FIŞA DE VERIFICARE A ÎNDEPLINIRII STANDARDELOR MINIMALE

Forray Ferenc Lázár

(Conform, ordinului nr. 6560/2012, publicat in Monitorul Oficial, Partea I, Nr. 890 bis/27.XII.2012, Anexa 5, pg. 10-11 şi conf. OMEN nr. 4204/2013 din 15/07/2013, publicat în Monitorul Oficial, Partea I, nr. 440 din 18/07/2013)

COMISIA ŞTIINŢELE PĂMÂNTULUI

Indicator I1 (Articole în extenso în reviste cotate ISI)

1. **Forray, F.L.** & Hallbauer, D.K. 2000, A study of the pollution of the Aries River (Romania) using capillary electrophoresis as analytical technique. ***Environmental Geology***, 39 (12): 1372-1384.
2. **Forray, F.L.,** Drouet, C. & Navrotsky, A. 2005, Thermochemistry of yavapaiite $KFe(SO_4)_2$: Formation and decomposition. ***Geochimica et Cosmochimica Acta***, 69 (8): 2133-2140.
3. Navrotsky, A., **Forray, F.L**. & Drouet, C. 2005, Jarosite stability on Mars. ***Icarus***, 176 (1): 250-253.
4. **Forray, F.L.**, Smith, A.M.L., Drouet, C., Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2010, Synthesis, characterization and thermochemistry of a Pb-jarosite. ***Geochimica et Cosmochimica Acta***, 74 (1): 215-224.
5. Pop, D., Ionescu, C., **Forray, F.,** Tămaş, C.G. & Benea, M. 2011, "Transylvanian gold" of hydrothermal origin: an EMPA study in an archaeological provenancing perspective. ***European Journal of Mineralogy***, 23 (6): 911-923.
6. Servida, D., Comero, S., Dal Santo, M., De Capitani, L., Grieco, G., Marescotti, P., Porro, S., **Forray, F.L.**, Gál, Á. & Szakács, A. 2013, Waste rock dump investigation at Roşia Montană gold mine (Romania): a geostatistical approach. ***Environmental Earth Sciences***, 70 (1): 13-31.
7. Onac, B.P., **Forray, F.L.,** Wynn, J.G. & Giurgiu, A.M. 2014, Guano-derived $\delta^{13}C$-based paleo-hydroclimate record from Gaura cu Musca Cave, SW Romania. ***Environmental Earth Sciences***, *71 (9): 4061-4069.* DOI 10.1007/s12665-013-2789-x.
8. **Forray, F.L.,** Smith, A.M.L., Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2014, Synthesis, characterization and thermochemistry of synthetic Pb-As, Pb-Cu and Pb-Zn jarosites. ***Geochimica et Cosmochimica Acta***, 127: 107-119.
9. Onac, B.P., Hutchinson, S.M., Geantă, A., **Forray, F.L.**, Wynn, J.G., Giurgiu, A.M., Coroiu, I., 2015. A 2500-year Late Holocene multi-proxy record of vegetation and hydrologic changes from a cave guano-clay sequence in SW Romania. **Quaternary Research**, doi: 10.1016/j.yqres.2015.1001.1007.
10. **Forray, F.L.**, Onac, B.P., Tanţău, I., Wynn, J.G., Tămaş, T., Coroiu, I., Giurgiu, A., 2015. A Late Holocene environmental history of a bat guano deposit from Romania: an isotopic, pollen and microcharcoal study. **Quaternary Science Reviews**. Doi: 10.1016/j.quascirev.2015.05.022.

Poziţia	Titlul revistei	ISSN	Anul publicării	Fi (revistă)*	4+Fi
1	*Environmental Geology*	0943-0105	2000	0.427	4.427
2	*Geochimica et Cosmochimica Acta*	0016-7037	2005	3.897	7.897
3	*Icarus*	0019-1035	2005	3.244	7.244
4	*Geochimica et Cosmochimica Acta*	0016-7037	2010	4.101	8.101
5	*European Journal of Mineralogy*	0935-1221	2011	1.486	5.486
6	*Environmental Earth Sciences*	1866-6280	2013	1.572	5.572

7	*Environmental Earth Sciences*	1866-6280	2014	1.572	5.572
8	*Geochimica et Cosmochimica Acta*	0016-7037	2014	4.250	8.250
9	*Quaternary Research*	0033-5894	2015	2.583	6.583
10	*Quaternary Science Reviews*	0277-3791	2015	4.571	8.571
		Total			67.703

* Factorul de impact al revistei a fost luat din anul publicării articolului, exceptând pentru anul 2015 când a fost considerat valoarea din 2014 datorită faptului că pentru anul în curs nu a fost publicat încă factorul de impact.

I1=4.427+7.897+7.244+8.101+5.486+5.572+5.572+8.25+6.583+8.571+(10x4)=67,703

Total obtiunut pentru I1: 67,703

Indicator I2 (Articole în extenso în reviste indexate ISI, fără factor de impact)

Nu este cazul

I2=0

Criteriul C1*=I1+I2 **Criteriul professor: C1≥30**	**I1**	**67,703**
	I2	**0**
	Total realizat	**67,703**

Indicator I3 (Număr de articole publicate în reviste indexate ISI)

1. **Forray, F.L.** & Hallbauer, D.K. 2000, A study of the pollution of the Aries River (Romania) using capillary electrophoresis as analytical technique. ***Environmental Geology***, 39 (12): 1372-1384.
2. **Forray, F.L.**, Drouet, C. & Navrotsky, A. 2005, Thermochemistry of yavapaiite $KFe(SO_4)_2$: Formation and decomposition. ***Geochimica et Cosmochimica Acta***, 69 (8): 2133-2140.
3. Navrotsky, A., Forray, F.L. & Drouet, C. 2005, Jarosite stability on Mars. ***Icarus***, 176 (1): 250-253.
4. **Forray, F.L.,** Smith, A.M.L., Drouet, C., Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2010, Synthesis, characterization and thermochemistry of a Pb-jarosite. ***Geochimica et Cosmochimica Acta***, 74 (1): 215-224.
5. Pop, D., Ionescu, C., **Forray, F.,** Tămaş, C.G. & Benea, M. 2011, "Transylvanian gold" of hydrothermal origin: an EMPA study in an archaeological provenancing perspective. ***European Journal of Mineralogy***, 23 (6): 911-923.
6. Servida, D., Comero, S., Dal Santo, M., De Capitani, L., Grieco, G., Marescotti, P., Porro, S., **Forray, F.L.,** Gál, Á. & Szakács, A. 2013, Waste rock dump investigation at Roşia Montană gold mine (Romania): a geostatistical approach. ***Environmental Earth Sciences***, 70 (1): 13-31.
7. Onac, B.P., **Forray, F.L**., Wynn, J.G. & Giurgiu, A.M. 2014, Guano-derived □^{13}C-based paleo-hydroclimate record from Gaura cu Musca Cave, SW Romania. ***Environmental Earth Sciences****, 71 (9): 4061-4069.* DOI 10.1007/s12665-013-2789-x.
8. **Forray, F.L.**, Smith, A.M.L., Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2014, Synthesis, characterization and thermochemistry of synthetic Pb-As, Pb-Cu and Pb-Zn jarosites. ***Geochimica et Cosmochimica Acta***, 127: 107-119.
9. Onac, B.P., Hutchinson, S.M., Geantă, A., **Forray, F.L.**, Wynn, J.G., Giurgiu, A.M., Coroiu, I., 2015. A 2500-year Late Holocene multi-proxy record of vegetation and hydrologic changes from a cave guano-clay sequence in SW Romania. **Quaternary Research**, doi: 10.1016/j.yqres.2015.1001.1007.
10. **Forray, F.L.**, Onac, B.P., Tanţău, I., Wynn, J.G., Tămaş, T., Coroiu, I., Giurgiu, A., 2015. A Late Holocene environmental history of a bat guano deposit from Romania: an isotopic, pollen and microcharcoal study. Quaternary Science Reviews. Doi: 10.1016/j.quascirev.2015.05.022.

