

Titlu proiect: Metodă microanalitică elementală simultană pentru controlul mediului și alimentelor folosind prelevarea pasivă și instrumentație miniaturizată bazată pe spectrometrie de emisie optică în microplasmă (MULTIPASS)

Gradul de atingere a rezultatelor estimate etapa 3 2024

Nr. Crt.	Tip rezultat/produs prevazut	Asumat la contractare	Rezultate (livrabile) obtinute	Grad de indeplinire
1	Metode analitice	Metode microanalitice dezvoltate pentru probe de mediu (DGT-SSETV- μ CCP-OES) TRL4;	3 Metode microanalitice dezvoltate pentru probe de mediu (DGT-SSETV- μ CCP-OES) TRL4	Indeplinit 100%
2	Metode analitice	Metode microanalitice dezvoltate pentru probe de alimente (DGT-SSETV- μ CCP-OES) TRL4	3 Metode microanalitice dezvoltate pentru probe de alimente (DGT-SSETV- μ CCP-OES) TRL4	Indeplinit 100%
3	Metode analitice	Metode analitice dezvoltate vazate pe DGT si metode clasice pentru comparare cu (DGT-SSETV- μ CCP-OES)	2 Metode analitice dezvoltate vazate pe DGT si metode clasice pentru comparare cu (DGT-SSETV- μ CCP-OES)	Indeplinit 100%
4	Raport de demonstrare	Raport de demonstrare a utilitatii si functionalitatii noilor metode microanalitice DGT-SSETV- μ CCP-OES	Raport de demonstrare a utilitatii si functionalitatii noilor metode microanalitice DGT-SSETV- μ CCP-OES	Indeplinit 100%
5	Documentatii tehnice	2 Proceduri standard de operare bazate pe DGT-SSETV- μ CCP-OES	2 Proceduri standard de operare bazate pe DGT-SSETV- μ CCP-OES	Indeplinit 100%
6	Documentatii tehnice	PV drepturi de proprietate intelectuala pentru cercetare industriala	PV drepturi de proprietate intelectuala pentru cercetare industriala	Indeplinit 100%
7	Cerere de brevet national	Cerere de brevet national	Cerere de brevet national	Indeplinit 100%
8	Conferinte stiintifice	3 participari la conferinte nationale si internationale	3 participari la conferinte nationale si internationale	Indeplinit 100%
9	Articole stiintifice	2 articole cu FI >3	5 articole cu FI >3	Depasit 250%
10	Raport de faza	Raport intermediar de cercetare	Raport intermediar de cercetare	Indeplinit 100%

Participari la conferinte nationale si internationale

- **Participare la a 50th International Conference of Slovak Society of Chemical Engineering (SSCHE), Tatranske Matliare, Slovacia, 20–24 Mai 2024**
 1. **S. Angyus, T. Frentiu, M. Frentiu, E. Covaci, M. Senila** Evaluation of mercury concentration and mobility in soils around a former chlor-alkali plant using diffusive gradients in thin films (DGT) technique (**Poster**)
 2. **E. Covaci, S. Angyus, M. Senila, M. Frentiu, T. Frentiu** Speciation of toxic metals in soil as total and labile fraction using diffusive gradients in thin films (DGT) passive sampling and

- determination by capacitively coupled plasma optical emission spectrometry (**Poster**)
- **Participare la International Spring Seminar on Electronics Technology, 15-19 May 2024, Prague, Cehia**
 3. **S. Cadar, D. Petreus, T. Patarau, E. Szilagyi** Design of a flat coil electrothermal vaporization device for inductively coupled plasma optical emission spectrometry (**poster**).

Articole stiintifice publicate

1. **M. Senila, M.A. Resz, L. Senila, I. Torok**, Application of Diffusive Gradients in Thin-films (DGT) for assessing the heavy metals mobility in soil and prediction of their transfer to *Russula virescens*, *Science of The Total Environment*, 2024, 909, 168591 (*FI* = 9.8)
2. **M. Senila, E. Kovacs**, Use of diffusive gradients in thin-film technique to predict the mobility and transfer of nutrients and toxic elements from agricultural soil to crops—an overview of recent studies, *Environmental Science and Pollution Research*, 2024 (*FI* = 5.8).
3. **M. Senila, E.A. Levej, T. Frentiu, C. Mihali, S.B. Angyus**, Assessment of mercury bioavailability in garden soils around a former nonferrous metal mining area using DGT, accumulation in vegetables, and implications for health risk. *Environmental Monitoring and Assessment*, 2023, 195, 1554 (*FI* = 3.0)
4. **M. Senila, M.A. Resz, I. Torok, L. Senila**, Nutritional composition and health risk of toxic metals of some edible wild mushrooms growing in a mining area of Apuseni Mountains, Western Carpathians, *Journal of Food Composition and Analysis*, 2024, 128, 106061 (*FI* = 4.3)
5. **M. Senila, O. Cadar, T. Frentiu, L. Senila, S.B. Angyus**, Diffusive Gradients in Thin-films as passive sampling tool for the measurement of labile species in fractionation analysis of metals (Fe, Mn, Cu, Zn and Pb) in beer, *Microchemical Journal*, 2024, 198, 2024, 110195 (*IF* = 4.8)