

**УНИВЕРЗИТЕТ У БЕОГРАДУ Ó ХЕМИЈСКИ ФАКУЛТЕТ  
НАСТАВНО-НАУЧНОМ ВЕЋУ**

**Предмет:**

**Вука В. Радојичића,**

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-  
9. 2026. ( 253/2), ó

**Вука В.**

**Радојичића,**

**„Пер- и полифлуоралкиловане супстанце (PFAS) у одабраним речним системима  
Србије: просторна и сезонска динамика, акумулација у честичној фази и процена  
ризика по људско здравље и животну средину“**

**ИЗВЕШТАЈ**

**А. БИОГРАФСКИ ПОДАЦИ О КАНДИДАТУ**

30.07.1999.  
š ó 2014. , - ( )  
š ó 2018. .  
2018/2019.  
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9,06 ( 6/100).  
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2024.  
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### Саопштења на међународним скуповима штампана у изводу (M34)

1. Skrobonja A., **Radojičić V.**, Ahrens L., Koji I., Stojanovi K., Gojkovi fi., Uptake kinetics and bioaccumulation of per- and polyfluoroalkyl substances in photosynthetic model organisms, 19<sup>th</sup> International Conference on Chemistry and the Environment - Environmental Chemistry for Sustainability, **E-book of Abstracts**, p. 272, Belgrade, Serbia, June 8-12, 2025. ISBN 978-86-7132-088-7.

2. **Radojičić V.**, Koji I., Stojanovi K., Study and possible utilization of pyrolysis products of polyethylene terephthalate and polyethylene terephthalate/lignite blend, 13<sup>th</sup> International Conference "Oil and Gas Chemistry", Tomsk, Russia, September 23-27, 2024. Proceedings, in: Russkikh I.V. (Ed.), pp. 34-35. ISBN: 978-5-94458-202-7. <https://disk.yandex.ru/i/amR9RO9EmE-mEw>

### В. ОБРАЗЛОЖЕЊЕ ТЕМЕ

1. Научна област:

Ужа научна област:

2. Предмет рада

( . *Per- and polyfluoroalkyl substances, PFAS*)

( , , , )

, )

( , / )

*PFAS*

*PFAS*

(29), *PFAS*  
*PFAS*  
 (*Suspended Particulate Matter, SPM*) (*. Distribution Coefficient,  $K_d^{SPM}$* ),  
 (*. Seston-Water Distribution Coefficient,  $K_d^{<20}$   $K_d^{<150}$* ),  
 (*. Size-fraction Enrichment Factor,  $SFEF_{150/20}$* ),  
*PFAS*  
*PFAS*  
 ( ), ( ),  
 (*. United States Environmental Protection Agency, US EPA*) [8].  
*PFAS*  
*PFAS*  
*PFAS*

**3. Научни циљ истраживања**

- ( *PFAS* )  
*PFAS*
- 29 *PFAS*
- ( *. hot spots* ).  
*PFAS*

$(K_d^{<20}, K_d^{<150}),$   
 $(K_d^{spm})$   
 $(SFEF_{150/20})$ .

- $PFAS$  ( )
- $PFAS$ ,  $PFAS$
- $PFAS$ ,  $PFAS$
- $PFAS$

**4. Методе истраживања**

š e ō :  
 (Swedish  
 University of Agricultural Sciences, SLU)

- : *SRPS EN ISO 5667-1:2022, SRPS EN ISO 5667-3:2018, SRPS EN ISO 5667-6:2017.*
- : (44,7768; 19,347822), (43,313722; 21,785527), (43,2877548; 20,6160224), (44,730564; 20,311159), (44,653114; 20,222633), - (44,849684; 20,411283), - (44,76841104; 20,62044917), - (44,69365544;

20,95922202).