I3=n=10
Total: 10

Criteriul C2*=I3 **Criteriu pentru profesor: C2≥6, prim autor la cel puţin o publicaţie ISI**	**I3**	**10**
	Total realizat	**10**

* candidatul este autor principal la 5 articole ISI

Indicator I4 (Articole în extenso publicate în reviste si proceedings-uri indexate ISI)

Nu este cazul

I4=0

Indicator I5 (Articole în extenso publicate în reviste indexate internaţional BDI)

1. Ghergari, L., Forray, F., Gál, Á. & Fărcaş, T. 1994, Arsenic minerals from Săcărâmb ore deposit: arsenic, arsenolite, villyaellenite and krautite (Transylvania, Romania). *Studia Univ. Babeş-Bolyai, Geologia,* XXXIX (1): 127-140.
2. Forray, F. & Bucur, I.I. 1995, Some new data concerning the upper cretaceous deposits from Cherghes (Hunedoara country). *Studia Univ. Babeş-Bolyai, Geologia,* XL (1): 29-38.
3. Mârza, I., Ghergari, L., Forray, F. & Tămaş, C.G. 1995, The glauch - glamm formation associated to the hydrothermal deposits from the Apuseni Mountains: Genetic and metallogenetic mechanism. *Studia Univ. Babeş-Bolyai, Geologia,* XL (1): 185-194.
4. Ghergari, L., Forray, F. & Andrei, V. 1996, Contributions to the petrographic and mineralogical study of the rock salt from cacica (Suceava County). *Studia Univ. Babeş-Bolyai, Geologia,* XLI (1): 165-180.
5. Forray, F. & Andreica, A. 1997, Telur 1.0 - Identification system for minerals. *Studia Univ. Babeş-Bolyai, Geologia,* XLII (1): 13-21.
6. Forray, F.L. 1999, Application of UV-VIS spectrophotometry in study of mine water. *Studia Univ. Babeş-Bolyai, Geologia,* XLIV (1): 75-84.
7. Forray, F.L. 2001, Using pollution index to establish the contamination level of Aries River (Apuseni Mountains, Romania). *Studia Univ. Babeş-Bolyai, Geologia,* XLVI (1): 153-159 (in Romanian).
8. Forray, F.L. 2001, Application of factor analysis in study of pollution of the Aries River (Apuseni Mountains, Romania). *Studia Univ. Babeş-Bolyai, Geologia,* XLVI (1): 47-58 (in Romanian).
9. Forray, F. 2002, Environmental pollution in the Aries river catchment basin. Case study: Rosia Montana mining exploitation. *Studia Univ. Babeş-Bolyai, Geologia,* Special Issue 1: 189-198.
10. Ghergari, L., Tămaş, T., Damm, P. & Forray, F. 1997, Hydrothermal paleokarst in Pestera din Valea Rea (Bihor Mountains, Romania). ***Theoretical and Applied Karstology***, 10: 115-125.
11. Onac, B.P. & Forray, F.L. 2000, Camiro 1.0 - The Romanian cave minerals database program. ***Romanian Journal of Mineralogy***, 80, 1: 57-62.
12. Mârza, I., Hallbauer, D.K. & Forray, F. 2004, Hollow, non - fixed hydrothermal concretions - a mineralogical curiosity from the Herja - (Baia Mare) ore deposit. ***Romanian Journal of Mineral Deposits***, 81 (special issue): 130-134.

I5=0.5*12=6

Total: 6

Criteriul C3=I4+I5 **Criteriu pentru profesor: C3≥3**	**I4**	**0**
	I5	**6**
	Total realizat	**6**

Indicator I6 (Teza de doctorat publicata)

Nu este cazul.

Indicator I7 (Carti/Atlase publicate ca unic autor sau co-autor in edituri international)

Nu este cazul.

Indicator I8 (Carti/Atlase/Harti coordinate, aparute in edituri international)

Nu este cazul.

Indicator I9 (Capitole in volume collective publicate sub egida unor edituri international.)

Nu este cazul.

Indicator I10 (Carti/Atlase/Harti publicate in edituri nationale recunoscute CNCS)

1. Bucur I., Balica C., Bedelean H., Benea M., Chira C., Codrea V., Filipescu S., Forray F., Gal A., Popa M., Săsăran E., Tanţău, I., 2008. Repere geologice în Apuseni şi sud-vestul Carpaţilor Meridionali. Ed. Presa Universitară Clujeană, Cluj-Napoca, 225 p.

Pozitia	Editura	ISBN Carte	COD CNCSIS pentru editura recunoscuta
1	Presa Universitară Clujeană	978-973-610-720-7	109

Număr de autori (na)= 12

I10=2x1,5/na=2x1,5/12=0.25

Indicator I11 (Capitole in volume collective publicate sub egida unor edituri recunoscute CNCS)

1. Forray, F.L., 2002, A nehézfémek csigavázba történő bioakkumulációjának használata környezetszennyezési felméréseknél (Bioaccumulation of heavy metals in gastropods shells as tool for environmental pollution monitoring). In *Tanulmányok a természettudományok tárgyköréből*. (Nagy, L. (Ed.), Editura Scientia, Cluj-Napoca, 203-227 p.
2. Forray, F.L., 2003, A nehézfém-szennyezés megálításának vizsgálata a verespataki bányavidéken (Research on the possibilities of stopping the heavy metal pollution in the Rosia Montana mining region). In *Tanulmányok a természettudományok tárgyköréből*. (Ujvárosi, L. (Ed.), Editura Scientia, Cluj-Napoca, 247-273 p.

Pozitia	Editura	ISBN Carte	COD CNCSIS pentru editura recunoscuta
1	Scientia, Cluj-Napoca	973-85985-4-0	133
2	Scientia, Cluj-Napoca	973-7953-05-3	133

Număr de autori: 1

I11=1,5x1/na=2x(1,5x1/1)=3

Criteriul C4=I6+I7+I8+I9+I10+I11 **Criteriu pentru profesor: C4≥4***	**I6**	**0**
	I7	**0**
	I8	**0**
	I9	**0**
	I10	**0,25**
	I11	**3**
	Total realizat	**3,25**

* Conform Ordinului nr. 6.560/2012, în situaţia în care candidatul nu îndeplineşte unul dintre criteriile minimale, având mai puţin de 20% din valoarea acestuia, atunci Comisia de concurs poate considera, justificând îndeplinirea cu mult peste standarde a altor indicatori, propunerea de validare a concursului.

Candidatul are 81% îndeplinit la acest criteriu însă la celălalte criteria îndeplinirea cerinţelor este de 110% pâna la 800%.

