

## ROMANIA

### Cooperative Activities under the SPS Programme

Since NATO began offering science cooperation to partners in 1992, Romanian scientists and experts have had leading roles in 343 activities, and more joined various cooperative activities as participants.

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.



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

### Examples of Activities

An SPS workshop on **“Energy Security in the Black Sea Area - Critical Infrastructure Protection and System of Systems Engineering”** took place in October 2008 in Bucharest, contributing to point 48 of the NATO Bucharest Summit Declaration “supporting the protection of critical energy infrastructure”. The workshop provided the participating researchers and policy-makers from Romania, Bulgaria, Russia, Turkey and other NATO countries with an opportunity to debate different analytical approaches and improve their understanding of critical energy infrastructure protection. [ref 983484]

Scientists from Romania, Canada, Italy and Spain have worked since October 2005 to develop a procedure for **“Photocatalytic Decontamination of Neurotoxic and Vesicant Compounds”**, to be used in the clean-up of land and materials exposed to chemical weapons, particularly in circumstances where incineration or collection

of spills would not be possible. In October 2008, a team from the NBC Defence and Ecology Research Centre of the Romanian Ministry of Defence demonstrated two new techniques for decontamination of chemical warfare agents using photocatalysts as a powder and as an aqueous suspension. The techniques employed during the demonstration to decompose sulphur mustard use only natural chemicals and solar radiation and leave behind only innocuous gaseous oxide compounds. The techniques are environmentally friendly and safe for sensitive equipment and infrastructure. [ref 981476]

An ongoing SPS project in the field of communications security has brought together experts from Romania, Greece, Denmark and the former Yugoslav Republic of Macedonia\* to develop more flexible and robust **“Reconfigurable Interoperability of Wireless Communications Systems (RIWCos)”**. In the past decade, the mobile

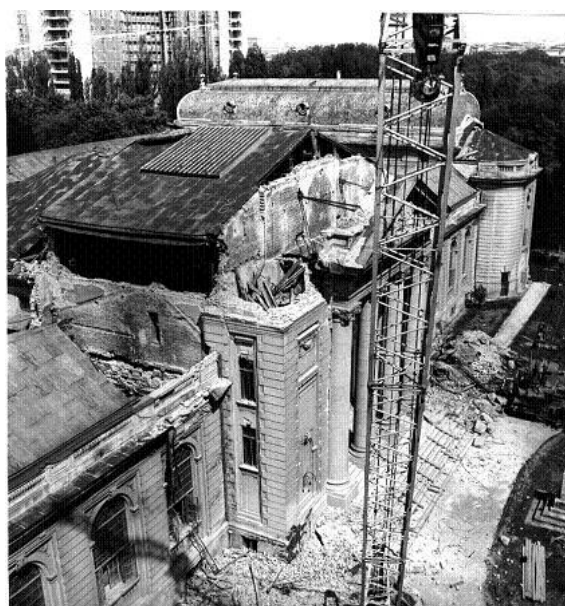
\*Turkey recognises the Republic of Macedonia with its constitutional name.

communications systems in southeastern Europe have reached their full capacity, which presents a risk at peak hours of usage and in periods of crisis. By offering a choice between alternative wireless networks, the RIWCoS provide the required level of robustness and adapt dynamically to bypass any changes in resource availability due to network saturation or equipment crashes. This project aims to integrate different wireless communications technologies into a common easy-to-use infrastructure and to develop a platform that is compatible with international standards. The commercial end-user is Vodafone Romania. [ref 982469]

A project with direct impact on the Romanian population involves experts from Romania and Germany who are working to assess the likely nature of earthquake damage at specific sites in Bucharest. The project, entitled “**Site-Effect Analyses for the Earthquake-Endangered Metropolis of Bucharest**”, involves the identification of factors that amplify earthquake waves in the region. To this end, existing seismic records have been analyzed to determine amplitude variations and wave field properties across Bucharest. In addition, the experts have taken soil and rock samples from newly drilled boreholes and are modeling of the seismic response of the layers closest to the surface. This technique is expected to lead to major improvements in the seismic mapping of Bucharest. [ref 981882]

In addition to NATO-funded activities, the SPS Programme facilitates the development

of nationally funded activities, such as the series of workshops on “**Environmental Management Systems (EMS) in the Military Sector**”. Following an earlier pilot study on the same topic, it was recognised among participating countries that an EMS is a useful tool to manage the impact of military activities on the environment. Through this activity, Romanian experts and their counterparts in NATO and Partner countries discussed the



Damage resulting from the 4 March 1977 earthquake in Bucharest.

practical challenges of implementing EMS in the management framework. Improved environmental practices are expected to foster sustainability, thereby promoting broader peace and security objectives. The final workshop was held in Kyiv Ukraine in November 2008. [ref 982701]

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