

Program	Program NUCLEU PN 06 12 01 09
Project title (ENG):	Elaboration and "in-house" validation of analytical methods for determination of Cd, Ni and Pb mobile forms in soils and sediment with different morphological structures. Studies and research on the mercury availability in sediments.
Project title (RO):	Elaborarea si validarea "in-house" a unor metode analitice pentru cuantificarea formelor mobile ale Cd, Ni si Pb din soluri si sedimente cu structuri geomorfologice diferite. Studii si cercetari privind disponibilitatea mercurului din sedimente.
Duration	2006-2008
Team Leader	Senior Researcher Eng. Gabriela Vasile
Summary (short description) ENG	<p>The project includes the extraction methods for Cd, Ni, Pb and Hg mobile metallic forms from anthropic solid environmental samples, metals included in the priority substances list, metals with negative impact on the environment and human health.</p> <p>In the project were validated "in-house" simple chemical extraction and determination methods for Cd, Ni, Pb and Hg mobile metallic compounds using flame atomic absorption spectrometry, metals extracted from highly polluted soils and sediments with different morphological structures.</p> <p>It has established an uninterrupted chain of traceability of analytical measurements to avoid geo-morphological changes in the structure of soils and sediments, due to redistribution of metals between the solid phases.</p>
Summary (short description) RO	<p>Proiectul include stabilirea metodelor de extracție a formelor metalice mobile ale Cd, Ni, Pb și Hg din probe solide de mediu puternic antropizate, metale incluse în categoria substanțelor prioritare periculoase cu impact negativ asupra mediului și sănătății umane.</p> <p>S-au elaborat și validat "in-house" metodele de extracție chimică simplă și determinare a formelor mobile ale compușilor metalici cu Cd, Ni, Pb și Hg prin spectrometrie de absorbție atomică în flacără din soluri și sedimente cu structuri geomorfologice diferite.</p> <p>S-a stabilit un lanț neîntrerupt al trasabilității măsurărilor analitice în scopul evitării modificărilor în structura geomorfologică a solurilor și sedimentelor, datorită redistribuirii metalelor între fazele solide.</p>
Dissemination of results	
PhD Thesis – Title RO, ENG	<p>Monitorizarea concentrațiilor speciilor metalice mobile din soluri și sedimente antropizate. Trasabilitatea măsurărilor analitice de metale mobile în soluri și sedimente, Gabriela Vasile, 2010</p> <p>Monitoring of concentrations of mobile metallic species from anthropogenic soils and sediments. Traceability of analytical measurements of mobile metals in soils and sediments</p>
Full-paper ISI	Vasile, G., Tanase, I. Gh., In-house validation for mobile nickel in solid environmental samples, <i>Journal of Environmental Protection and Ecology</i> , 2011 , 12 (3A), 1262-1274, ISSN: 1311-5065, WOS:000208898800008
	Vasile, G., Tanase, I. Gh., Dinu, C., The influence of the air-drying pretreatment of sediment samples for metallic element mobilities, <i>Analytical Letters</i> , 2010 , 43, 1199-1206, ISSN:0003-2719, DOI: 10.1080/00032710903518625, WOS:000277838400012.
	Vasile, G., Tanase, I. Gh., Mobility test applied to a certified reference material BCR 483 – Sewage Sludge amended soil, <i>Journal of</i>

Full-paper ISI	<p><i>Environmental Protection and Ecology</i>, 2010, 11 (2), 447-454, ISSN: 1311-5065, WOS:000279705200005.</p> <p>Vasile, G., Tănase, I. Gh., Comparative study of different extraction methods of bioavailability of terrestrial sediment-bound metallic elements, <i>Revue Roumaine de Chimie</i>, 2008, 53 (11), 1041-1049, ISSN: 0035-3930, WOS: 000266226500007.</p> <p>Vasile, G., Cruceru, L., Petre, J., Tanase, Ion Gh., <i>Analytical performant method for extraction and determination of mobile forms of cadmium from antrophic soils</i>, Revista de Chimie (Bucuresti), 2007, 58 (12), 1332-1334, ISSN:0034-7752, WOS:000252496200035.</p> <p>Vasile, G.G., Petre, J., Nicolau, M., <i>Metal speciation in sediments from Rosia Montana mining area, Romania</i>, 13th International Multidisciplinary Scientific Geoconference, Ecology, Economics, Education and Legislation (SGEM), Conference Proceedings, vol I, Ecology and Environmental Protection, 677-684 pp., ISBN 978-619-7105-04-9, 16-22 June, 2013, Albena, Bulgaria, WOS: 000349062300089</p> <p>Vasile, G., Cruceru, I., Petre, J., Nicolau, M., Iancu, V., Measurement of mobile trace metals from polluted soils in industrial sites, <i>Journal of Environmental Protection and Ecology</i>, 2008, 9(2), 278-283, ISSN: 1311-5065, WOS:000257500700005</p> <p>Vasile, G., Cruceru, L., Optimised method for extraction of mobile species of heavy metals from polluted soils, <i>Journal of Environmental Protection and Ecology</i>, 2007, 8(4), 801-805, ISSN: 1311-5065, WOS:000254747500009</p> <p>Vasile, G., Cruceru, L., Petre, J., Iancu, V., Mitran, R., Analytical investigation concerning the methodology for extraction of exchangeable forms of heavy metals from different types of soils, <i>Journal of Environmental Protection and Ecology</i>, 2006, 7(3), 562-569, ISSN: 1311-5065, WOS:000208350800012</p> <p>Vasile, G., Cruceru, L., Petre, J., Iancu, V., Complex analytical investigations regarding the bio-availability of heavy metals from sediments, <i>Revista de Chimie</i>, 2005, 56 (8), 790-794. ISSN: 0034-7752, WOS: 000232584300002.</p>
Book	<p><u><i>Evaluarea poluarii solului utilizand fractia metalica mobila</i></u>, Vasile Gabriela Geanina, 2011, ISBN: 978-973-558-550-1, Editura Ars Docendi, Bucuresti</p>
Book chapter	<p>Vosniakos, F., Vasile, G., Albanis, T., Petre, J., Cruceru, L., Nicolau, M., Cruceru, I., Stanescu, E., Kochubovski, M., Gjorgjev, D., Nikolaou, K., Golumbeanu, M., Vosniakos, K., Vasilikiotis, G., <i>Comparison study of physicochemical parameters evaluation between Danube River Delta and Axios- Vardar River Valley (2003-2009)</i>, NATO Science for Peace and Security Series C-Environmental Security. Environmental Heavy Metal Pollution and Effects on Child Mintal Development. Risk Assessment and Prevention Strategies, ISBN: 978-94-007-0255-4, 2010, Springer, Olanda, 257 - 286 pp, WOS: 000292940200016</p>
Conferences (platform, poster, abstract / full-paper	<p>Vasile, G., Cruceru, L., Tanase, I.Gh., In-house validation of a performing analytical method used for evaluation and monitorisation of mobile Pb from polluted sediments, 4-6 October 2006, <i>Conferința Națională de Chimie, Călimănești – Căciulata, Vâlcea</i></p>

Conferences (platform, poster, abstract / full-paper	Vasile, G., Cruceru, L., Petre, J., Evaluation of bioavailability for some toxic metallic elements from polluted soils, <i>the IInd International Conference of the Chemical Society of the Republic Moldova Moldova «Achievements and Perspectives of Modern Chemistry»</i> , 1-3 October 2007 , Chisinau, Moldova;
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