Indicator I12 (Citari ale candidatului în articole aparute in reviste cotate ISI..)

Indicator I13 (Citari ale candidatului în cărţi/capitol de cărţi/volume publicate la edituri internaţionale)

Indicator I14 (Citari ale candidatului în articole aparute in reviste inexate BDI..)

Articole citate
(pentru categoriile I12, I13, I14)

		Articol
Nr. Articol: 1	Nr. de citări	Forray, F.L. & Hallbauer, D.K. 2000, A study of the pollution of the Aries River (Romania) using capillary electrophoresis as analytical technique. ***Environmental Geology***, 39 (12): 1372
Citari in reviste ISI (I12)	**18**	1. Azzali, E., Marescotti, P., Frau, F., Dinelli, E., Carbone, C., Capitani, G., Lucchetti, G., 2014. Mineralogical and chemical variations of ochreous precipitates from acid sulphate waters (asw) at the Rosia Montana gold mine (Romania). Environmental Earth Sciences 72, 3567-3584. doi: 10.1007/s12665-014-3264-z, English. 2. Bird, G., Brewer, P.A., Macklin, M.G., 2010. Management of the Danube drainage basin: implications of contaminant-metal dispersal for the implementation of the EU Water Framework Directive. International Journal of River Basin Management 8, 63-78. doi: 10.1080/15715121003715115. 3. Bird, G., Brewer, P.A., Macklin, M.G., Serban, M., Balteanu, D., Driga, B., 2005. Heavy metal contamination in the Aries river catchment, western Romania: Implications for development of the Rosia Montand gold deposit. J. Geochem. Explor. 86, 26-48. doi: 10.1016/j.gexplo.2005.02.002, English. 4. Constantin, V., Ştefănescu, L., Kantor, C.-M., 2015. Vulnerability assessment methodology: A tool for policy makers in drafting a sustainable development strategy of rural mining settlements in the Apuseni Mountains, Romania. Environmental Science & Policy 52, 129-139. doi: 10.1016/j.envsci.2015.05.010. 5. Crisponi, G., Nurchi, V.M., Crespo-Alonso, M., Toso, L., 2012. Chelating agents for metal intoxication. Curr. Med. Chem. 19, 2794-2815. English. 6. De Capitani, L., Grieco, G., Porro, S., Ferrari, E., Roccotiello,

E., Marescotti, P., 2014. Potentially toxic element contamination in waste rocks, soils and wild flora at the Rosia Montana mining area (Romania). Periodico Di MIneralogia 83, 223-239. doi: 10.2451/2013pm0013, English.

7. Gupta, V.K., Nayak, A., Bhushan, B., Agarwal, S., 2014. A Critical Analysis on the Efficiency of Activated Carbons from Low-Cost Precursors for Heavy Metals Remediation. Critical Reviews in Environmental Science and Technology 45, 613-668. doi: 10.1080/10643389.2013.876526.
8. Har, N., Gorea, M., Benea, M., 2009. Mineralogy of degradation processes affecting the mortar from Buru dam (Ariesului valley, Cluj county). Stud. Univ. Babes-Bolyai Chem. 54, 253-264.
9. Horaicu, C., Robu, B., Florea, F., Horaicu, M.A., 2010. Heavy metal influence on an environment generated by the mining industry: The influence of copper, zinc, lead, manganese and silver on soil quality in the Mestecanis area (Romania). Carpath. J. Earth Environ. Sci. 5, 185-192. English.
10. Levei, E., Ponta, M., Senila, M., Miclean, M., Frentiu, T., 2014. Assessment of contamination and origin of metals in mining affected river sediments: a case study of the Aries River catchment, Romania. J. Serb. Chem. Soc. 79, 1019-1036. doi: 10.2298/jsc130501086l, English.
11. Levei, E., Senila, M., Miclean, M., Abraham, B., Roman, C., Stefanescu, L., Moldovan, O.T., 2011. Influence of Rosia Poieni and Rosia Montana mining areas on the water quality of the Aries river. Environ. Eng. Manag. J. 10, 23-29. English.
12. Marin, C., Tudorache, A., Moldovan, O.T., Povara, I., Rajka, G., 2010. Assessing the contents of arsenic and of some heavy metals in surface flows and in the hyporheic zone of the Aries stream catchment area, Romania. Carpath. J. Earth Environ. Sci. 5, 13-24.
13. Nurchi, V.M., Crisponi, G., Villaescusa, I., 2010. Chemical equilibria in wastewaters during toxic metal ion removal by agricultural biomass. Coord. Chem. Rev. 254, 2181-2192. doi: 10.1016/j.ccr.2010.05.022, English.
14. Servida, D., Comero, S., Dal Santo, M., de Capitani, L., Grieco, G., Marescotti, P., Porro, S., Forray, F.L., Gal, A., Szakacs, A., 2013. Waste rock dump investigation at Rosia Montana gold mine (Romania): a geostatistical approach. Environmental Earth Sciences 70, 13-31. doi: 10.1007/s12665-012-2100-6, English.
15. Stefanescu, L., Robu, B.M., Ozunu, A., 2013. Integrated approach of environmental impact and risk assessment of Rosia Montana Mining Area, Romania. Environ. Sci. Pollut. Res. 20, 7719-7727. doi: 10.1007/s11356-013-1528-x.
16. Voica, C., Kovacs, M., Feher, I., 2013. Studies on the Content of Heavy Metals in Aries River Using ICP-MS. Processes in Isotopes and Molecules (Pim 2013) 1565, 317-321. doi: 10.1063/1.4833753.
17. Zobrist, J., Sima, M., Dogaru, D., Senila, M., Yang, H., Popescu, C., Roman, C., Bela, A., Frei, L., Dold, B., Balteanu, D., 2009. Environmental and socioeconomic assessment of impacts by mining activities—a case study in the Certej River catchment, Western Carpathians, Romania. Environ. Sci. Pollut. Res. 16, 14-26. doi: 10.1007/s11356-008-0068-2.
18. Moldovan, O.T., Meleg, I.N., Levei, E., Terente, M., 2013. A simple method for assessing biotic indicators and predicting biodiversity in the hyporheic zone of a river polluted with metals. Ecol. Indic. 24, 412-420. doi:

		10.1016/j.ecolind.2012.07.019.
Citari in carti (I13)	**0**	
Citari in reviste BDI(I14)	**6**	1. Iepure, S., Selescu, L. (2009) Relationship between heavy metals and hyporheic invertebrate community structure in the middle basin of the Aries River (Transylvania, Romania), Transylvanian Review of Systematical and Ecological Research 7, 125-148. 2. Friedel, M.J., Tindall, J.A., Sardan, D., Fey, D.L., Poputa, G.L., 2008. Reconnaissance Study of Water Quality in the Mining-Affected Aries River Basin, Romania, USGS Open-File Report, Version 1.0 ed. 3. Friedel, M.J., Linard, J.I., 2008. Initial Sediment Transport Model of the Mining-Affected Aries River Basin, Romania, USGS Open-File Report, Version 1.0 ed. 4. Sima, M., Zobrist, J., Senila, M., Levei, E.A., Abraham, B., Dold, B., Balteanu, D.(2008)Environmental pollution by mining activities – a case study in the Criş Alb Valley, Western Carpathians, Romania. GeoEcoMarina 14, Issue 1, 9-20. 5. Har, N., Gorea, M., Benea, M., 2009. Mineralogy of degradation processes affecting the mortar from Buru dam (Ariesului valley, Cluj county). Stud. Univ. Babes-Bolyai Chem. 54, 253-264. 6. Bodoczi Florea A. (2011) The effect of iron leaching on Arieş River ecosystem (Romania). Biharean Biologist 5(2), 135-142.

