Activitate de cercetare A2.

Activitate A2.1. Articole în reviste cotate ISI Thomson Reuters (WOS Core Collection)

1. Capacitively Coupled Plasma with Tip-Ring Electrode Geometry for Atomic Emission Spectrometry. Analytical Performance and Matrix Effect of NaCl and KCl
   E.A. Cordoş, S.D.Anghel, **T.Frenţiu** şi A. Popescu
   Journal of Analytical Atomic Spectrometry, 1994, **9**, 635 - 641
2. Elemental Speciation of Pb, Zn and Cu in sediment Dust and Soil Using a Capacitively Coupled Plasma Atomic Emission Spectrometer as Detector
   E. A. Cordoş, **T. Frenţiu**, Ana-Maria Rusu şi G. Vâtcă
   Analyst (London), 1995, **120**, 725 - 731
3. Comparison between Tip-Ring Electrode and Single Tip Electrode Geometries for An Atmospheric-Pressure Capacitively Coupled Plasma
   E. A. Cordoş, **T. Frenţiu**, A. Fodor, Michaela Ponta, Ana-Maria Rusu şi S. Negoescu.
   ACH Models in Chemistry (Budapest), 1995, **132**, 313 - 329
4. Characteristic Temperatures and Electron Number Densities in An r.f. Capacitively Coupled Plasma
   S. D. Anghel, **T. Frenţiu**, E. Darvasi, Ana-Maria Rusu, A. Simon şi E. A. Cordoş
   Fresenius' Journal of Analytical Chemistry, 1996, **354**, 250 – 251
5. The Analysis of Conductive Solid Samples by r.f. Capacitively Coupled Plasma at Atmospheric-Pressure
   S. D. Anghel,**T. Frenţiu**, Ana-Maria Rusu, Lucia Beşe şi E. A. Cordoş
   Fresenius' Journal of Analytical Chemistry, 1996, **354**, 252 - 253
6. Analytical Performances for A Radiofrequency Capacitively Coupled Plasma
   T. Frenţiu, Ana-Maria Rusu, Michaela Ponta, S. D. Anghel şi E. A. Cordoş
   Fresenius' Journal of Analytical Chemistry, 1996, **354**, 254 – 255 (**prim autor**)
7. Synthesis and Characterization of Some Manganese (II), Cobalt (II) and Copper (II) polyoxotungtates with As (III) as Heteroatom
   Cristina Roşu, **T. Frenţiu**, A.M. Rusu, S. Anghel, E. Cordoş şi G. Marcu
   Syinth. React. Inorg. Met. Org. Chem., 1998, **28**, 1665 - 1672
8. Analytical Characterization of a Capacitively Coupled Plasma Torch with Central Tube Electrode.
   E.A. Cordoş, **T. Frenţiu**, A-M. Rusu, S.D. Anghel, A. Fodor şi M. Ponta
   Talanta, 1999, **48**, 827 - 837
9. Figures of merit and physical characteristics of a capacitively coupled radiofrequency argon plasma sustained at atmospheric pressure in tip-ring electrode geometry
   T. Frenţiu, S.D. Anghel, A. Simon, A.Popescu, A-M. Rusu, şi E.A. Cordoş.
   ACH Models in Chemistry (Budapest), 1999, **136**, 131 - 148 (**prim autor**)
10. Radiofrequency Capacitively Coupled Plasma Torch with Central Tubular Electrode and Outer Ring Electrode
    T. Frenţiu, A-M Rusu, S.D. Anghel, S. Negoescu, A. Popescu, A. Simon şi E.A. Cordoş.
    ACH Models in Chemistry (Budapest), 1999, **136**, 119 – 129 (**prim autor**)
11. Figures of Merit and Fundamental Processes in Analysis of Ca from Liquid Samples using an r.f.CCP Torch with Tubular and Ring Electrodes
    T. Frenţiu, S.D. Anghel, M. Nicola, E. Darvasi, A Simon şi E. Cordoş
    Croatica Chemica Acta, 1999, **72**, 763 – 778. (**prim autor**)

12. Atmospheric Pressure Capacitively Coupled Plasma Source for the Direct Analysis of non-Conductive Solid Samples
S.D. Anghel, **T. Frențiu**, E.A. Cordoş, A. Simon şi A. Popescu
Journal of Analytical Atomic Spectrometry, 1999, **14**, 541 – 545.

