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Science Committee

Committee on the Challenges of Modern Society

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www.nato.int/science

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Responding to NATO's priorities - The Security through Science Programme in full swing

Bringing 'Security through Science' is the aim of a growing range of ongoing projects within NATO's security-related science domain. Moldova and the South Caucasus are just two of the areas where the Alliance, either alone or in co-operation with other international organisations, has been making use of the diverse tools at its disposal - such as scientific co-operation and Partnership for Peace instruments - to help bring stability to Partner countries and assist them on their way to reform. Two related Science for Peace projects will illustrate such efforts. The Security through Science Programme has also been dealing extensively with the theme of 'terrorism' by trying to understand the root causes of terrorism and by seeking to assess its impact on the public. Such were amongst the issues discussed at

two Advanced Research Workshops held in February 2005. Thanks to the Programme, co-operation between scientists in NATO, Partner and Mediterranean Dialogue countries keeps flourishing and Reintegration Grants continue to be awarded. In this regard, the experience of one Kazakh scientist who, through NATO's support has reintegrated into her home country to continue her scientific career, is a reminder of how NATO can help highly educated people in Partner countries contribute to the development of their home country. These, and other security-related activities described in this newsletter illustrate the new orientation of the Programme towards security-related activities in line with the Alliance's transformation to meet the new threats and challenges of the 21st century.



NATO Security through Science 2004 Highlights



⇒ The first issue of 2005 of this newsletter offers the opportunity to take stock of the major activities and accomplishments of the NATO Security through Science (STS) Programme, now that the programme has been through a full annual cycle after being launched at the beginning of 2004.

During 2004, the Science Committee was engaged in implementing Council decisions and setting policy under the new programme. The focus on security is now a central theme of the programme, along with the continuing emphasis on fostering concrete co-operation between the NATO countries and the Partner and Mediterranean Dialogue countries.

In 2004, a total of 387 grants were awarded to scientists in Partner and Mediterranean Dialogue countries to co-operate with NATO country scientists. These activities span a wide range of topics and mechanisms, including over 100 scientific conferences.

The Science for Peace (SfP) programme was very active in 2004, with over 60 new projects either approved or in advanced planning. These 3-5 year projects involve teams of scientists from Partner and NATO countries concentrating on the application of science and technology to practical problems. There are 139 SfP projects either ongoing or completed, including such topics as explosives' detection; detection of dirty bombs; radioactive waste disposal in Turkmenistan; and dealing with radiological contamination.

Computer Networking continued as an important element of programme activity during 2004. The Virtual Silk Highway (VSH) project, which brings Internet computer connectivity to the scientific and educational communities of the Caucasus and Central Asia, was extended to Afghanistan, with the installation of a ground station in Kabul. The VSH project is the largest Computer Networking project, but other smaller projects are being conducted to extend Internet access in many Partner countries.

2004 also saw the establishment of four new Advisory Panels replacing the former Panel structure, and the selection by the Science Committee of a new set of national experts for the Panels. The new Panels are oriented towards security issues. One of them, the Human and Societal Dynamics (HSD) Panel, is specifically tasked to address security aspects of the 'soft sciences'. This is a completely new direction for the Science Committee, but one which is essential for understanding the roots of terrorism and other significant threats to our societies.

The traditional Science Fellowships programme was terminated in 2004, and was replaced by a new mechanism: the Reintegration Grant. Reintegration Grants offer opportunities for Partner scientists already working or studying in NATO countries to return to their home country to conduct research with NATO support. This approach helps reduce the 'brain drain' which is cited as a significant problem by many Partner countries.

New joint activities with other NATO bodies and International Organisations

were initiated in 2004. These include a series of joint workshops with the Conference of National Armaments Directors (CNAD) supporting their activity on Defence against Terrorism. The NATO STS programme was also included in the Environment and Security (ENVSEC) initiative, along with OSCE, United Nations Development Programme (UNDP) and United Nations Environment Programme (UNEP).