		Articol
Nr. Articol: 2	Nr. de citări	Forray, F.L., Drouet, C. & Navrotsky, A. 2005, Thermochemistry of yavapaiite KFe(SO4)2: Formation and decomposition. Geochimica et Cosmochimica Acta, 69 (8): 2133
Citari in reviste ISI (I12)	**16**	1. Aderemi, B.O., Hameed, B.H., 2009. Alum as a heterogeneous catalyst for the transesterification of palm oil. Applied Catalysis A: General 370, 54-58. doi: http://dx.doi.org/10.1016/j.apcata.2009.09.020. 2. Billon, S., Vieillard, P., 2015. Prediction of enthalpies of formation of hydrous sulfates American Mineralogist 100, 615-627. doi: 10.2138/am.2014.4925. 3. Boujelbem, M., Toumi, M., Mhiri, T., 2008. X-Ray structure determination of NH4Al(SO4)2. Annales de chimie Science des Matériaux 33, 379-386. doi: 10.3166/acsm.33.379-386. 4. Chio, C.H., Sharma, S.K., Ming, L.C., Muenow, D.W., 2010. Raman spectroscopic investigation on Jarosite-Yavapaiite stability. Spectrochimica acta. Part A, Molecular and biomolecular spectroscopy 75, 162-171. doi: 10.1016/j.saa.2009.10.006, eng. 5. Chio, C.H., Sharma, S.K., Ming, L.C., Muenow, D.W., 2010. Raman spectroscopic investigation on Jarosite-Yavapaiite stability. Spectrochimica acta. Part A, Molecular and biomolecular spectroscopy 75, 162-171. doi: 10.1016/j.saa.2009.10.006, eng. 6. Gieré, R., Blackford, M., Smith, K., 2006. TEM Study of PM2.5 Emitted from Coal and Tire Combustion in a Thermal Power Station. Environmental Science & Technology 40, 6235-6240. doi: 10.1021/es060423m. 7. Glasser, L., Jenkins, H.D.B., 2009. Single-Ion Entropies, Sion°, of Solids—A Route to Standard Entropy Estimation. Inorganic Chemistry 48, 7408-7412. doi: 10.1021/ic9009543. 8. Klotz, I.M., Rosenberg, R.M., 2007. Enthalpy, Enthalpy of

		Reaction, and Heat Capacity, Chemical Thermodynamics. John Wiley & Sons, Inc., pp. 43-79. 9. Lane, M.D., Bishop, J.L., Dyar, M.D., Hiroi, T., Mertzman, S.A., Bish, D.L., King, P.L., Rogers, A.D., 2014. Mid-infrared emission spectroscopy and visible/near-infrared reflectance spectroscopy of Fe-sulfate minerals. American Mineralogist 100, 66-82. doi: 10.2138/am-2015-4762. 10. Majzlan, J., Michallik, R., 2007. The crystal structures, solid solutions and infrared spectra of copiapite-group minerals. Mineralogical Magazine 71, 553-569. doi: 10.1180/minmag.2007.071.5.553. 11. McCollom, T.M., Robbins, M., Moskowitz, B., Berquó, T.S., Jöns, N., Hynek, B.M., 2013. Experimental study of acid-sulfate alteration of basalt and implications for sulfate deposits on Mars. Journal of Geophysical Research: Planets 118, 577-614. doi: 10.1002/jgre.20044. 12. Navrotsky, A., Forray, F.L., Drouet, C., 2005. Jarosite stability on Mars. Icarus 176, 250-253. doi: http://dx.doi.org/10.1016/j.icarus.2005.02.003. 13. Sefton-Nash, E., Catling, D.C., 2008. Hematitic concretions at Meridiani Planum, Mars: Their growth timescale and possible relationship with iron sulfates. Earth and Planetary Science Letters 269, 366-376. doi: http://dx.doi.org/10.1016/j.epsl.2008.02.009. 14. Vithana, C.L., Sullivan, L.A., Bush, R.T., Burton, E.D., 2014. Jarosite quantification in soils: An enhanced sequential extraction procedure. Applied Geochemistry 51, 130-138. doi: 10.1016/j.apgeochem.2014.10.006. 15. Xu, H., Zhao, Y., Vogel, S.C., Hickmott, D.D., Daemen, L.L., Hartl, M.A., 2009. Thermal expansion and decomposition of jarosite: a high-temperature neutron diffraction study. Physics and Chemistry of Minerals 37, 73-82. doi: 10.1007/s00269-009-0311-5. 16. Xu, H.W., Zhao, Y.S., Vogel, S.C., Hickmott, D.D., Daemen, L.L., Hartl, M.A., 2010. Thermal expansion and decomposition of jarosite: a high-temperature neutron diffraction study. Physics and Chemistry of Minerals 37, 73-82. doi: 10.1007/s00269-009-0311-5, English.
Citari in carti (I13)	**0**	
Citari in reviste BDI(I14)	**0**	

		Articol
Nr. Articol: 3	Nr. de citări	Navrotsky, A., Forray, F.L. & Drouet, C. 2005, Jarosite stability on Mars. Icarus, 176 (1): 250
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Citari in reviste BDI(I14)	**0**	

Articole citate
(exclus autocitarile)
(Tabel centralizator cu calcule)

Nr.	Publicatie	Nr. Autori (na)	Nr. Citări in reviste ISI	Nr. Citări în cărţi	Citari în reviste BDI	Pct. 0,4/na/ citare	Pct. 0,3/na/ citare	Pct. 0,2/na /citare
			(I12)	(I13)	(I14)	(I12)	(I13)	(I14)
1	Forray, F.L. & Hallbauer, D.K. 2000, A study of the pollution of the Aries River (Romania) using capillary electrophoresis as analytical technique. ***Environmental Geology***, 39 (12): 1372	2	18	0	6	3.600	0.000	0.600
2	Forray, F.L., Drouet, C. & Navrotsky, A. 2005, Thermochemistry of yavapaiite $KFe(SO_4)_2$: Formation and decomposition. ***Geochimica et Cosmochimica Acta***, 69 (8): 2133	3	16	0	0	2.133	0.000	0.000
3	Navrotsky, A., Forray, F.L. & Drouet, C. 2005, Jarosite stability on Mars. ***Icarus***, 176 (1): 250	3	28	0	0	3.733	0.000	0.000
4	Forray, F.L., Smith, A.M.L., Drouet, C., Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2010, Synthesis, characterization and thermochemistry of a Pb-jarosite. ***Geochimica et Cosmochimica Acta***, 74 (1): 215-224.	7	11	0	1	0.629	0.000	0.029

