

## BULGARIA

### Cooperative Activities under the SPS Programme

Since NATO began offering science cooperation to partners in 1992, Bulgarian scientists and experts have had leading roles in 439 activities, and more have joined various cooperative activities as participants and key speakers.

Today, NATO science activities enable close collaboration on the two key priorities of **defence against terrorism** and **countering other threats to security** and are managed under the Science for Peace and Security (SPS) Programme. SPS activities contribute to NATO's strategic objective of partnership, helping to connect scientists and experts from NATO countries with their counterparts from Partner and Mediterranean Dialogue countries through workshops, training courses, team collaborations and multi-year projects.

All activities supported by the SPS Programme are approved by NATO nations on the basis of consensus.



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### Examples of Activities

On 28 April to 1 May 2010 an Advanced Research Workshop, entitled **“Environmental Heavy Metal Pollution and Effects on Child Mental Development – Risk Assessment and Prevention Strategies”** took place in Sofia, Bulgaria. The goal of the SPS workshop was to evaluate the existing knowledge on the intellectual impairment of children exposed to heavy metals in their living environment. At the event research needs were identified in order to obtain a clearer picture of the situation in countries and regions at risk, where the economy is closely related to metallurgy and heavy metals emission, and to recommend a strategy for human protection. The workshop facilitated an exchange of experience between scientists from NATO and Partner countries as well as provided information to decision makers. It is

hoped that the workshop will stimulate national policy to address urgent needs and formulate longer-term strategies for managing environmental pollution from heavy metals in countries and regions at risk. [ref 983867]

An SPS Advanced Study Institute, entitled **“The Role of Security Sector Governance for the Democratic Transition in the Western Balkans”** took place on 25 June to 5 July 2009 in Plovdiv, Bulgaria. The aim was to examine the impact of Security Sector Governance (SSG), one of the pillars of political and economic reforms, on the process of democratic transition in the Western Balkans. The Institute reviewed the past achievements of the countries from the region and outlined their outstanding tasks regarding SSG. It encouraged academic debate on issues of approaches,

methodologies and empirical basis of research. The event alternated lectures with workshops and scenario projects where it was demonstrated how concepts, issues and approaches applied to the context of WB. [ref 983664]

Prompted by the dangerous earthquakes in the Vrancea region of Southeast Europe, experts from Bulgaria, Moldova, Romania and Turkey are cooperating to develop a seismic hazard map for the area. As part of this project, entitled **“Harmonisation of Seismic Hazard Risk Reduction for Vrancea Earthquakes”**, they have compiled a database of all the strong earthquakes that have occurred in the region. In addition, they have developed detailed maps of seismic activity for the cities of Chisinau, Moldova, and Russe, Bulgaria and have installed seismic stations in these countries. Particularly vulnerable buildings and building sites will be identified. Results, in the form of GIS maps and associated data, will be disseminated to the end-users of the project, including the municipality of Russe, Bulgaria, plus other municipalities and agencies in Moldova and Romania. [ref 980468]

Another ongoing project, entitled **“Monitoring Crustal Deformation in West-Central Bulgaria and Northern Greece”** has fostered cooperation among investigators from Greece and Bulgaria since June 2006. The aim is to install a permanent network of GPS-receiver stations in west-central Bulgaria and the Greek region of Macedonia, using the existing telecom infrastructure of the seismological networks in Greece, as well as Internet service providers in Bulgaria. High-precision GPS data acquired from earthquakes of tectonic plate motion and

crustal deformation and meteorological data will be acquired. This information will be combined with seismological data from Bulgarian and other stations in order to identify active faults and to measure deformation rates. Contacts have been initiated with state and local end-users of geodetic data. [ref 981881]

In addition to NATO-funded activities, the SPS Programme facilitates the development of nationally funded activities, such as pilot study on **“Food Chain Security”**, which has been conducted in cooperation with the European Science Foundation (ESF). Bulgarian experts joined their counterparts



Food supply chains could be in danger

from other NATO and Partner countries to examine the safety and security of the food system in the face of careless or ignorant handling, as well as potential terrorist attacks. The study includes the development of protective and response measures to reduce risk and mitigate the consequences of these incidents, which could destroy or

degrade the food system at the source, or during distribution, processing or consumption. Over five years, nine meetings were held to enable high-level technical discussions among the international experts, the identification of common weaknesses and a comparison of food systems among countries. The last meeting took place in September 2008, in Antalya, Turkey. [ref 982184]