Co-operation with the Mediterranean Dialogue countries continued to strengthen in 2004. During the period 2000-2004 a total of 230 events have been held involving the participation of over 1,000 Mediterranean Dialogue scientists.

The impact of the STS Programme in the Partner countries was noted by the Secretary General in his fall 2004 visits to the countries of the Caucasus and Central Asia. He remarked that during their face-to-face meetings with him, nearly all of the Heads of State had underscored the importance of this NATO programme for their countries.



Environment and defence reform in Moldova

A joint effort of NATO's Security through Science and Partnership for Peace Programme

- ⇒ The NATO Security through Science Programme and the NATO Partnership for Peace (PfP) Trust Funds will soon co-operate to help Moldova destroy pesticides and other dangerous chemicals. Approximately 2,000 tonnes of chemicals (some of them containing, for instance, heavy metals and dioxins) are held at 350 separate locations throughout Moldova, of which roughly 20 per cent are unidentified, meaning that the Moldovan authorities do not know which pile is which chemical.



The final solution to the problem will be the destruction of the chemicals. Their environmentally sound destruction depends, however, on carrying out the appropriate chemical analyses, to ensure that the appropriate destruction solutions are chosen. NATO will assist Moldova with the diverse tools at its disposal: a PfP Trust Fund project will deal with the destruction of the chemicals while a NATO Science for Peace project will support the process of carrying out chemical analyses.

The Science for Peace project on 'Clean-up of obsolete chemical pesticides in Moldova' was approved in November 2004 for a three-year duration and is co-directed by Cl. Constantin Manolache, of the Moldovan Ministry of Defence, and Prof. Freddy C.V. Adams of Belgium. This project will sponsor the creation of a new centralised laboratory, based on the merger of equipment and personnel from different laboratories, which will work on the chemical characterisation of the pesticides.

The laboratory will be situated at the 'Phytosanitation Products Test State Centre', organised under the Ministry

of Agriculture. The Ministry of Defence will be responsible for the overall implementation of the project and will be the leading body in determining the objectives and tasks to be fulfilled by the laboratory. The estimated budget of the project covering items such as new instrumentation and training costs is around € 128,000.

This Security through Science's support mechanism will complement a PfP Trust Fund project, currently under consideration, for the 'Destruction of pesticides and dangerous chemicals in the Republic of Moldova'.

The NATO PfP Trust Funds assist NATO Partner countries in projects including the safe destruction of stockpiled anti-personnel landmines, small arms and light weapons, and conventional munitions. Each project is led either by a NATO member country or a Partner country, which are responsible for gathering political and financial support for the project. At the moment, the first part of a feasibility study on this project has been completed with positive results. This study proposed a step-by-step

approach through 're-packing, centralisation and destruction': the idea would be to repack the approximately 2,000 tonnes of pesticides and chemicals into sealed containers and to centralise them in 20 sites (from the current 350) before proceeding with the destruction. In the meantime, the Science for Peace-sponsored centralised laboratory would carry out chemical analyses. NATO is currently looking for lead nations to implement the first phase, that is re-packing the pesticides.