5	Pop, D., Ionescu, C., Forray, F., Tămaş, C.G. & Benea, M. 2011, "Transylvanian gold" of hydrothermal origin: an EMPA study in an archaeological provenancing perspective. ***European Journal of Mineralogy***, 23 (6): 911	5	1	0	1	0.080	0.000	0.040
6	Servida, D., Comero, S., Dal Santo, M., De Capitani, L., Grieco, G., Marescotti, P., Porro, S., Forray, F.L., Gál, Á. & Szakács, A. 2013, Waste rock dump investigation at Roşia Montană gold mine (Romania): a geostatistical approach. ***Environmental Earth Sciences***, 70 (1): 13	10	4	0	0	0.160	0.000	0.000
7	Forray, F.L., Smith, A.M.L., Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2014, Synthesis, characterization and thermochemistry of synthetic Pb-As, Pb-Cu and Pb-Zn jarosites. Geochimica et Cosmochimica Acta, 127: 107-119.	6	4	1	0	0.267	0.050	0.000
8	Ghergari, L., Tămaş, T., Damm, P., Forray, F., 1997. Hydrothermal paleokarst in Pestera din Valea Rea (Bihor Mountains, Romania). **Theoretical and Applied Karstology** 10, 115-125.	4	1	1	2	0.100	0.075	0.100
9	Mârza, I., Ghergari, L., Forray, F., Tămaş, C.G., 1995. The glauch - glamm formation associated to the hydrothermal deposits from the Apuseni Mountains: Genetic and metallogenetic mechanism. **Studia Univ. Babeş-Bolyai, Geologia** XL, 185-194.	4	2	0	3	0.200	0.000	0.150
10	Forray, F., 2002. Environmental pollution in the Aries river catchment basin. Case study: Rosia Montana mining exploitation. Studia Univ. Babeş-Bolyai, Geologia Special Issue 1, 189-198.	1	4	0	2	1.600	0.000	0.400
11	Lane, M.D., Bishop, J.L., Dyar, M.D., Cloutis, E., Forray, F.L., Hiroi, T., 2005. Integrated spectroscopic studies of anhydrous sulfate minerals. **Lunar and Planetary Science** XXXVI, #1442.	6	4	0	0	0.267	0.000	0.000

12	Forray, F.L., 2002. Geochemistry of the environment in the areas of mining works from Aries Valley (Apuseni Mountains, Romania), Department of Mineralogy. Babes-Bolyai University, Cluj-Napoca, p. 301.	1	1	1	0	0.400	0.300	0.000
13	Mârza, I., Hallbauer, D.K., Forray, F., 2004. Hollow, non - fixed hydrothermal concretions - a mineralogical curiosity from the Herja - (Baia Mare) ore deposit. Romanian Journal of Mineral Deposits 81, 130-134.	3	0	0	1	0.000	0.000	0.067
14	Onac, B.P., **Forray, F.L.,** Wynn, J.G. & Giurgiu, A.M. 2014, Guano-derived $d^{13}C$-based paleo-hydroclimate record from Gaura cu Musca Cave, SW Romania. ***Environmental Earth Sciences****, 71 (9): 4061-4069.* DOI 10.1007/s12665-013-2789-x.	4	1	0	0	0.100	0.000	0.000
15	Onac, B.P., Hutchinson, S.M., Geantă, A., Forray, F.L., Wynn, J.G., Giurgiu, A.M., Coroiu, I., 2015. A 2500-year Late Holocene multi-proxy record of vegetation and hydrologic changes from a cave guano-clay sequence in SW Romania. Quaternary Research 83, 437-448. doi: 10.1016/j.yqres.2015.01.007.	7	1	0	0	0.057	0.000	0.000
					Suma pe categorii:	13.326	0.425	1.385
					Total	**15.136**		

I12=13.26
I13=0.425
I14=1.385

Indicator I15 (Membru in comitetul stiintific al unei reviste indexata ISI)

Nu este cazul

Indicator I16 (Membru in comitetul stiintific al unei reviste indexata BDI)

Nu este cazul

Criteriul C5= I12+I13+I14+I15+I16 **Criteriu pentru profesor: C5≥2,5**	**I12**	**13,326**
	I13	**0,425**
	I14	**1,385**
	I15	**0**
	I16	**0**
	Total realizat	**15.136**

Indicator I17 (Director în echipa unui grant/proiect…internaţional)

Nu este cazul.

Indicator I18 (Membru în echipa unui grant/proiect…internaţional)

1-5. PI. Alexandra Navrotsky, Grant multianual (2003 – 2015), reînnoit periodic, de la U.S. Department of Energy (Grant DEFG0397SF14749): Thermodynamics of Minerals Stable Near the Earth's Surface. Director de grant Prof. Alexandra Navrotsky.

Valorile granturilor pentru cele disponibile pe internet:
$197000, Link (2006)
$223000, Link (2009)
$232000, Link (2010)
$261000, Link (2013)
$241888, Link (2014)
La acest proiect este în curs de pregătire pentru 2016 studii legate de jarosite cu crom şi alunit, aşa cum este prezentat în teza de abilitare. Sursa finanţări este dovedită prin secţiunea de Acknowledgments a articolelor şi afilierea la University of California at Davis a candidatului.

6. **Director grant: Peter Uhlík**, Advanced Environmental Geology *(*ADVANCEG 1) – Mineral resources suitable for environmental application ERASMUS IP: 11203-1655/BRATISL02 (2011/12), Coordonator pentru Romania: Dana Pop, **Forray Ferenc Lazar**. Valoare grant: **33 947 EUR**.

7. **Director grant: Peter Uhlík**, Advanced Environmental Geology *(*ADVANCEG 2) – The impact of mining activities on the environment. ERASMUS IP: 11203-0899/BRATISL02 (2012/13), Coordonator pentru Romania: **Forray Ferenc Lazar**.Valoare grant: **35 518 EUR.**

8. **Director grant: Peter Uhlík**, Advanced Environmental Geology *(*ADVANCEG 3) – The environmental technologies in mining and waste management. ERASMUS IP: 13203-1044/BRATISL02 (2013-2014), Coordonator pentru Romania: **Forray Ferenc Lazar**. Valoare grant: **32 794 EUR.**

Publicaţii apărute:

1. Forray, F.L., Drouet, C. & Navrotsky, A. 2005, Thermochemistry of yavapaiite $KFe(SO_4)_2$: Formation and decomposition. *Geochimica et Cosmochimica Acta,* 69 (8): 2133-2140.
2. Navrotsky, A., Forray, F.L. & Drouet, C. 2005, Jarosite stability on Mars. *Icarus,* 176 (1): 250-253.
3. Forray, F.L., Smith, A.M.L., Drouet, C., Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2010, Synthesis, characterization and thermochemistry of a Pb-jarosite. *Geochimica et Cosmochimica Acta,* 74 (1): 215-224.

4. Forray, F.L., Smith, A.M.L., Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2014, Synthesis, characterization and thermochemistry of synthetic Pb-As, Pb-Cu and Pb-Zn jarosites. *Geochimica et Cosmochimica Acta*.