13. Cadmium Determination in Sediment Dust by Atomic Emission Spectrometry with a New Radiofrequency Capacitively Coupled Plasma
T. Frențiu, M. Ponta, A.M. Rusu, S.D. Anghel, A. Simon şi E. Cordoş
Analytical Letters, 2000, **33**, 323 – 335. (**prim autor**)

14. Study of Some Matrix Effects in a Low Power Radiofrequency Capacitively Coupled Plasma with a Central Tubular Molybdenum Electrode and Single Ring Electrode
T. Frențiu, S.D. Anghel, A. Simon şi E. Cordoş
ACH Models in Chemistry, 2000, **137**, 677 – 690. (**prim autor**)

15. Traces of Cu, Mn and Zn in Aquatic Animals and Sediments from the Cris River Basin – West Romania. Part. I: Statistical Evaluation of Data Obtained by Atomic Emission Spectrometry with Radiofrequency Cpacitively Coupled Plasma Source and Flame Atomic Absorption Spectrometry
M. Ponta, **T. Frențiu**, A.M. Rusu şi E. A. Cordos
Croatica Chemica Acta, 2002, **75**, 291 – 306.

16. Traces of Cu, Mn and Zn in Aquatic Animals, Water and Sediments from the Cris River Basin – West Romania. Part. II: Distribution Study
M. Ponta, **T. Frențiu**, A. Sarkany-Kiss şi E. A. Cordos
Croatica Chemica Acta, 2002, **75**, 307 – 317.

17. A Simultaneous Spectrometer with Photodiode Array Detector and Low Power radiofrequency Capacitively Coupled Plasma Source
T. Frențiu, E. Darvasi, S.D. Anghel, A. Simon, M. Ponta şi E.A. Cordoş
Chem. Anal (Warsaw), 2002, **47**, 725 – 736. (**prim autor**)

18. Statistical evaluation of Cu, Mn and Zn determinations in biological samples by Radiofrequency capacitively coupled plasma atomic emission spectrometry using the Bland and Altman test.
T. Frentiu, M. Ponta, S. D. Anghel, A. Simon, I. Marginean and E. A. Cordos,
Microchim. Acta, 2003, **143**, 245 – 254. (**prim autor**)

19. Investigation of Medium Power Radiofrequency Capacitively Coupled Plasmas and Their Application in Atomic Emission Spectrometry for the Determination of Aluminium in Water Samples
T. Frențiu, M. Ponta, S.D. Anghel, A. Simon, A.M. Incze and E. A. Cordos
Microchim. Acta, 2004, **147**, 93 – 103. (**prim autor**)

20. Investigation of a Medium Power Radiofrequency Capacitively Coupled Plasma and Its Application to High-Temperature Superconductor Analysis via Atomic Emission Spectrometry
A. Simon, **T. Frențiu**, S.D. Anghel and S. Simon
J. Anal. At. Spectrom., 2005, **20**, 957 – 965.

21. Characterization of a Very Low Power Argon CCP
S.D. Anghel, A. Simon and **T. Frențiu**
J. Anal. At. Spectrom., 2005, **20**, 966 – 973.

22. Optimization of Analytical Parameters in Inorganic Arsenic (III and V) Speciation by Hydride Generation Using L-cysteine as Prereducing Agent in Diluted HCl Medium
E.A. Cordos, **T. Frentiu**, M. Ponta, B. Abraham and I. Marginean
Chem. Spec. Bioavailab., 2006, **18**, 1 – 9.

23. Distribution Study of Inorganic Arsenic (III) and (V) Species in Soil and Their Mobility in the Area of Baia-Mare, Romania
E.A. Cordos, **T. Frentiu**, M. Ponta, I. Marginean, B. Abraham and C. Roman
Chem. Spec. Bioavailab., 2006, **18**, 11 – 25.

24. Profile Distribution of As(III) and As(V) Species in Soil and Groundwater in Bozanta Area
T. Frentiu, S.N. Vlad, M. Ponta, C. Baciu, I. Kasler and E. Cordos
Chem. Pap., 2007, **61**, 186 – 193. (**prim autor**)

25. Evaluation of Soil Pollution with Copper, Lead, Zinc and Cadmium in the Mining Area Baia-Mare
E. Cordos, C. Roman, M. Ponta, **T. Frentiu**, R. Rautiu
Revista de Chimie, 2007, **58**, 470 – 474.

