QUESTIONNAIRE

Please, fill in the Questionnaire and return it to contact person in Moldova:

depintrel@asm.md. Phone: 272254

(*) – mandatory fields

	Details about organisation
* **Organisation name**	Institute of Geology and Seismology
Organisation acronym	
* **Organisation Activity** Type (**RES** - Research, **HE** - University, **SME** - Small and Medium Enterprise, **IND** - Industry, **OTH** - Other)	**RES**
* **Keywords of main research areas**	Geology, Seismology, Hydrogeology
* **Head of organisation (first name, family name)**	Dr.hab. Vasile Alcaz
* **Post code**	MD-2028
* **Country**	Republic of Moldova
* **City**	Chishinau
* **Street, House**	Academiei, 3
* **Telephone (+ country & city codes)**	(+37322)739027
* **Fax (+ country & city codes)**	(+37322) 739663
* **E-mail**	alcazv@yahoo.com

*** Description of organisation and its research achievements for the last five years (~ 5000 signs)**

Institute of Geology and Seismology. **Laboratories:** Seismology; Earthquake Engineering; Complex Research of the Earth Crust; Geochemistry; Hydrogeology and Engineering Geology; Center of Experimental Seismology.

The Institute was established in 1967 on the basis of the Institute of Geology and Minerals of the former USSR and of the seismic station “Chisinau”. The specialists of the Institute have systematized and subjected to detailed analysis the data obtained via registration of seismic processes that occurred on the territory of the Republic of Moldova. These data constitute the basis for studying the seismic hazard on the territory of the Republic, the mechanism of the Vrancea deep seismic earthquake focus in the Oriental Carpathian Mountains, as well as the evaluation of seismic prognosis. Using such data the Institute has drawn up the map of Moldova’s territory seismic macrozoning, as well as the maps of seismic microzonation of some cities and located in zones with different degrees of seismicity. These maps and other valuable elaborations in seismology are used by numerous institutions and organizations in housing, industrial and social designing and building. In their scientific researches the specialists of the Institute utilize modern seismic devices and modern computers thus making it possible to accelerate essentially the efficient analysis of seismic events and to establish the earthquake focus parameters of Vrancea and world earthquakes

. In the regional geology the collaborators of the Institute have drawn up the tectonic map of Moldova at the scale of 1:500000, which reflects the evolution of land crust from archaic till Neocene. It is used by different organizations with geological profile for planning and geological prospecting on the territory of the republic. Also, the map of gullies and land-slides on the same territory has been drawn up, which can be used for design of constructions in the rural area. Concrete proposals have been elaborated for improving the lands affected by destructive geological processes and for minimizing the danger of soil erosion.

The activity of the Institute in recent years has been also characterized by the obtaining of certain fundamental and applied results in studying the underground water, the geochemical technogene processes and the processes of riverbed of small rivers. At present, the collaborators of the Institute are engaged in fundamental researches aimed at determining the seismic parameters of Vrancea earthquakes, elaboration of seismic hazard prognosis on the territory of the Republic of Moldova as well as its supply with local raw material.

	Contact Information
* **Contact person (first name, family name)**	Dr Constantin MORARU
* **Department / Laboratory**	Lab. of hydrogeology
* **Position**	
* **Qualification and research experience**	Staff – 8 scientists: 3 PhD + 2 PhD students + 3 scientists. Experience is both local and international, speaking English environment as second language
* **Post address (house, street, city, code, country)**	3 Academiei str. , Chisinau, Republic of Moldova, MD 2028
* **Telephone (+ country & city codes)**	+373 22 73 96 63
* **Fax (+ country & city codes)**	+373 22 73 96 63
* **E-mail**	cmoraru@yahoo.com

International co-operation / Participation in EU RTD programmes or other bilateral / multilateral actions

INTAS, TACIS, TEMPUS, COST, EUREKA, other RTD programmes (please specify programme/s, project title/s and year/s

World Bank, 1995-1996, Study of the Quality of rural drinking water
TACIS, 1999-2000, Prut river water management
TACIS, 2001, Prut River tributaries
Fulbright, USA, 2003-2004, Ground Water – Quality Assessment of the Republic of Moldova and Memphis area in the United States of America.
DAAD, Germany, 2005, Geochemical aquifer vulnerability estimation leakage potential method (GAVEL)
Arkansas State University, USA, 2006-2007, Groundwater quality of the MS, TN, AR and LA states

	* **Please, use "X" to indicate the scientific area/s of your potential project**
CHEMISTRY	Aquatic Geochemistry
SOCIAL AND HUMAN SCIENCES	
ECONOMIC SCIENCES	
ENGINEERING SCIENCE	
ENVIRONMENT	X
AGRICULTURE AND FOOD	
HEALTH	
MATHEMATICS	
INFORMATION SCIENCE	
PHYSICS	
NANOTECHNOLOGIES	
ENERGY	
TRANSPORT	
SPACE	

*** Summary of potential research project envisaged hosting of European researcher for the period of between 1 and 2 years**

Title: Geochemical Ground Water Vulnerability Assessment

Summary and objectives: A rule of thumb for currently available vulnerability techniques is that the more complex and data extensive the method, the smaller the area that can be assessed (Committee on Techniques, 1993). In this context strategically it is important to continue investigations related to new and simple methods of assessing Ground Water Vulnerability to Contamination, especially based on available and integrated data.

We propose new approaches for **G**round **W**ater **V**ulnerability assessment to contamination (GWV) :

1) regional GWV assessment using Helium as indicator of hydrodynamic interconnection between aquifers

2) local and site GWV assessment based on geochemical cumulative signals in the zone of aeration

Proposed methodology is new and numerical. Field data for Moldova, Germany and USA are available. Additionally, representative data for Moldova aquifers are planned to be collected.
The proposed Project will address the following objectives:

Long term: to contribute to the implementation of sustainable and realistic practices of ground water vulnerability estimation, so as to reduce negative public health effect of drinking water supply

Short term:(1) to describe and analyze existing methodologies of ground water vulnerability assessment

(2) to propose and argument a new GWV assessment methodology:

2.1 Natural **Helium** method for cross-contamination detection of aquifers (HELIUM)

2.2 **G**eochemical **A**quifer **V**ulnerability **E**stimation **L**eakage potential (GAVEL)

	Please, confirm your agreement on data publication and dissemination
I agree with the publication of the data on the web-site **http://www.inco-eeca.net**, and **dissemination** among Mobility National Contact Points of the EU MS and AC **(YES / NO)**	Yes
Date: June 12, 2008	