Poz.	Perioada	Tip	Sursa finanţări dovedită prin secţiunea de Acknowledgments a articolelor şi afilierea la University of California at Davis	Statut	Pct. I18
1	2003	Grant international >100.000 lei	U.S. Department of Energy Grant DEFG0397SF14749	Membru	4
2	2004-2006	Grant international >100.000 lei	U.S. Department of Energy Grant DEFG0397SF14749	Membru	4
3	2007-2009	Grant international >100.000 lei	U.S. Department of Energy Grant DEFG0397SF14749	Membru	4
4	2010-2012	Grant international >100.000 lei	U.S. Department of Energy Grant DEFG02-97ER14749	Membru	4
5	2013-2015	Grant international >100.000 lei	U.S. Department of Energy Grant DEFG02-97ER14749	Membru	4
6	2011/12	Grant international >100.000 lei	ERASMUS IP: 11203-1655/BRATISL02	Membru	4
7	2012/13	Grant international >100.000 lei	ERASMUS IP: 11203-0899/BRATISL02	Membru	4
8	2013/14	Grant international >100.000 lei	ERASMUS IP: 13203-1044/BRATISL02	Membru	4

I18=8x4=32

Criteriul C6= I17+I18 **Criteriu pentru profesor: C6≥4**	**I17**	**0**
	I18	**32**
	Total realizat	**32**

Indicator I19 (Director în echipa unui grant/proiect…naţional)

Candidatul a fost director de grant la trei proiecte de cercetare dar valoarea acestora a fost sub 50000 lei.

Nr. crt	Anul	Proiectul	Poziţia	Descrierea
1	2000-2001	356/2000 ANSTI si A11/2001 ANSTI	Director	Complex environmental monitoring in Apuseni Mountains, Romania şi Implementation of monitoring strategy in Apuseni Mountains
3	2001	261/09.04.2001 Sapientia	Director	Bioaccumulation of heavy metals in gastropods shells as tool for environmental pollution monitoring
4	2002	838/2002 Sapientia	Director	Study of possibility to prevent the heavy metal pollution in Rosia Montana mining region (Romania)

I19=0

Indicator I20 (Membru în echipa unui grant/proiect/contract…naţional)

Membru în echipa unui grant/proiect/contract

Punctaj: pt. valori >100.000 lei = 2 puncte; între 50.000 şi 100.000 lei = 1 punct

Nr.	Detalii grant/proiect/contract	Valoare*	Punctaj
1	**Director contract: Forray Ferenc Lazar**, Contract ISER, filial Bucureşti 2015, Analize izotopice $\delta^{13}C$ pe probe de sol. Valoare proiect: 4000 lei.	**4000 lei**	**0**
2	**Director contract: Forray Ferenc Lazar**, Contract ISER, filial Cluj, Contract nr. 18565/5.11.2014, Analize izotopice pe probe de apa. Valoare proiect: 7432 lei.	**7432 lei**	**0**
3	**Director contract: Ionescu Maria-Irina-Corina**, (2009) *STUDIUL GEOCHIMIC SI MINERALOGIC AL ANDEZITELOR DIN MUNTII OAS-GUTAI*, altele nationale, GEOCHIMIE SI RESURSE , *Precup Carmen Natalia* / membru echipa , *Nagy Istvan* / membru echipa , *Balica Constantin* / membru echipa , ***Forray Ferenc-Lazar* / membru echipa** . Valoare proiect: 14998 RON.	**14998 lei**	**0**
4	**Director proiec: Filipescu Sorin**, *Studiu geologic, evaluare regionala si posibilitati de valorificare a argilelor gazeifere din Romania (o resursa neconventionala) – etapa I*, altele nationale, PALEONTOLOGIE-STRATIGRAFIE , *Haitonic Raluca - Emilia* / membru echipa, *Silye Lorand* / membru echipa, *Bucur Ioan* / membru echipa, *Benea Ion-Marcel* / membru echipa, *Bedelean Horia-Stefan* / membru echipa, *Chira Carmen-Mariana* / membru echipa, ***Forray Ferenc-Lazar* / membru echipa**, *Har Nicolae* / membru echipa, *Onac Petroniu-Bogdan-Lucian* / membru echipa, *Popa Mirela-Violetta* / membru echipa, *Sasaran Emanoil-Florin* / membru echipa, *Tantau Ioan* / membru echipa, *Szabo Botond* / membru echipa, *SZEKELY Szabolcs-Flavius* / membru echipa, *Miclea Andreea Ionela* / membru echipa, *Beldean Claudia-Mariana* / membru echipa, *Reszeg Voichita* / membru echipa, *Andreica Dumitru* / membru echipa , *Facultatea de Geologie si geofizica*/UNIVERSITATEA BUCURESTI/ partener. Valoare proiect: **69254 RON.**	**69254 lei**	**1**
5	**Director grant: Onac Petroniu-Bogdan-Lucian**, *Reconstituiri de paleomediu pe baza analizelor de izotopi stabili efectuate pe depozitele de guano din pesteri*, , UEFISCDI, GEOCHIMIE SI RESURSE, PN II- ID -PCE-2011-3-0588/2013-2016, *GEANTA Anca-Daniela* / membru echipa , *GIURGIU Alexandra - Mihaela* / membru echipa , ***Forray Ferenc-Lazar* / membru echipa** . Valoare grant: **1429657** RON.	**1.429.657 lei**	**2**
6	**Director grant: Paul Serban Agachi,** (2007–2013, (PN II) Nr.6PM/I/ 20.10.2008) R.I.C.I. Retea Integrata de Cercetari Interdisciplinare. Contract de finantare pentru executie proiecte. Plan National De Dezvoltare a Cercetarii. Dezvoltarea şi modernizarea infrastructurii de cercetare existente prin includerea Centrelor şi Laboratoarelor vizate într-o Reţea Integrată pentru Cercetări Interdisciplinare (RICI). Membrii: Colectiv mare din Univ. Babeş-Bolyai, **Forray Ferenc-Lazar / membru echipa.** Valoare grant: **54.043.558,41 lei.**	**54.043.558,41 lei**	**2**
7	**Director grant: Onac Petroniu-Bogdan-Lucian**, Grant B.M. 24351, cod proiect 9 (1999-2001); Studiul compoziţiei, vârstei şi gradului de poluare a solurilor fosile şi actuale din Transilvania. Membrii: Lucreţia Ghergari, Tămaş Tudor, **Forray Ferenc-Lazar,**	**$50.000**	**2**