26. Interlaboratory Study on Cu, Pb and Zn Determination in Soil by Inductively Coupled Plasma Atomic Emission Spectrometry Using the Bland and Altman Test
T. Frenţiu, M. Ponta, E. Levei, M. Şenilă, M. Ursu and E.A. Cordoş
J. Optoelectr. Adv. Mater., 2007*,* **9**, 3503 – 3513. (**prim autor, corespondent**)

27. Validation of the Tessier Scheme for Speciation of Metals in Soil Using the Bland and Altman Test
T. Frenţiu, M. Ponta, E. Levei, E. Gheorghiu, I. Kasler and E.A. Cordoş
Chem. Pap., 2008*,* **62**, 114 – 122. (**prim autor, corespondent**)

28. Preliminary Study on Heavy Metals Contamination of Soil Using Solid Phase Speciation and the Influence on groundwater in Bozanta – Baia Mare Area, Romania
T. Frenţiu, M. Ponta, E. Levei, E. Gheroghiu, M. Benea and E.A. Cordoş
Chem. Spec. Bioavailab., 2008, **20**, 111 – 121. (**prim autor**)

29. Fast Method for Determination of Cd, Cu, Pb, Se and Zn in Whole Blood by DRC-ICP-MS Using the Simple Dilution Procedure
C. Tănăselia, **T. Frenţiu**, M. Ursu, M. Vlad, M. Chintoanu, E. Cordoş, L. David, M. Paul, D. Gomoescu
Optoelectr. Adv. Mat. Rapid Communication, 2008, **2**, 99 – 107.

30. Preliminary Investigation of a Medium Power Argon Radiofrequency Capacitively Coupled Plasma as Atomization Cell in Atomic Fluorescence Spectrometry of Cadmium,
T. Frentiu, E. Darvasi, M. Senila, M. Ponta, E. Cordos
Talanta, 2008, 76(5), 1170 - 1176. (**prim autor, corespondent**)

31. Spectroscopic Investigations of a Low Power Atmospheric Pressure Capacitively Coupled Helium Plasma,
S.D. Anghel, A. Simon, **T. Frenţiu**
Plasma Sources Sci. Technol., 2008, **17**, 1 – 9.

32. Study of Partitioning and Dynamics of Metals in Contaminated Soil Using Modified Four-Step BCR Sequential Extraction Procedure
T. Frenţiu, M. Ponta, E. Levei, E. Cordos
Chem. Pap., 2009, **63**, 239 – 248. (**prim autor, corespondent**)

33. Qualitative Assessment oh Heavy Metals Sources in Pitcoal/Biomass Briquettes Combustion Using Multivariate Statistical Analysis,
T. Frenţiu, M. Ponta, A. Mihălţan, E. Cordoş, M. Frenţiu, G. Lăzăroiu, L. Traistă, R. Indrieş
J. Optoelectr. Adv. Mater., 2009, **11**, 697 – 710. (**prim autor, corespondent**)

34. The Synergistic Effect in Coal/Biomass Blend Briquettes Combustion on Element Behaviour in Bottom Ash using ICP-OES,
G. Lăzăroiu, **T. Frenţiu,** L. Mihăescu, A. Mihălţan, M. Ponta, M. Frenţiu, E. Cordoş
J. Optoelectr. Adv. Mater., 2009, **11**, 713 – 721.

35. Characterization of Soil Quality and Mobility of Cd, Cu, Pb and Zn in the Baia Mare Area Northwest Romania Following the Historical Pollution
E. Levei, **T. Frenţiu**, M. Ponta, M. Şenilă, M. Miclean, C. Roman, E. Cordoş,
Int. J. Environ. Anal Chem., 2009, **89**, 635 – 649.

36. Discharge Characteristics and Non-Spectral Interferences on the Emission of Ca Species in a Medium Power Radiofrequency Capacitively Coupled Plasma Source
T. Frenţiu, M. Ponta, E. Darvasi, M. Frentiu, E. Cordoş
Acta Chim. Slov., 2010, **57**, 173 – 181. (**prim autor, corespondent**)

37. Evaluation of Figures of Merit for Zn Determination in Environmental and Biological Samples Using EDL Excited AFS in a new radiofrequency capacitively coupled plasma
T. Frenţiu, M. Ponta, M. Şenilă, A. Mihălţan, E. Darvasi, M. Frenţiu, E. Cordoş
J. Anal. At. Spectrom., 2010, **25**, 739 – 742. (**prim autor, corespondent**)

38. Quenching of the OH and Nitrogen Molecular Emission by Methane Addition in an Ar Capacitively Coupled Plasma to Remove Spectral Interference in Lead Determination by Atomic Fluorescence Spectrometry
T. Frenţiu, M. Ponta, A.I. Mihălţan, E. Darvasi, M. Frenţiu, E. Cordoş
Spectrochim. Acta, 2010, **65B,** 565 – 570. (**prim autor, corespondent**)

39. Spectroscopic study of atmospheric pressure argon/methane capacitively coupled plasma
T. Frenţiu, M. Ponta, A.I. Mihălţan, E. Darvasi, M. Frenţiu, E. Cordoş
Studia Chemia, 2011, **56**, 7-16. (**prim autor, corespondent**)

