This workshop is supported by: The NATO Science for Peace and Security Programme

NATO Advanced Research Workshop (ARW)
21-23 March, 2011, Belgrade, Serbia

"Drinking Water Protection by Integrated Management of Contaminated Land"

Abstracts

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NATO Advanced Research Workshop
Belgrade, Serbia, 21-23 March 2011
Meeting venue: Hotel "M", Bulevard Oslobodenja 56a

AGENDA

Sunday 20 March 2011	
19:00	Welcome Reception – Hotel Lobby
1st Day, Monday 21 March	
Opening	
8:45	Registration & Coffee
9:00	Host - welcome/remarks - Momcilo Zivkovic, Director, Serbian Environmental Protection Agency
9:30	Welcome – Organizing Committee members
9:40	Introduction of workshop participants
9:50	Presentation of the workshop objectives
Country Session 1	
10:00	Overview of US EPA Information Resources Regarding Water Clean-Up Technologies, Kovalick W. (USA)
10:25	Toward Integrated Contaminated Sites Management in Austria - From a New Vision Toward Policy - Science Integration and Practical Implementation, Kasamas H. (Austria)
10:50	Discussion
11:00	*Coffee Break*
Technical Session 1 – Assessment & Climate Change	
11:30	Limitations and Challenges of Wastewater Reuse in Israel, Brenner A. (Israel)
11:50	Research of Physical-Chemical Parameters of Water Quality in Drinking (Tap) Water in Tbilisi City and its Close Regions, Mtsariashvili L.A. (Georgia)
12:10	Climate Change Impacts on Water Resources Management with Particular Emphasis on Southern Italy, Vurro M. (Italy)
12:30	A Geochemical Assessment of Surface Water Quality as a Tool for Indication of Geogenic and Man-made Constituents of Pollution, Nalbandyan M. (Armenia)
12:50	Discussion
13:00	*Lunch break*
14:30	Risk-based Approach to Contaminated Land and Groundwater Assessment, Wcislo E. (Poland)
14:50	Comparative Measurements of Radon Content in Tap Water of Cities Tbilisi and Rustavi, Mtsariashvili L.A. (Georgia)
15:10	Manganese and SO4 Background in Groundwater at Portoscuso (Sardinia): a Tool for Water Management in a Large Contaminated Area, Vecchio A. (Italy)
15:30	Discussion
15:40	*Coffee Break*

Country Session 2	
16:10	Assessment of Sites under Risk for Soil Contamination in Serbia, Vidojevic D. (Serbia)
16:20	Geochemistry of Bottled Water in Serbia, Petrović T. (Serbia)
16:35	Current Issues and Research Needs for Contaminated Land and Groundwater/Drinking Water in Poland, Krupanek J. (Poland)
Round table	
17:00	Round table discussion
18:00	Adjourn
19:30	*"Get together" dinner at restaurant "Dva Jelena"*
2nd Day, Tuesday 22 March	
Technical Session 2 - Remediation	
9:00	Current Use of Biological and Integrated Methods for Soil and Ground Water Biotreatment, Steffan R. (USA)
9:20	Bioremediation of Petroleum Contaminated Water and Soils in Tunisia, Sayadi S. (Tunisia)
9:40	Remediation of Metal Ion-Contaminated Groundwater and Soil Using Nanocarbon-Polymer Composition, Khaydarov R. (Uzbekistan)
10:00	New Aspects for Execution and Finalisation of Groundwater Remediation Measures, Frauenstein J.(Germany)
10:20	Discussion
10:30	*Coffee Break*
11:00	Advances in Groundwater Remediation: Achieving Effective in Situ Delivery of Chemical Oxidants and Amendments, Siegrist R. (USA)
11:20	Development of Rehabilitation Technologies and Approaches for Multipressured Degraded Waters and the Integration of their Impact on River Basin Management, Bastiaens L. (Belgium)
Technical Session 3 – Assessment & Climate Change	
11:40	Contaminated Sites in Well Head Protection Areas: Methodology of Impact Assessment, Kadunas K. (Lithuania)
12:00	Advances in Gis-based Approaches to Groundwater Vulnerability Assessment: Overview and Applications, Elci A. (Turkey)
12:20	European Ground Water Geochemistry Using Bottled Water as a Sampling Medium , Demetriades A. (Greece)
12:40	Discussion
12:50	*Lunch Break*
Country session 3	
14:20	Current Issues and Research Needs for Contaminated Land and Groundwater/Drinking Water in Croatia, Spiric Z. (Croatia)
14:45	The Role of the Regulator in the Water Management in the Czech Republic, Vlk K. (Czech Republic)
15:10	Health Significance of Safe Drinking Water, Kochubovski M. (FYROM)
15:35	Discussion
15:45	*Coffee break*
Round table	
16:15	Round table discussion
16:45	Workshop conclusions
17:00	Closing of Workshop and Adjourn
19:30	*"Get together" dinner at Restaurant "Kovac"*
3rd Day, Wednesday 23 March	
Field trip	
9:00	Field trip (half day, optional), Pancevo site

Geochemistry of Bottled Waters of Serbia

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Chemical analyses of 13 bottled mineral waters were carried out at the BGR geochemical laboratories. The analyses included pH, electrical conductivity, alkalinity and concentrations of 69 elements and ions. An aquifer lithology impacts on the chemical composition of ground water signifi cantly, especially on the explanation of conditions of forming and circulation of ground water through different lithology environments. Basic composition of ground water is usually a refl ection of the lithogeochemistry of the aquifer, while micro components indicate the circulation of ground water through the different lithological environment. The waters are most frequently tapped from Neogene carbonate rocks (dolomite, limestone), and to a lesser extent from granitoid rocks, shale, and serpentinite. Based on the analyses of bottled mineral waters, it has been observed that water quality is greatly affected by the chemical composition of igneous intrusions, regardless of the fact that the analysed waters have been sampled from different aquifers (Neogene sediments, limestone, flysch, schist). Bottled waters of Serbia are mostly HCO_3 -Ca, HCO_3 -Ca-Mg (from carbonate rocks) and HCO_3 -Na (from Neogene and igneous rocks). Among the micro components, increased concentrations of Cs, Ge, Rb, Li, and F are frequently present in bottled water, as a consequence of its circulation through granitoid rocks. Some samples contain a higher concentration of B, I, NH_4 , Tl, W, as the consequence of the aquifer environment.