	Bodnariuc Antoniu**.** Valoare grant: **$50.000.**		
8	**Director grant: Filipescu Sorin**, Grant 218 Banca Mondiala (2001-2002), Dezvoltarea metodelor de predare, asimilare si evaluare in domeniul stiintelor natural cu ajutorul modulelor multimedia. Colectiv: **Forray Ferenc-Lazar** / membru echipa. Valoare grant: **$40.000**.	**$40.000**	**2**
9	**Director grant: Dana Pop**, Grant Nr. 32575/1999, 38/1-2, CNCSU Nr. 32575/1999, Tema nr. 107/38-CNCSU. Baze de date multimedia pentru colectii mineralogice (Multimedia database for mineralogical collections). Membrii: **Forray Ferenc-Lazar**, Marcel Benea, Ioan Bedelean, Bodnariuc Anton. Valoare grant: necunoscută.	**-**	**0**
10	**Director grant: Lucreţia Ghergarii**. Grant CNCSIS 46/51 (1999): Cercetări privind microstructura, microtextura si compozitia fazală aproduselor de ceramică fină procesate prin tratamente termice rapide. Membrii: Teofil Farcas, **Forray Ferenc-Lazar**. Valoare grant: necunoscută.	**3560 lei**	**0**
11	**Director grant: Ioan Bucur**, Grant CNCSU si Banca Mondiala (1997-2000): Dezvoltarea studiilor aprofundate si a doctoratelor in domeniul Petrometalogeniei, tectonicii, sedimentologiei si biostratigrafiei in terenurile proterozoice si fanerozoice din Romania.Valoare 125 000 USD). Membrii echipei: Barbu Ovidiu, Bedelean Horea, Benea Marcel, Chira Carmen, Codrea Vlad, Duca Voicu, Filipescu Sorin, **Forray Ferenc-Lazar**, Har Nicolae, Ionescu Corina, Onac Bogdan, Popa Mirela, Săsăran Emanoil, Tanţău Ioan, Tămaş Călin, Tămaş Tudor. Valoare grant: $125.000.	**$125.000**	**2**
12	**Director grant: Lucreţia Ghergari**, Grant CNCSIS 13/439(1997), 4/93(1998): I. Studiul influenţei materilor prime asupra microstructurii, microtexturii şi compoziţiei fazale ale unor produse ceramice. II. Studiu paleontologic asupra charophytelor din formaţiunile paleogene de pe bordura nord-vestică a Bazinului Transilvaniei. Membrii: **Forray Ferenc**, Teofil Farcas. Valoare grant: 9000 lei.	**9000 lei**	**0**
13	**Director contract: Lucreţia Ghergari**, Proiect de cercetare Mina Cacica (1996) Petrography and mineralogy of some rock salt from Cacica mine. Membrii: Teofil Farcas, Forray Ferenc, Albu Octavian, Simona Popa. Valoare grant: 3560 lei.	**3560 lei**	**0**
14	**Director grant: Lucreţia Ghergari,** 1996 Grant no.1018 CNCSU, 13/439 1997). I. Studiul caracteristicilor microstructurale şi de compoziţie fazală pentru unele produse ceramic de diferite provenienţe. II. Studii morfostructurale asupra unor organism fosile mezozoice şi neozoice cu importanţă stratigrafică. Ioan Mârza, Ioan Bedelean, Sorin Filipescu, Charmen Chira, Teofil Fărcaş, **Forray Ferenc**. Valoare grant: necunoscută.	**-**	**0**
15	**Director grant: Militon Frentiu and Grigor Moldovan** (1993-1997) Elaboration of models and algorithms for applications from different domains. New performant algorithms concerning problems of classification, simulation and reorganization of data. Contract 1087B/1993, 3010/1994, B10/Grant 244/1995, Grant 943/1996, Grant 309/1997, Contract between the Babes-Bolyai University, Cluj-Napoca and the Ministry of Education and Science Research grant coordinated by Prof. Militon Frentiu and Grigor Moldovan. Members: **Forray Ferenc**. Valoare grant: necunoscută.	**-**	**0**
16	**Director contract: Lucreţia Ghergari**, Contract SANEX (1995) Determinări mineralogice şi microstructurale pe materii prime şi produse ceramic (Mineralogical and micro structural determination of some ceramic product). Members: Teofil Farcas, **Forray Ferenc**, Albu Octavian, Silvia Moraru, Simona Popa, Ciceu Marius. Valoare grant: necunoscută.	**-**	**0**

17	**Director grant: Ioan Mârza**, no.1015 CNCSU, B43-57/1 ,CNCSIS(1995-1997) Petrographical, metalogenetical and micro tectonic comparison between Laramic and Neogene's volcanism from Apuseni mountains and Banat (Romania). Members: Lucreţia Gherghari, Har Nicolae**, Forray Ferenc**, Călin Tămaş. Valoare grant: necunoscută.	**-**	**0**
18	**Director grant: Lucreţia Ghergari**, 1995, Grant B47-33/CNCSU 1.1 Studii mineralogice complexe asupra ocurenţelor şi zăcămintelor de bentonite din Transilvania; recoltarea de probe pregătirea probelor. 1.2. Studii mineralogice complexe asupra ocurenţelor şi zăcămintelor de bentonite din Transilvania; studii mineralogice şi petrografice. Ioan Mârza, Ioan Bedelean, Teofil Fărcaş, **Forray Ferenc**. Valoare grant: necunoscută.	**-**	**0**
19	**Director grant: Lucreţia Ghergari**, 1995, Grant A16-34/1.2 CNCSIS Studii morfostructuraleale mineralelor argiloase (smectite) de diferite provenienţe. Ioan Mârza, Ioan Bedelean, Sorin Filipescu, Carmen Chira, Teofil Fărcaş, **Forray Ferenc**. Valoare grant: necunoscută.	**-**	**0**
Total			**11**

* În cazul în care aloarea grantului este necunoscută, figurează în table la valoare cu semnul "-"

Criteriul C7= I19+I20 **Criteriu pentru profesor: C7≥10**	**I19**	**0**
	I20	**11**
	Total realizat	**11**

Indicator I21 (Derulare activitatii stiintifice in echipe de cercetare cu antrenarea studentilor/masteranzilor/doctoranzilor/..)

1. Onac B.P., Forray, F.L., Geanta Anca (**Doctorand**), Giurgiu, A. (**Masteranda**),2012-2014 Stable isotope signature in cave guano as archive of past environments (PN-II-ID-PCE-2011-3-0588).
2. Onac, B.P., Forray, F.L., Wynn, J.G. & A. Giurgiu (**Masteranda**), A.M. 2013, Guano-derived δ^{13}C-based paleo-hydroclimate record from Gaura cu Musca Cave, SW Romania. *Environmental Earth Sciences,* DOI 10.1007/s12665-013-2789-x.
3. Forray, F.L., Smith, A.M.L.(**Doctorand)**, Drouet, C., Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2010, Synthesis, characterization and thermochemistry of a Pb-jarosite. *Geochimica et Cosmochimica Acta,* 74 (1): 215-224.
4. Forray, F.L., Smith, A.M.L.(**Doctorand**), Navrotsky, A., Wright, K., Hudson-Edwards, K.A. & Dubbin, W.E. 2013, Synthesis, characterization and thermochemistry of synthetic Pb-As, Pb-Cu and Pb-Zn jarosites. *Geochimica et Cosmochimica Acta*.
5. Onac, B.P., Hutchinson, S.M., Geantă, A., Forray, F.L., Wynn, J.G., Giurgiu, A.M. (**Doctorand**), Coroiu, I., 2015. A 2500-year Late Holocene multi-proxy record of vegetation and hydrologic changes from a cave guano-clay sequence in SW Romania. Quaternary Research, doi: 10.1016/j.yqres.2015.1001.1007.
6. Forray, F.L., Onac, B.P., Tanţău, I., Wynn, J.G., Tămaş, T., Coroiu, I., Giurgiu, A. (**Doctorand**), 2015. A Late Holocene environmental history of a bat guano deposit from Romania: an isotopic, pollen and microcharcoal study. Quaternary Science Reviews. Doi: 10.1016/j.quascirev.2015.05.022.
7. Forray F. L. Grant A11/2001 ANSTI (2001-2002), Monitorizarea complex a mediului în Munţii Apuseni. Implementarea strategiei de monitorizare. Colectiv: Cristina Dobrotă, Forray E., Tămaş Tudor şi Jozsa S. (25.000.000 lei).
8. Ionescu Maria-Irina-Corina, STUDIUL GEOCHIMIC SI MINERALOGIC AL ANDEZITELOR DIN MUNTII OAS-GUTAI, 14998 RON, altele nationale, GEOCHIMIE SI RESURSE , Precup Carmen Natalia / membru echipa , Nagy Istvan / membru echipa , Balica Constantin / membru echipa , Forray Ferenc-Lazar / membru echipa.