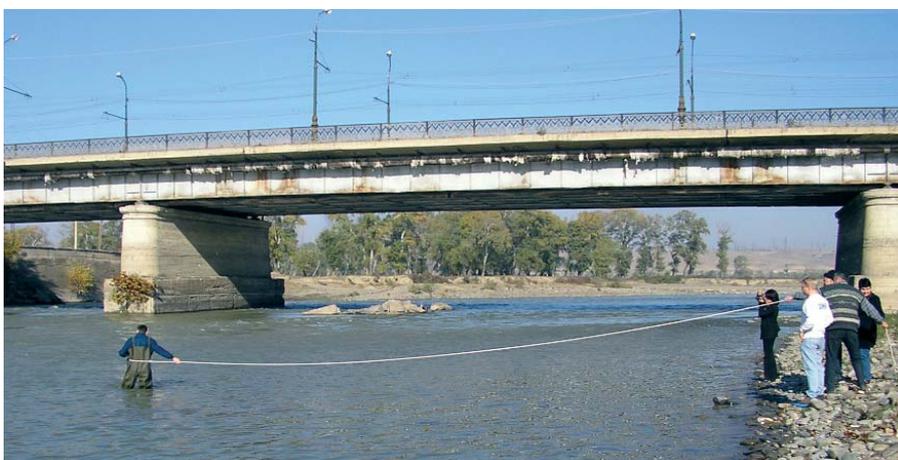
The stockpiles of chemicals and pesticides represent not only a threat to the health of local communities but also a burden on the limited resources of Moldova's Ministry of Defence, which provides military personnel (at least 800 people) to safeguard and monitor the sites. Re-packing and centralising the stockpiles would allow releasing military personnel currently engaged in guarding the excess sites. This, in turn, could have an encouraging effect with regard to the eventual reduction and restructuring of the Moldovan Armed Forces, thus making a contribution to Moldova's defence reforms.

River Monitoring in South Caucasus

an example of NATO-OSCE co-operation



⇒ NATO and the OSCE have joined forces not only in the Balkans but also in the South Caucasus, where they jointly support a river monitoring Science for Peace project. Given the political, economic and social context of the region (and particularly the sensitive relations between Armenia and Azerbaijan), this initiative aims to bring 'Security through Science' by reducing a potential cause of disputes such as those related to common water resources.



Georgian team, field expedition, 20 November 2004.



Geyis Ibrahimov of the Azerbaijani team measuring water flow's velocity in the Iori river, September 2004.

In November 2004, NATO and the OSCE agreed to extend the 'The South Caucasus River Monitoring' Science for Peace project until October 2006. The project was approved in October 2002 for a three-year duration to help Armenia, Georgia and Azerbaijan develop their infrastructure on transboundary water quality and quantity monitoring. The three countries jointly utilise the Kura and Araks rivers and their divides and, as is often the case with transboundary rivers, they share common problems related to water supply and river pollution due to agricultural and industrial activities. These rivers supply water for direct human use, so that both social and economic developments are affected by the quality of water resources. Additionally, information regarding the ecological state of water resources is necessary for other planning in South Caucasus, e.g. for plans related to future oil and gas pipelines.

The overall aim of the project is the establishment of a laboratory for water monitoring in each of the three countries

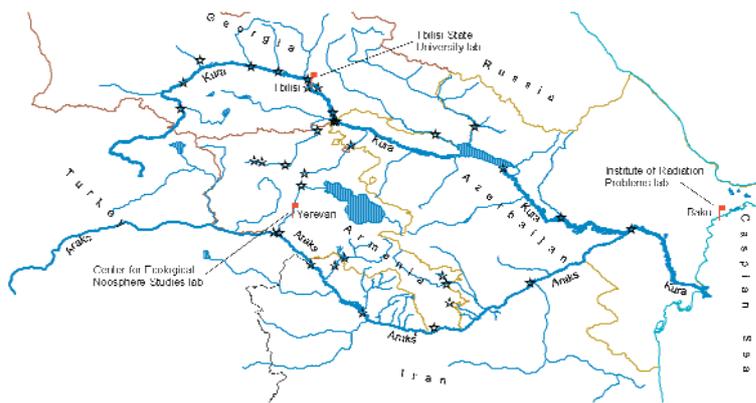
which will provide modern equipment, highly trained expertise and standardised operation procedures. NATO has purchased water analysis instruments, which have been installed in laboratories in Armenia, Georgia and Azerbaijan. With the support of NATO, scientists from the three countries are jointly trained in Norway and Belgium on water sampling and analysis. NATO's support amounts to some € 433,000. In order to cover the salaries of the researchers involved, costs that NATO does not cover, the OSCE has raised an additional € 140,000.