1 dm<sup>3</sup>,

- 20 µm
- 150 µm.
- ( . *Solid Phase Extraction, SPE*), *PFAS* *Oasis WAX* (

( . *Ultra-high performance Liquid Chromatography-Tandem Mass Spectrometry, UHPLC/MS-MS*),

*SCIEX Triple Quad 3500* *Phenomenex Gemini C18 (1,7 µm)* *Phenomenex Kinetex C18 (1,7 µm)* *PFAS* ( *Phenomenex KJ0-4282*).

(n=29; *11Cl-PF3OUdS*, *9Cl-PF3ONS*, *4-2 FTSA*, *6-2 FTSA*, *8-2 FTSA*, *Me-FOSAA*, *Et-FOSAA*, *FOSA*, *HFPO-DA (GenX)*, *NaDONA*, *PFBA*, *PFBS*, *PFDA*, *PFDoDA*, *PFDS*, *PFECHS*, *PFHpA*, *PFHpS*, *PFHxA*, *PFHxS*, *PFNA*, *PFNS*, *PFOA*, *PFOS*, *PFPeA*, *PFPeS*, *PFTeDA*, *PFTriDA*, *PFUnDA*) 11-

*IQ7000* : : 10 mM - *MilliQ* (*MilliQ*)  
*LC-Pack*® , *Merck* B: 0,6 mL min<sup>-1</sup>,  
10 µL, 5%  
B, 55% B 0,1 min, 4,4 min 99%  
B, 3,5 min. , 5% B  
0,5 min, 2,5 min

(MS/MS)

( . *Multiple Reaction Monitoring, MRM*)

- *PFAS* (*MPFAC-24ES*:  
*<sup>13</sup>C<sub>4</sub>-PFBA*, *<sup>13</sup>C<sub>5</sub>-PFPeA*, *<sup>13</sup>C<sub>5</sub>-PFHxA*, *<sup>13</sup>C<sub>4</sub>-PFHpA*, *<sup>13</sup>C<sub>8</sub>-PFOA*, *<sup>13</sup>C<sub>9</sub>-PFNA*, *<sup>13</sup>C<sub>6</sub>-PFDA*, *<sup>13</sup>C<sub>7</sub>-PFUnDA*, *<sup>13</sup>C<sub>3</sub>-PFDoDA*, *<sup>13</sup>C<sub>2</sub>-PFTeDA*, *<sup>13</sup>C<sub>3</sub>-PFBS*, *<sup>13</sup>C<sub>3</sub>-PFHxS*, *<sup>13</sup>C<sub>8</sub>-PFOS*, *<sup>13</sup>C<sub>2</sub>-6:2 FTSA*, *<sup>13</sup>C<sub>8</sub>-FOSA* *<sup>13</sup>C<sub>3</sub>-HFPO-DA*, *Wellington Laboratories*).

( . *Quality Control, QC*),

recovery  
*PFAS*  
(*PFAC-24PAR* *HFPO-DA*, *NaDONA*, *9Cl-PF3ONS*, *11Cl-PF3OUdS* *PFECHS* , *Wellington Laboratories*).

- a  
(US EPA),



$K_d^{<150}$ ,  $(K_d^{spm})$ ,  $PFAS$ ,  $PFAS$ ,  $(K_d^{<20}$ ,  $(SFEF_{150/20})$ .

[9, 10].

29

$PFAS$

## 6. Очекивани резултати

- 29  $PFAS$  ( , , , , , ) ;  $PFAS$  ,
- ( . *hot spots*);  $PFAS$
- ( , , 20  $\mu m$  150  $\mu m$ ).
- $PFAS$  , ( . ) ,
- - ,  $PFAS$ ,  $PFAS$

( , ,  $PFAS$  , , )  $PFAS$  ( , , 20  $\mu m$  150  $\mu m$ ).

$PFAS$   $PFAS$  ,

$PFAS$ .

