



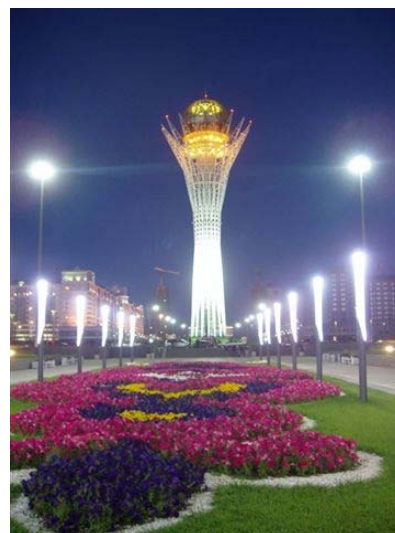
## KAZAKHSTAN

### Cooperative Activities under the SPS Programme

Kazakhstan has been involved in NATO science activities since 1993. In total, scientists and experts from Kazakhstan have had leading roles in 82 activities, and more 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 Ongoing Activities

An Advanced Training Course entitled **“Countering the Proliferation of Weapons of Mass Destruction through Enhanced Border Security”** took place on 5 to 9 October 2009 with the help of the Kazakhstan Ministry of Internal Affairs. The aim of this workshop was to explore the role of modern border security in relation to preventing the proliferation of weapons of mass destruction (WMD) with an emphasis on Central Asia. The 30 participants came from 4 Central Asian states and represented a number of relevant agencies including Ministries of Foreign Affairs, Interior, Defence and Finance as well as key agencies including Border Guard, Customs, Export Control, National Police, Counter Terrorism, Intelligence and Security. During the 4 day event the participants discussed the nature of the WMD proliferation threat, the post 9/11 impact on border security regimes, key factors relating to border security as well as cross border and regional cooperation. [ref 983662]

Investigators from Kazakhstan, the Kyrgyz Republic, Tajikistan, Uzbekistan and Slovenia have cooperated since February 2006 in a project to manage uranium industry wastes in order to prevent adverse effects on the health of local populations and on the environment. The project, **“Uranium Extraction and Environmental Security in Central Asian Republics”**, involves determining how radionuclides migrate, the extent of local contamination and the doses to which different population groups have been exposed, with particular focus on drinking-water supplies near uranium tailing and waste ore deposits. Since the start of the project, missions have been carried out to selected uranium waste sites. The results of this work are of particular interest to various municipal and national regulatory authorities in the countries involved, who will have access to data on radon levels in private homes and public buildings, as well as on radioactivity in drinking water supplies located in close proximity to uranium waste

deposits. Recommendations will also be made on ways to limit exposure. [ref 981742]

Scientists from Kazakhstan and the Netherlands have worked to develop **“Integrated Water Resources Management for Wetlands Restoration”** in the Syrdarya River Delta and the northern Aral Sea, in order to enhance environmental stability and the effective use of marine resources. The partners have gathered data on the past and present ecological conditions prevailing in these water bodies, and have adapted an integrated mathematical model, developed under a previous SPS project, for use with this data. They have also conducted surveys of the hydrological, ecological, soil and socio-economic conditions of the area, constructed GIS-based maps, and consolidated the information in the Aral Sea database. Among the end-users of this project are the Committee for Water

Resources of Kazakhstan, the ARAS Board of Construction Companies and authorities in the Kyzylorda and Aralsk municipalities. [ref 980986]

Since September 2006, scientists Kazakhstan, Azerbaijan and Turkey have cooperated in the development of **“New Technology for Seismic Resistant Construction”**. This technology, called “aseismic construction technology” or ACT, can lead to the construction of houses that are capable of withstanding earthquakes and explosions. An important goal of the project is to reduce the cost of such construction so that it is more widely affordable in regions vulnerable to earthquakes. The end-users of this project include the Kazakhstan State Committee for Construction and Architecture,

and contacts have also been established with construction companies. A number of patents have been filed. [ref 982167]

SPS networking infrastructure grants provide Internet connectivity, information technology and network equipment for academic institutions in NATO’s Partner countries.



Prof. Mukash Burkitbayev (left) of Kazakhstan was presented with the NATO Science Prize by former NATO Deputy Secretary General Amb. Alessandro Minuto-Rizzo on 22 March 2007 for an SPS-supported project assessing radioactive contamination at the nuclear test site at Semipalatinsk, Kazakhstan, which had been operated by the former Soviet Union. His collaborator, Prof. Nick Priest of the United Kingdom, shared the prize. (credit: NATO photos)

Ongoing networking projects include the development, improvement and expansion of the **Kazakhstan Research and Educational Network Association (KazRENA)**. The

projects have enabled academicians and young scientists to have easy access to the World Wide Web and the possibility to exchange large documents and datasets with their local and foreign counterparts. In addition, researchers can sign up to distance learning programmes and set up video conference facilities. This helps promote collaboration and integrates local institutes in the international scientific community. [ref 983730]