The project's extension will include the monitoring of radioactivity in the water. NATO will support equipping the laboratories in the three countries with the necessary instruments for a total of about € 50,000 per country. More specifically, the laboratories will develop the capability for monitoring waterborne radionuclides by high-resolution gamma ray spectrometry. This equipment can also be used for the detection of radiological agents, which might be released

into the water accidentally or intentionally as part of a terrorist act. In this respect, the project provides a further contribution to the Alliance's efforts in the fight against terrorism. The monitoring network can also serve as the nucleus of an early warning system in case of a potential future nuclear accident.

The results of this Science for Peace project were discussed at regional meetings with the participation of government officials of the three countries. This was the case at a NATO seminar held in September 2004 in Tbilisi (Georgia) on the preparedness of the Caucasian countries for a bio-terrorist attack and at a joint OSCE-USAID regional working meeting held in Tbilisi on 'Priority Questions in Water Sector'.

This NATO-OSCE project is embedded into the 'Environment and Security' (ENVSEC) initiative set up by the OSCE, the United Nations Development Programme (UNDP) and United Nations Environment Programme (UNEP) to promote the use of environmental management as a strategy for reducing insecurity



Map showing the rivers Kura and Araks and the three research institutes involved in the river monitoring.



From left to right, Dr Armen Saghatelian (Partner Country Dir.-Armenia), Mrs. Diana Khachian (PhD student and key researcher involved in the project) and Dr Chris De Wispelaere (co-ordinator of the Collaborative Programmes Section at the NATO Public Diplomacy Division) with the atomic absorption spectrometer, the most important piece of equipment that NATO bought for each of the countries (Armenia, Azerbaijan, Georgia).

in South Eastern Europe and Central Asia. NATO's Security through Science Programme and the Committee on the Challenges of Modern Society (CCMS) are associated to ENVSEC. This project also represents an area of co-operation between NATO and the OSCE perhaps less well known than the Balkans-type conflict prevention, crisis management and post-conflict reconstruction.

Nonetheless, such co-operation is critical as it addresses a potential key threat to the security and stability in the region. As political and ethnic instability may be exacerbated by water disputes, maintaining high-quality fresh water resources can indeed contribute to reducing the risk for these countries, who face potentially unstable situations.

➡ Further information can be found on the project's web site at <http://www.kura-araks-natosfp.org>

Editorial

The information keeps coming: the new issue of your newsletter has been delivered on time and as planned.

My thanks go out to all those who have taken over from Enid temporarily. I strongly encourage them to persevere.

As you will see, our Security through Science Programme is meeting its objectives. And the new guidance means more relevance and better consistency with the Alliance's objectives. Social science research has now made an appearance in our newsletter.

Increasingly we are taking our Partners' concerns and scientific objectives into account, and increasingly we are being praised by their permanent representatives and the many delegations we receive at NATO Headquarters. The programme is now being opened to the Mediterranean Dialogue countries. At their unanimous request, the unifying theme of co-operation on desertification problems in that region was selected three years ago; initial work on it is now under way, and it is clearly a problem with many links to security. Environmental safety, too, is a concern for all our Partners that has been expressed time and time again, both by leaders and by members of the Science Committee and the Committee on the Challenges of Modern Society. Furthermore, we are considering bringing those two committees closer together.

But there is a sad note accompanying all this good news - after so many years working at NATO, Alain Jubier is leaving us. Everyone who has known him in the various roles he has played in the programme will remember the relevance of his analyses and his proposals, which he always spiced up with a dash of well-tempered scepticism. From now on we will miss that special blend.

Jean Fournet

Understanding, anticipating and preventing a terrorist attack



⇒ This was the key theme of two Advanced Research Workshops that took place between January and February 2005. Each workshop analysed and discussed different components of this topic through a multidisciplinary approach that brought together experts from several fields such as science, psychology and social sciences. 'Ideologies of Terrorism: Understanding and Countering the Social, Psychological and Political Underpinning of Terrorism' was the title of the Advanced Research Workshop held in Brussels between 31 January and 2 February 2005.