40. Low Power Capacitively Coupled Plasma Microtorch for Simultaneous Multielemental Determination by Atomic Emission Using Microspectrometers
T. Frenţiu, D. Petreus, M. Şenilă, A.I. Mihălţan, E. Darvasi, M. Ponta, E. Plăian, E. Cordoş
Microchem. J. 2011, **97**, 188 – 195. (**prim autor, corespondent**)

41. Mercury Determination in non- and Biodegradable materials by Cold vapour capacitively Coupled Plasma Microtorch Atomic Emission Spectrometry
T. Frenţiu, A. I. Mihălţan, M. Ponta, E. Darvasi, M. Frenţiu, E. Cordoş
J. Hazard. Mater., 2011, **193**, 65 – 69. (**prim autor corespondent**)

42. Analytical capability of a medium power capacitively coupled plasma for the multielemental determination in multimineral/multivitamin preparations by atomic emission spectrometry
T. Frenţiu, M. Ponta, E. Darvasi, M. Frenţiu, E. Cordoş
Food chem., 2012, **134**, 2447 – 2552. (**prim autor, corespondent**)

43. Validation of inductively coupled plasma atomic emission spectrometry technique for the determination of trace elements in granular waste
M. Ponta, **T. Frențiu**
Studia chemia, 2012, **LVII,** 7 – 14.

44. Essential and toxic elements in dietary supplements determined by ICP-MS
Alin, I. Mihălțan, A. Naghiu, C. Tănăselia, **T. Frențiu**, C. Cimpoiu
Studia chemia, 2012, **LVII,** 47 – 56.

45. The heavy metals impact on surface water and soil in the non-sanitary municipal landfill Pata Rat Cluj-Napoca
R. M. Hațegan, G.E. Popița, I. Varga, A. Popovici, **T. Frențiu**
Studia chemia, 2012, **LVII,** 119 – 126.

46. Ionization of elements in medium power capacitively coupled argon plasma torch with single and double ring electrodes
M. Ponta, M. Frențiu, **T. Frențiu**
Acta Chim. Slov., 2012, **59**, 359 – 365. (**autor corespondent**)

47. A novel analytical system with a capacitively coupled plasma microtorch and a gold filament microcollector for the determination of total Hg in water by cold vapour atomic emission spectrometry
T. Frențiu, A. I. Mihălțan, E. Darvasi, M. Ponta, C. Roman, M. Frențiu
J. Anal. At. Spectrom., 2012, **27**, 1753 – 1760. (**prim autor, corespondent**)

48. Characterization and assessment of potential environmental risk of tailings stored in seven impoundments in the Aries River basin, western Romania
E. Levei, **T. Frențiu**, M. Ponta, C. Tănăselia, G. Borodi
Chem. Cent. J., 2013, **7**, 5.

49. Validation of an analytical method based on the high-resolution continuum source flame atomic absorption spectrometry for the fast-sequential determination of several hazardous/priority hazardous metals in soil
T. Frențiu, M. Ponta, R. Hațegan
Chem. Cent. J., 2013, **7**, 43. (**prim autor, corespondent**)

50. Arsenic and antimony determination in non- and biodegradable materials by hydride generation capacitively coupled plasma microtorch optical emission spectrometry
Alin I. Mihălțan, **T. Frențiu**, M. Ponta, D. Petreuş, M. Frențiu, E. Darvasi, C. Măruțoiu
Talanta, 2013, **109**, 84 – 90. (**autor corespondent**)

51. Effect of titanium ions on the release rate and uptake at the interface of silica based xerogels with simulated body fluid
F. Talos, M. Senila, **T. Frentiu**, S. Simon
Corros. Sci., 2013, **72**, 41 – 46.

52. Simple and robust method for lithium traces determination in drinking water by atomic emission using low-power capacitively coupled plasma microtorch and microspectrometer.
Andreea R. Zsigmond, **T. Frențiu**, M. Ponta, M. Frențiu, D. Petreuş
Food Chem., 2013, **141**, 3621 – 3626. (**autor corespondent**)

53. New method for mercury determination in microwave digested soil samples based on cold vapour capacitively coupled plasma microtorch optical emission spectrometry: comparison with atomic fluorescence spectrometry
T. Frentiu, Alin Ironim Mihălțan, M. Şenilă, E. Darvasi, M. Ponta, M. Frentiu, D. Petreuş
Microchem. J., 2013, **110**, 545 – 552. (**prim autor, corespondent**)

