i naučnih zvanja ("Službeni glasnik RS", broj 159 od 30. decembra 2020.). Komisija predlaže Nastavno-naučnom veću Tehnološko-metalurškog fakulteta u Beogradu da ovaj izveštaj prihvati i isti uputi nadležnoj Komisiji Ministarstvu prosvete, nauke i tehnološkog razvoja Republike Srbije na konačno usvajanje.

U Beogradu, 07.04.2022. ČLANOVI KOMISIJE:

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