This workshop focused on the academic, political and diplomatic approaches to understand the multifaceted root causes of terrorism. How is ideology used to motivate and recruit individuals into terrorist activities? How can policy-makers begin to address religious ideologies that promote terrorism? - Such were the questions addressed by a group of world-renowned scholars. The specific aim was to identify policy initiatives in the area of defence against terrorism, which is a top priority for the Alliance. The other workshop, held in Canterbury (UK) on 24-26 February 2005, examined 'The Impact of Terrorism on the Public - Developing an Agenda for Future Research on Resilience'. The term resilience has become an important part of the vocabulary of policy-makers, emergency planners, politicians and health professionals, but there is little agreement on the meaning of this concept. For instance, from an institutional perspective, resilience could be defined as the ability at every level - national, regional and local - to detect, prevent and if necessary handle disruptive

challenges, such as floods or terrorist attacks. On the other hand, from a psychological perspective it could be referred to an individual's ability to withstand stress and not manifest psychological dysfunction. The participants to the workshop shared their research and insights into the study of resilience in order to develop a clearer understanding of the impact of terrorism on individuals, institutions and communities. Resilience in the aftermath of the 9/11 attacks and the Israeli experience were amongst the issues debated.



The interplay between Security and Culture

What is the mutual influence that security institutions (such as armed forces and military organisations) and the cultural context exert on each other? The link between 'Security and Culture' was discussed by military experts, media professionals and political scientists at the Advanced Research Workshop organised in Moscow on 2-4 February 2005. The workshop concentrated on both directions of cross-cultural influence: societal and cultural influence on the security sector, from one end, and ability of the security sector to change the social and cultural organisation of societies from the other. Experts used a comparative perspective, by comparing processes in Western states and specifically NATO countries with processes in post-Soviet new independent states and Russia as well as other NIS countries. Specific issues that were discussed included the evolution of military culture from non-democratic to democratic societies, the establishment of civil oversight over the military and relations between the military and mass media.

News from CCMS



Raising the level of awareness on terrorist threats to the environment

How to protect environmental resources from possible terrorist attacks and how to minimise the potential effects should an attack occur? Such are the issues that a recently launched short-term project under the NATO-Russia Council (NRC)-CCMS will address in 2005. In the horrific event that terrorists introduce contaminants into the environment, public authorities need access to the best available and relevant information. The project aims to work on the development of a database for gathering, organising, and evaluating readily available and non-sensitive information related to such potential terrorist acts. This kind of information includes at least the following categories: threats agents; potential threat scenarios of concern; prevention and security measures; preparedness plans; and, response measures. The project takes into account the work already done by other bodies within and outside NATO, aiming to link and make available existing information via a database.

Learning lessons from the Chernobyl accident

Drawing lessons from Chernobyl, reviewing the current state of knowledge and making recommendations for further research and better decision-making while responding to future accidents is the focus of a pilot study jointly led by the US and Italy. A second workshop

will take place in Kiev (Ukraine) in 2005. In previous meetings, which took place in 2004, topics discussed included effects on children and other carcinogenic and psychological effects. The work is carried out by working groups including experts who had dealt with the management of the accident's consequences and their evaluation.

Effective risk response strategies

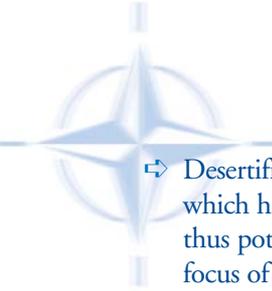
The US and the UK have been leading a pilot study aimed at improving risk management. This is done by helping the individuals and agencies concerned to predict, inform and manage more openly and effectively the responses of the various stakeholders involved in any risk event. Work is carried out through case studies (such as on food chain security and the use of anthrax for acts of terrorism) in order to derive general conclusions for risk managers, to achieve an integrated risk response model and to provide guidelines for effective risk management. The next meeting will take place in Chisinau (Moldova) in May 2005 along with an Advanced Research Workshop on 'Foresight, Precaution and Risk: Preparing for the Unexpected', which will discuss the results of the case studies and ways ahead for this research area. The workshop will include keynote presentations from experts in this field and role play exercises to explore methods for risk preparedness and effective management of risk response.