## 7. Литература

1. Mashima, R. (2025). Per- and Polyfluoroalkyl Substances (PFAS): History, Current Concerns, and Future Outlook. *Molecules* 30(22), 4415. <https://doi.org/10.3390/molecules30224415>
2. Dickman, R.A., Aga, D.S. (2022). A review of recent studies on toxicity, sequestration, and degradation of per- and polyfluoroalkyl substances (PFAS). *Journal of Hazardous Materials* 436, 129120. <https://doi.org/10.1016/j.jhazmat.2022.129120>
3. Lin, D.Y., Hu, L.X., Liu, Y.S., Zhang, J.N., Ying, G.G. (2026). Integrated basin-scale assessment of legacy and emerging PFAS in the Xiangjiang River Basin, China: Occurrence, source apportionment, and risk prioritization. *Water Research* 292, 125350. <https://doi.org/10.1016/j.watres.2026.125350>
4. Ahrens, L. (2011). Polyfluoroalkyl compounds in the aquatic environment: A review of their occurrence and fate. *Journal of Environmental Monitoring* 13(1), 20631. <https://doi.org/10.1039/c0em00373e>
5. Be-koski, V.P., Takemine, S., Nakano, T., Slavkovi Be-koski, L., Gojgi -Cvijovi , G., Ili , M., Mileti , S., Vrvi , M.M. (2013). Perfluorinated compounds in sediment samples from the wastewater canal of Pan evo (Serbia) industrial area. *Chemosphere* 91(10), 140861415. <https://doi.org/10.1016/j.chemosphere.2012.12.079>
6. Anti , I., Buljov i , M., Cochran, R.E., fiivan ev, J., Llorca, M., Farré, M., Raki , D., Tautenhahn, R., uri-i -Mladenovi , N. (2026). Integrated Targeted and Suspect Screening Workflow for Identifying PFAS of Concern in Urban-Impacted Serbian Rivers. *Toxics* 14(1), 78. <https://doi.org/10.3390/toxics14010078>
7. Buljov i , M.B., Anti , I.S., Kadokami, K., Trbi , B.D. (2022). Temporal trend of perfluorinated compounds in untreated wastewater and surface water in the middle part of the Danube River belonging to the northern part of Serbia. *Journal of the Serbian Chemical Society* 87(12), 142561437. <https://doi.org/10.2298/JSC220427061B>
8. Nassazzi, W., Lai, F.Y., Ahrens, L. (2022). A novel method for extraction, clean-up and analysis of per- and polyfluoroalkyl substances (PFAS) in different plant matrices using LC-MS/MS. *Journal of Chromatography B* 1212, 123514. <https://doi.org/10.1016/j.jchromb.2022.123514>
9. Polychronidou, ., Nag, R. (2025) Human health risk assessment of Per- and polyfluoroalkyl substances (PFAS). *Science of the Total Environment* 1000, 180428. <https://doi.org/10.1016/j.scitotenv.2025.180428>
10. Menda-, G., Mili evi , T., Fingler, S., Drevenkar, V., Romani Herceg, S., Popovi , A., Reli , D. (2023) Human health risk assessment based on direct and indirect exposure to endocrine disrupting herbicides in drinking, ground, and surface water in Croatia. *Environmental Science and Pollution Research*, 30, 1063306106341. <https://doi.org/10.1007/s11356-023-29561-y>

## Г. ЗАКЉУЧАК

PFAS

PFAS

PFAS,  
PFAS

PFAS

**„Пер- и полифлуоралкиловане супстанце (PFAS) у одабраним речним системима Србије: просторна и сезонска динамика, акумулација у честичној фази и процена ризика по људско здравље и животну средину“.**

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, 4. 2026.

