

## EGYPT

### Cooperative Activities under the SPS Programme

Egypt has been involved in NATO science activities since 1995. In total, scientists and experts from Egypt have had leading roles in 51 activities, and more have joined various cooperative activities as key speakers and 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

On 13 to 15 April 2010 an Advanced Research Workshop, entitled “**Advances in Food Security and Safety against Terrorist Threats and Natural Disasters**” took place in Cairo, Egypt. This two day SPS workshop allowed scientists and industry experts from NATO, Partner and Mediterranean Dialogue countries to make a critical assessment of existing knowledge on food security and safety as a defence against terrorist attacks and to develop strategies to counter such risks. The tremendous efforts that were previously carried out by international agencies such as World Health Organization “Terrorist Threats to Food, 2002”, NATO “Pilot Study on Food Chain Security, 2003-2008” and other governmental laws and regulations and several similar work provided a sound environment for this SPS workshop. [ref 983907]

A new project involving researchers from Egypt and the United States is focused on the effective use of “**Real-Time Remote Sensing for Early Warning and Mitigation of Disasters**” such as earthquakes, storms, floods, fires, epidemics, crop failures, oil and chemical spills and terrorist incidents. The project will employ data from “EgyptSat 1” and other satellites by establishing ground stations at Al Azhar University and Cairo University, and real-time data from satellite remote sensing will be provided to Egypt’s academic community. This will enable vulnerability assessments and integration of real-time remote sensing and meteorological data with ecological and epidemiological data. The project aims to establish a disaster mitigation hub that will ensure wide dissemination of standard data products. Local end-users include the Crisis and Disaster Management Sector in



the Office of the Prime Minister, the National Authority for Remote Sensing and Space Sciences, and the Agricultural Research Centre. [ref 983168]

Since December 2007, scientists from Egypt have cooperated with those from Albania and Greece to develop a new process for the removal of nitrogen from municipal wastewater. The main goal of the project, entitled “**Enhancing Environmental Security through Nitrogen Removal**”, is the transfer of technology using Sequencing Batch Reactors (SBRs) from Greece—where they were first developed—to Egypt and Albania. During the study, one pilot-scale SBR unit will be installed at a selected location in each of these two countries, and young researchers trained in Greece will undertake the operation. The upgrading of surface groundwater quality will enhance the environmental security in Egypt, where drinking water shortages are often caused by extremely polluted resources. [ref 982816]

On a similar topic, scientists from Egypt and Canada have been working together to manage water resources using “**Real-Time Water Quality Warning and Communication**”. The main objective is to develop a capability to detect and predict adverse changes in water quantity and quality, resulting from either terrorism or environmental pollution, in the Nile River in Egypt. A real-time water quality monitoring network, complemented by an automated weather station and command centre, will be established on the river. In parallel, an Egyptian Water Quality Index, a critical tool for water resources management, will be developed to evaluate the suitability of all water bodies in Egypt for various uses such as drinking, irrigation, livestock, aquatic life and recreational activities. [ref 982630]

The SPS programme also facilitates the development of nationally funded activities, such as the pilot study on “**Clean Products and Processes**”. Through their participation, Egyptian scientists connected with others from 30 NATO, Partner and Mediterranean Dialogue countries in an international forum to share information on the methods, tools and technologies for making cleaner industrial process



Desert looked at from very high above earth. Taken from PPT of Andrey Shmakin, Security Science Forum, 12.03.10

applications and production. Such methods include improved “house-keeping” in process plants; modifications of existing technologies; and new process designs that consider environmental impacts. By discussing and sharing expertise about current trends and developments in the use of cleaner technologies and production of cleaner products, the participants aimed to stimulate effective technology transfer. [ref 981928]