Developing a theory of warfare?

An Advanced Research Workshop held in Covilha (Portugal) on 14-18 February 2005 looked at 'The Influence of Chance Events and Socio-economic Long Waves in the New Arena of Asymmetric Warfare'. The discussion focused on the challenge to the notion that warfare is a random occurrence having more or less transitory effects on the economic and social system. This view is increasingly being questioned by contemporary historians, economists and other system scientists who have demonstrated the existence of long waves in socio-economic development, the so-called 'Kondratieff waves', or 'K-waves'. Such theorists have shown a clear secular pattern of recurrence of major wars with a period of 50 to 60 years as well as a concentration of wars in the upswing phase of the K wave. Another pattern of 25-year periodicity, probably generation driven, also emerges from their studies. If war is not a mere occurrence, but patterned according to long socio-economic cycles and the result of deep and general laws, it is necessary to investigate the underlying causes of the observed patterns in order to develop a consistent theory of warfare. By doing so, as argued by these theorists, it should be possible to reduce and even prevent near and long term threats as well as to mitigate their effect on social and economic life (such as the impact on oil price and the unemployment rate).

⇨ In addition to the information available on the CCMS homepage at <http://www.nato.int/ccms/index.html>, further information on the pilot study on risk management can be found at <http://www.merrea.org>

Addressing Desertification as a Security Issue



⇒ Desertification is both a natural and man-induced phenomenon, widely occurring within the Mediterranean basin, which has negative consequences on populations by affecting the economy, water resources and goods availability thus potentially causing instability, migration and conflicts. Desertification and Security has been a newly emerging focus of activities within NATO's Security through Science Programme and the Committee on the Challenges of Modern Society (CCMS).



This increase of interest was triggered by a workshop on 'Security Issues of Desertification in the Mediterranean Region' held in Valencia (Spain) on 2-5 December 2003, which was jointly sponsored by the CCMS and the NATO Science Committee.

Following the workshop, NATO received a number of applications for Collaborative Linkage Grants to pursue further research on the issue. This is a clear indication that the workshop represented a chance for the experts involved to establish contacts and share insights on the topic.

Collaborative Linkage Grants provide opportunities for collaboration on research projects to members of research teams in universities or research institutions by funding reciprocal visits over one to two years. Amounts awarded are normally around 5,000 € for one year of collaboration among two or three scientists, or a maximum of 23,000 € for two-year collaboration among five research teams.

As a sign of desertification emerging as a new trend, a Collaborative Linkage Grant was awarded in June 2004 for a

project on 'Desertification Indicators in the Mediterranean Soil Environments' for collaboration among universities and research institutes in Spain, Israel, Morocco and Italy. The aim of the project was to develop a simple methodology for assessing the status and trend of land degradation/desertification in selected investigation sites representative of the Mediterranean region.

Current land use and rainfall amount, for instance, have been used as independent variables, whereas soil moisture, infiltration rate, soil porosity and the type of vegetation have been used as dependent variables for identifying trends of land degradation/desertification.

Water availability, soil and organic matter loss and fertility decline are considered the main factors of degradation and

desertification. On this basis, the experts involved have been trying to detect early warning indicators in order to predict the desertification hazard.

Another Collaborative Linkage Grant on this issue was awarded in November 2004 for a project on 'Bio-Indicators of Desertification and Erosion in Turkey' involving scientists working in Turkey, Russia and the US.

This project focuses on the investigation of drought-resistant plants and associated insects, which are considered essential for the scientific description and understanding of the desertification and erosion processes typical of arid regions in the largest part of Turkey. The data obtained may be used for monitoring the desertification and erosion process as well as the dynamics of the ecosystem.