**Прилог 1a: Изабрани радови (објављени у научним часописима са *Science Citation Index - SCI* листе) предложеног ментора др Ксеније Стојановић, редовног професора Универзитета у Београду - Хемијског факултета**

1. Zdravkov A., Bechtel A., Stojanovi K., Gro D., Weitz J., Koji I., Sachsenhofer R., Misch D., fiivoti D. (2025) Petrological and organic geochemical insights into the peat-forming environmental settings during the deposition of the early Oligocene Pirin coal deposit, SW Bulgaria. *International Journal of Coal Geology* 308, 104843. <https://doi.org/10.1016/j.coal.2025.104843>
2. Sachsenhofer R.F., Aghayeva V., Ajuaba S., Koji I., Misch D., Stojanovi K. (2025) Horgen-Käpfnach, the largest Swiss coal deposit: geology, petrology and geochemistry. *International Journal of Coal Geology* 299, 104684. <https://doi.org/10.1016/j.coal.2025.104684>
3. Das S.K., Ekblad A., Stojanovi K., Mikusinska A., Gaillard M-J. Mitrovi D., Cui Q-Y. (2024) Holocene Stable Isotope ( $^{13}\text{C}$  and  $^{15}\text{N}$ ) record of peatland development in Stavsåkra, southern Sweden. *Catena* 247, 108510. <https://doi.org/10.1016/j.catena.2024.108510>
4. Liu B., Bechtel A., Stojanovi K., Hower J.C., Zhao C., Guo X. (2024) Organic petrography, biomarkers, and stable isotope ( $^{13}\text{C}$ , D,  $^{15}\text{N}$ ,  $^{18}\text{O}$ ) compositions of liptinite-rich coals. *International Journal of Coal Geology* 290, 104561. <https://doi.org/10.1016/j.coal.2024.104561>
5. Da Silva T.F., Carvalhal Gomes S.B., Da Silva F.S., Stojanovi K., Castro R.N., Mendonça Filho J.G., Santos M. (2021) Lipid composition of the microbial mat from a hypersaline environment (Vermelha Lagoon, Rio de Janeiro, Brazil). *Journal of Sedimentary Research* 91, 349-361. <https://doi.org/10.2110/jsr.2021.01>

**Прилог 16: Изабрани радови (објављени у научним часописима са *Science Citation Index - SCI* листе) предложеног ментора др Александре Скробоње, научног сарадника Универзитета у Београду - Института за нуклеарне науке „Винча“, Института од националног значаја за Републику Србију**

1. Skrobonja A., Brugel S., Soerensen A.L., Griniene E., Andersson A., Björn E. (2026) Terrestrial organic matter input causes dual effects on methylmercury accumulation in coastal planktonic food webs. *Communications Earth & Environment* 7, 314. <https://doi.org/10.1038/s43247-026-03470-7>
2. Celma A., Skrobonja A., Khokarale, S.G., Mikkola J-P., Sørmo E., Cornelissen G., Wiberg K., Ahrens L. (2025) Using Biochar in Static and Dynamic Flow Systems to Remediate Per- and Polyfluoroalkyl Substances From Contaminated Stormwater Runoff. *Remediation* 36, e70041. <https://doi.org/10.1002/rem.70041>
3. Ecke F., Ytrehus B., Evander M., Hörnfeldt B., Leijon A. Malmsten J., Skrobonja A., Ahrens L. (2025) Biomagnification and potential health effects of per- and polyfluoroalkyl substances (PFAS) in a terrestrial food web, *Scientific Reports* 15, 31003. <https://doi.org/10.1038/s41598-025-16395-6>
4. Gojkovic Z., Skrobonja A., Radojicic V., Mattei B. (2025) The Use of Flocculation as a Preconcentration Step in the Microalgae Harvesting Process. *Physiologia Plantarum* 177 (4), e70366. <https://doi.org/10.1111/ppl.70366>
5. Skrobonja A., Gojkovic Z., Soerensen A.L., Westlund P-O., Funk C., Björn E. (2019) Uptake Kinetics of Methylmercury in a Freshwater Alga Exposed to Methylmercury Complexes with Environmentally Relevant Thiols. *Environmental Science & Technology* 53 (23), 13757-13766. <https://doi.org/10.1021/acs.est.9b05164>