54. Determination, speciation and distribution of mercury in soil in the surrounding of a former chlor-alkali plant: assessment of sequential extraction and analytical technique.
T. Frențiu, B. P. Pintican, S. Butaciu, A. I. Mihaltan, M. Ponta, M. Frențiu
Chem. Cent. J., 2013, **7:** 178. (**prim autor, corespondent**)

55. A miniaturized capacitively coupled plasma microtorch optical emission spectrometer and a Rh coiled filament as small-sized electrothermal vaporization device for simultaneous determination of volatile elements from liquid microsamples: spectral and analytical characterization.
T. Frențiu, E. Darvasi, S. Butaciu, M. Ponta, D. Petreus, A. I. Mihalțan, M. Frențiu
Talanta, 2014, **129**, 72 – 78 (**prim autor, corespondent**)

56. Simultaneous determination of As and Sb in soil using hydride generation capacitively coupled plasma microtorch optical emission spectrometry – comparison with inductively coupled plasma optical emission spectrometry. .
T. Frențiu, S. Butaciu, M. Ponta, E. Darvasi, M. Şenilă, D. Petreuş, M. Frențiu
J. Anal. At. Spectrom., 2014, **29**, 1880 – 1888. (**prim autor, corespondent**)

57. Assessment of contamination and origin of metals in mining affected river sediments: a case study of the Aries River catchment, Romania
E. Levei, M. Ponta, M. Şenilă, M. Miclean, **T. Frențiu**
J. Serb. Chem. Soc., 2014, **79**, 1019 - 1036. (**autor corespondent**)

58. Analytical characterization of a method for mercury determination in food using cold vapour capacitively coupled plasma microtorch optical emission spectrometry – compliance with European legislation requirements
T. Frențiu, S. Butaciu, E. Darvasi, M. Ponta, M. Şenilă, D. Petreuş, M. Frențiu
Anal. Meth. 2015, **7**, 747 – 752. (**prim autor, corespondent**)

Declar pe propria răspundere că datele corespund cu realitatea.

Cluj-Napoca
05.02.2015

Conf. Dr. Tiberiu Frențiu

Calcule activitate A2.1

Tabel centralizator pe reviste ISI, nr de articole şi factori de impact.

Factori de impact conform bazei de date Thomson Reuters 2013. Accesat 05.02. 2015

Revista	**Nr articole**	**Factor Impact**	**Total**
J. Anal. At. Spectrom.	*7*	*3.396*	*23.772*
Analyst	*1*	*3.906*	*3.906*
Talanta	*4*	*3.511*	*14.044*
J. Optoelectron. Adv. Mater.	*3*	*0.563*	*1.689*
Microchem. J	*2*	*3.583*	*7.166*
Microchim. Acta	*2*	*3.719*	*7.438*
ACH Models in Chem.[a]	*4*	*0.445*	*1.780*
Anal. Lett.	*1*	*1.019*	*1.019*
Fresenius' J. Anal. Chem.[b]	*3*	*3.578*	*10.734*
Croat. Chem.	*3*	*0.556*	*1.668*
Chem. Anal. Warsaw[a]	*1*	*0.52*	*0.520*
Chem. Spec. Bioavailab.	*3*	*0.377*	*1.131*
Chem. Pap.	*3*	*1.193*	*3.579*
Rev. Chim.	*1*	*0.677*	*0.677*
Plasma Sources Sci. Technol.	*1*	*3.056*	*3.056*
J. Serb. Chem. Soc.	*1*	*0.889*	*0.889*
Food Chem.	*2*	*3.259*	*6.518*
Studia Chem.	*4*	*0.136*	*0.408*
Spectrochim. Acta B	*1*	*3.150*	*3.150*
Acta Chim. Slov.	*2*	*0.819*	*1.638*
Coross. Sci.	*1*	*3.686*	*3.686*
Chem. Cent. J.	*3*	*1.663*	*4.989*
Int. J. Environ. Anal Chem.	*1*	*1.321*	*1.321*
Optoelectr. Adv. Mat.	*1*	*0.449*	*0.449*
J. Hazard. Mater.	*1*	*4.331*	*4.331*
Syinth. React. Inorg. Met. Org. Chem.	*1*	*0.518*	*0.518*
Anal. Meth.	*1*	*1.938*	*1.938*
TOTAL (A2)	***58***		***112.150***

[a] *Desfiinţată, am luat ultimul factor de impact*

[b] *Actualmente Anal. Bioanal. Chem.*

Declar pe propria răspundere că datele corespund cu realitatea.

Cluj-Napoca

05.02.2015

Conf. Dr. Tiberiu Frenţiu