⇒ Scientists interested in applying for a Collaborative Linkage Grant can do so either by 1 September 2005, 31 December 2005 or 1 March 2006. Relevant information can be found at <http://www.nato.int/sciencel/support/clg/clg-nfa.htm>

Reintegration Grants

Another tool for NATO to contribute to peace and stability

⇒ Stabilising societies in transition by reducing the 'brain drain' of young scientists from Russia, Ukraine, Central Asia, the Caucasus and other Partner countries? It might sound ambitious, but this is what NATO's Security through Science Programme is trying to achieve through the Reintegration Grants. This mechanism, which evolved from the previous Science Fellowships, was established at the beginning of 2004 with the aim of helping Partner country scientists working in NATO countries return to their home countries to pursue their scientific career.



Dr Aigul Omarova (second from left) with children from Sarzhal, the village close to the Nuclear Test Site.

Reintegration Grants are awarded for a three-year period to undertake a post-doctoral research project or carry out doctoral research where the candidate has completed at least 50 per cent of his or her programme. Applicants should have completed a research period of at least 6 months in a NATO country. Scientists use the NATO-awarded grant to establish a research team in their home country in a research institute chosen as well as to attend international meetings and conferences. Part of the funds also go to the host institution in order to support the reintegration of the returning fellow. Reintegration Grants are generally worth € 20,000-25,000. The next deadline for submitting applications has been set for 1 September 2005. Through a Reintegration Grant awarded in November 2004 focusing on 'Activities in the Field of

Radiation Ecology and Radiation Safety at al-Farabi Kazakh National University', Dr Aigul Omarova was able to move back to Kazakhstan after completing her PhD at University College Dublin (Ireland). She currently works at the Department of Inorganic Chemistry of al-Farabi Kazakh National University in Almaty, which is involved in investigating the radiological contamination of the territory of the Semipalatinsk Nuclear Test Site. Between 1949 and 1989 this area, located in the north east of Kazakhstan, was the main nuclear test site of the former Soviet Union. To date a number of studies have been conducted to measure radioactive contamination in the area, including two NATO-sponsored Science for Peace projects. Pursuing such a research track, Dr Omarova's objective is threefold. Firstly, to assess the level of radiological contam-

Reintegration Grants Awards 2004

Albania	2
Armenia	2
Azerbaijan	2
Belarus	1
Bulgaria	11
Estonia	2
Georgia	6
Kazakhstan	3
Kyrgyz Republic	2
Latvia	1
Lithuania	3
Romania	9
Russia	6
Slovak Republic	4
Slovenia	5
Tajikistan	1
Turkmenistan	1
Ukraine	11
Uzbekistan	12
Total	84

ination in the study area of an ongoing Science for Peace project in the Test Site. Secondly, to organise courses and training for young scientists on Radiation Ecology and Radiation Safety. Thirdly, to disseminate information on health risks for the population of Kazakhstan living in regions with high radiation risks. After having improved their skills abroad, the returning scientists can apply their knowledge in favour of their own country and thus contribute to its progress and peaceful economic and political development. As in this case, there might be also a contribution towards the safety and health of the local population. Through such activities, Reintegration Grants aim to contribute to peace and stability in NATO Partner countries.

⇒ Further information about applications related to Reintegration Grants can be found at <http://www.nato.int/science/support/rig/rig-nfa.html>

The Alliance to respond to Partner country priorities



⇒ NATO's Partner countries have recently updated the priorities they have identified for co-operation with NATO within the Security through Science Programme. During the meeting of the Science Committee in Euro-Atlantic Partnership Council (EAPC) format on 22 October 2004, it was suggested that the table of Partner Country Priorities be updated to reflect the areas of common interest among the Partners.

