

Program	Program NUCLEU PN 09 13 02 06
Project title (ENG):	The mobility study of some priority hazardous substances in the sediments of rivers polluted by industrial human activities
Project title (RO):	Studiul mobilitatii unor substante prioritare periculoase in sedimentele de rauri poluate prin activitati antropice industriale
Duration	2012-2014
Team Leader	Senior Researcher Lidia Kim
Summary (short description) ENG	The project concerns to establishment some optimal methods of extraction of mobile metal forms of Cd, As, Cu, Ni, Pb in sediments associated Certej mining area, Baiaga River. Within this project were elaborated and developed methods of extraction of mobile forms of metal compounds by mass spectrometry with inductively coupled plasma (ICP-MS) and was evaluated the bioavailability of metals to pass from sediments into surface water. The results obtained in the seven sampling campaigns and spatio-temporal evolution of total and mobile heavy metals emphasize a high contamination of sediment with As, Cd and Pb, of which Cd and As are present mostly in a bioavailable form, inducing a high degree of pollution on the aquatic environment by passing these metals from sediments into surface water.
Summary (short description) RO	Proiectul se refera la stabilirea unor metode optime de extractie a formelor metalice mobile de Cd, As, Cu, Ni, Pb din sedimente aferente zonei miniere Certej, paraul Baiaga. In cadrul proiectului, au fost elaborate si dezvoltate metode de extractie a formelor mobile de compusi metalici prin spectrometrie de masa cu plasma cuplata inductiv (ICP-MS) si a fost evaluat gradul de biodisponibilitate al metalelor de a trece din sedimente in apa de suprafata. Rezultatele obtinute in cele sapte campanii de prelevare si evolutia spatio-temporala a continutului total si mobil de metale grele pun in evidenta o contaminare ridicata a sedimentelor cu As, Cd si Pb, dintre care Cd si As sunt prezente majoritar intr-o forma biodisponibila in sedimentele analizate, inducand un grad de poluare ridicat asupra mediului acvatic prin trecerea acestor metale din sedimente in apa de suprafata.
Dissemination of results	
Full-paper ISI	Kim, L., Vasile, G. G., Stanescu B., Calinescu S., Batrinescu G., Distribution and bioavailability of mobile arsenic in sediments from a mining catchment area, <i>Journal of Environmental Protection and Ecology</i> , 2015 , Vol.16(4), 1227–1236, ISSN: 1311-5065.
Conferences (platform, poster, abstract / full-paper)	Vasile, G., Kim, L. , Gheorghe, S., Stanescu, B., Calinescu, S., Evaluation of mobile cadmium in sediment samples collected from Certej mining site – effects on aquatic ecosystems, 3-5 October 2012 , <i>Conferinta Nationala de Chimie</i> , Calimanesti-Caciulata, Valcea
	Vasile, G., G., Kim, L. , Gheorghe, S., Stanescu, B., Ecological assessment of mobile cadmium in sediments from Certej mining site, Hunedoara County, Romania, 2013 , <i>GeoConference on Ecology, Economics, Education And Legislation</i> , Albena, Bulgaria
	Kim, L. , Cismovschi, G., Stanescu, B., Batrinescu, G., Analytical investigations concerns regarding Ni and Pb distributions and mobility in river sediments affected by mining activities, 29-30 October 2013 , <i>The International Symposium Environment and Industry</i> , Bucuresti