



The NATO Science for Peace and Security Programme

SPS e-flier – E.Maduike / S.Michaelis

May 2010

BELARUS

Cooperative Activities under the SPS Programme

Belarus has been involved in NATO science activities since 1992, when science cooperation was first opened up to include Partner countries. In total, scientists and experts from Belarus have had leading roles in 125 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.



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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 upcoming advanced study institute to be held by Belarusian scientists in collaboration with their Italian colleagues took place in Italy on 17-22 May 2010. The course topic **“Advanced Training of Architects of Secure Networks”** is aimed at scientists, trainers and architects who develop networks and wish to learn recent techniques in the field of secure networking. They were taught how to design and implement security solutions that will reduce the risk of revenue loss and vulnerability. The course was a mix of hands on experience, instructor-led and e-learning for the 50 participants coming from NATO and Partner countries. [ref 983681]

An ongoing project has brought together scientists from Belarus, Norway and Ukraine to cooperate on the assessment of the hazards posed by **“Radioactive Contamination in the Polessie State Radiation-Ecological Reserve”** in Belarus. The initial work has involved the analysis of

archival material on contamination levels and field measurements. Another major task will be to develop uniform methods for sampling and measurement of a number of isotopes in soil and water, and the level of contamination within the Chernobyl exclusion zone and the Khoyniki District of the Reserve will be measured. In the coming months, the project teams will use data from recently collected soil samples to study the migration and transport of the contamination through the atmosphere and water. The Ministry of Emergency Situations and Ministry of Environmental Safety and Natural Resources of Belarus will be the major end-users of the results. [ref 983057]

Experts from Belarus are also collaborating with experts from the Czech Republic on the **“Destruction of Pesticides Using Thermal Plasma Technology”**. This project addresses the risk posed by persistent organic pesticides (POPs), stored all over



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Belarus. In recent years, pesticides and their decay products have also been found in underground water. The conventional method of destruction—incineration—results in emissions containing dioxins, but a new, safer method using a technology based on high-temperature plasma treatment is promising. After in-depth analysis and repacking of the pesticides, the scientists will develop a pilot set-up to test the plasma destruction method. The safe destruction and improved long-term management of POPs will contribute to community health protection and the prevention of environmental degradation. The result will be the development of a technical base in Belarus for the fulfillment of the country's obligations under the Stockholm convention. [ref 983056]

Researchers from Belarus, France and the Russian Federation are working on a project to develop **“Biodetectors Based on Advanced Microchips”** for detection of biological agents. This project will couple protein microarrays and liquid phase, nanocrystal-encoded microchips in a flow cytometry set-up. A technique will be used to detect of the fluorescent signal emitted when biological molecules immobilized on the surface of the liquid- phase chip are excited. The resulting detection kits will be able to detect bacteria such as *Meningitis*, *Mycobacterium* and *Bacillus anthracis*. The scientists will develop advanced optical equipment suitable for use with FRET and double-band emitting nanocrystals, which will be transferred to the commercial end-users of the project. [ref 983207]

In addition to NATO-funded activities, the SPS Programme facilitates the development of nationally funded activities, such as pilot study on



CEP men in yellow protection suits

Future”. The project organizers recognized that there was still room for improvement in coordinating the response to nuclear accidents and in decision-making during the initial and later phases after an accident. The pilot study gathered experts from Belarus and several other countries for a number of meetings focused on the lessons learned from the Chernobyl accident and formulated recommendations for future research and response measures. [ref 982283]

“Risk Assessment of Chernobyl Accident Consequences: Lessons Learned for the