9. Ghergari, L., Tămaş, T., Damm, P., Forray, F., 1997. Hydrothermal paleokarst in Pestera din Valea Rea (Bihor Mountains, Romania). **Theoretical and Applied Karstology** 10, 115-125.
10. **Director proiec: Filipescu Sorin**, *Studiu geologic, evaluare regionala si posibilitati de valorificare a argilelor gazeifere din Romania (o resursa neconventionala) – etapa I*, altele nationale, PALEONTOLOGIE-STRATIGRAFIE , *Haitonic Raluca - Emilia* / membru echipa, *Silye Lorand* / membru echipa, *Bucur Ioan* / membru echipa, *Benea Ion-Marcel* / membru echipa, *Bedelean Horia-Stefan* / membru echipa, *Chira Carmen-Mariana* / membru echipa, ***Forray Ferenc-Lazar* / membru echipa**, *Har Nicolae* / membru echipa, *Onac Petroniu-Bogdan-Lucian* / membru echipa, *Popa Mirela-Violetta* / membru echipa, *Sasaran Emanoil-Florin* / membru echipa, *Tantau Ioan* / membru echipa, *Szabo Botond* / membru echipa, *SZEKELY Szabolcs-Flavius* / membru echipa, *Miclea Andreea Ionela* / membru echipa, *Beldean Claudia-Mariana* / membru echipa, *Reszeg Voichita* / membru echipa, *Andreica Dumitru* / membru echipa , *Facultatea de Geologie si geofizica*/UNIVERSITATEA BUCURESTI/ partener. Valoare proiect: **69254 RON.**
11. **Director grant: Peter Uhlík**, Advanced Environmental Geology *(*ADVANCEG 1) – Mineral resources suitable for environmental application ERASMUS IP: 11203-1655/BRATISL02 (2011/12), Coordonator pentru Romania: Dana Pop, **Forray Ferenc Lazar**. Valoare grant: **33 947 EUR**.
12. **Director grant: Peter Uhlík**, Advanced Environmental Geology *(*ADVANCEG 2) – The impact of mining activities on the environment. ERASMUS IP: 11203-0899/BRATISL02 (2012/13), Coordonator pentru Romania: **Forray Ferenc Lazar**.Valoare grant: **35 518 EUR.**
13. **Director grant: Peter Uhlík**, Advanced Environmental Geology *(*ADVANCEG 3) – The environmental technologies in mining and waste management. ERASMUS IP: 13203-1044/BRATISL02 (2013-2014), Coordonator pentru Romania: **Forray Ferenc Lazar**. Valoare grant: **32 794 EUR.**
14. **Director grant: Onac Petroniu-Bogdan-Lucian**, Grant B.M. 24351, cod proiect 9 (1999-2001); Studiul compoziţiei, vârstei şi gradului de poluare a solurilor fosile şi actuale din Transilvania. Membrii: Lucreţia Ghergari, Tămaş Tudor, **Forray Ferenc-Lazar,** Bodnariuc Antoniu**.** Valoare grant: **$50.000.**
15. **Director grant: Dana Pop**, Grant Nr. 32575/1999, 38/1-2, CNCSU Nr. 32575/1999, Tema nr. 107/38-CNCSU. Baze de date multimedia pentru colectii mineralogice (Multimedia database for mineralogical collections). Membrii: **Forray Ferenc-Lazar**, Marcel Benea, Ioan Bedelean, Bodnariuc Anton. Valoare grant: necunoscută.
16. **Director grant: Ioan Mârza**, no.1015 CNCSU, B43-57/1 ,CNCSIS(1995-1997) Petrographical, metalogenetical and micro tectonic comparison between Laramic and Neogene's volcanism from Apuseni mountains and Banat (Romania). Members: Lucreţia Gherghari, Har Nicolae**, Forray Ferenc**, Călin Tămaş. Valoare grant: necunoscută.

Poziţia	**Tip**	**Echipa**	**Grant internaţional** **5 pct.**	**Carte** **1 pct.**	**Articol ISI** **3 pct.**	**Grant/ proiect/ contract naţional 3 pct.**	**Articol BDI** **1 pct.**
1	Grant national PN II- ID –PCE-2011-3-0588	Geanta Anca (**Doctorand**), Giurgiu, A. (**Masteranda**)				3	
2	Publicatii commune (ISI)	Giurgiu, A. (**Masteranda**)			3		
3	Publicatii commune (Articol ISI)	Smith, A.M.L. (Doctorand) (a se vedea Acknowledgments articol)			3		
4	Publicatii commune (Articol ISI)	Smith, A.M.L. (Doctorand) (a se vedea Acknowledgment			3		

		s articol)					
5	Publicatii commune (Articol ISI)	Giurgiu, A. (Doctorandă)			3		
6	Publicatii commune (Articol ISI)	Giurgiu, A. (Doctorandă)			3		
7	Grant A11/2001 ANSTI (2001-2002)	Jozs S. (student)				3	
8	Proiect/Contract	Nagy Istvan (doctorand)				3	
9	Publicatii commune (Articol BDI)	Paul Damm (student)					1
10	Proiect/Contract	*SZEKELY Szabolcs-Flavius (doctorand)*				3	
11	Grant IP-11203-1655/BRATISL02	*Participare: student, masteranzi si doctoranzi*	5				
12	ERASMUS IP: 11203-0899/BRATISL02	*Participare: student, masteranzi si doctoranzi (Alexandra Cosma)*	5				
13	ERASMUS IP: 13203-1044/BRATISL02	*Participare: student, masteranzi si doctoranzi (Alexandra Cosma)*	5				
14	Grant B.M. 24351	*Tudor Tămaş (cadru didactic tânăr)*				3	
15	Grant Nr. 32575	*Bodnariuc Anton (cercetator)*				3	
16	Grant no.1015 CNCSU	Călin Tămaş (cadru didactic tânăr)				3	
		Total pe categorii	15		15	21	1
		Total general	52				

C8=…=18

Criteriul C8= I21 **Criteriu pentru profesor: C8≥8**	**I21**	**52**
	Total realizat	**52**

TABEL CENTRALIZATOR PENTRU PUNCTAJ

Criteriul	Denumire indicator	Profesor Criteriu	Punctaj Realizat	Criteriu îndeplinit
C1	I1-I2	≥ 30	67,703	226%
C2	I3	≥ 6	10	167%
C3	I4-I5	≥ 3	6,0	200%
C4	I6-I11	≥ 4	3,25*	81%
C5	I12-I16	≥ 2,5	15,136	605%
C6	I17-I18	≥ 4	32,0	800%
C7	I19-I20	≥ 10	11,0	110%
C8	I21	≥ 8	52,0	650%
	Punctaj total I1-I21	≥ 67,5	197,089	292%

* Conform Ordinului nr. 6.560/2012, în situaţia în care candidatul nu îndeplineşte unul dintre criteriile minimale, având mai puţin de 20% din valoarea acestuia, atunci Comisia de concurs poate considera, justificând îndeplinirea cu mult peste standarde a altor indicatori, propunerea de validare a concursului.
Candidatul are 81% îndeplinit la acest criteriu însă la celălalte criteria îndeplinirea cerinţelor este de la 110% pâna la 800%.

Data: 28.08.2015

Şef. lucr. dr. Forray Ferenc Lázár
Facultatea de Biologie şi Geologie
Universitatea “Babeş-Bolyai” din Cluj-Napoca