Participation in NATO Science for Peace projects as springboard to win EU support

Dr Guney Ozcebe of the Middle East Technical University in Ankara (Turkey), who is the principal co-ordinator of the Science for Peace project on 'Seismic Evaluation and Rehabilitation of Existing Buildings' (now in its closing stage), will also co-ordinate a project supported by the European Union's 6th Framework Programme for research infrastructure development. The proposal presented by a Turkish research group, led by Dr Ozcebe and Prof. Haluk Sucuoglu, on 'Capacity Building in Earthquake Research for Urban Risk Reduction', has qualified as the only proposal on earthquake research and has been awarded a grant of € 650,000.

The earlier award of NATO Science for Peace projects to faculty members of the Civil Engineering Department at the Middle East Technical University has allowed them to further develop expertise in this area. The financial support received by the European Commission is now building upon the research potential encouraged by the NATO Science for Peace projects.



On the basis of the inputs received from Partners, NATO has now produced a table organised around more than 30 categories. These categories include such areas as Environmental Security, Food Security, Information Technology, Biotechnology and Radiological Detection. For example, nine countries identified topics within the area of 'Environmental Security', seven in 'Information Technology', three within the area of 'Defence Against Terrorism', while three others expressed interest in the category of 'Border Security'. Partners have clearly expressed a strong interest in the 'soft security' elements of the Priority Research Topics identified by

the Science Committee. The NATO's Public Diplomacy staff involved in the Security through Science programme will consider in the future the possibility of initiating top-down activities in these fields with a focus on regional co-operation.

Applicants are reminded that an application that is in both a NATO Priority Research Topic (i.e. Defence Against Terrorism or Countering Other Threats to Security) and a Partner priority area will take precedence over one of equivalent scientific quality that is in either the first or the second only. Proposals that are in both a NATO Priority Research Topic and a Partner priority area are particularly encouraged.

⇒ The table of Partner Country Priorities is available on the Security through Science website at http://www.nato.int/science/topics/partner_country_priorities.htm.

The Security through Science Programme and the Committee on the Challenges of Modern Society are online

⇒ If you want to further explore the Security through Science Programme, a wealth of information can be found at <http://www.nato.int/science>. The web site describes in detail what the programme is about and how it has evolved from funding science-related projects to supporting security-related projects within the areas of Defence Against Terrorism, Countering Other Threats to Security, and Partner country priorities.

This evolution has been consistent with NATO's transformation and initiatives to counter new threats and challenges such as international terrorism.

The web site also provides relevant information for applicants such as the topics supported and the different grant mechanisms.

It comprises a section dedicated to grantees, containing grant closing forms and other relevant material.

The web site features the activities carried out through the Programme and provides a calendar of upcoming meetings and events. The newsletter 'Science,

Society, Security' can be downloaded both in English and French. The results of NATO's Advanced Studies Institutes and Advanced Research Workshops are published in the NATO Science Series, which is available via external science publishers. Links to these publishers are provided.

The Programme also has an electronic subscription service to make information available through email.

Special news updates, or items such as the newsletter, and an up-to-date list of meetings are circulated on an occasional basis.

Likewise, the Committee on the Challenges of Modern Society (CCMS) has its own home page at <http://www.nato.int/ccms>.

The aim of the Committee, its evolution and activities, which focus mainly on environmental security and societal problems, are thoroughly illustrated. CCMS publications are available either from CCMS or from the external science publishers, whose contact details are provided. News from CCMS is also regularly featured in the newsletter 'Science, Society, Security'.

NATO Science Committee new representatives appointed

George Louridas



Marius Ioan Piso



Greece - In December 2004, George Louridas was appointed by the Greek government as the new Greek representative to the Science Committee. Dr Louridas is Director of the Department of Cardiology and Director of the Cardiac Catheterization Laboratory at the AHEPA Hospital of the Aristotle University of Thessaloniki. Born in 1939, he pursued his studies at the Medical School of the University of Thessaloniki and then specialised in the UK and the US from 1966 to 1975. Prof Louridas is the author of over 600 medical articles and abstracts in Greek and international societies and magazines. He is fellow of several professional societies, such as the British Cardiac Society and the American Society of Angiology, and the recipient of numerous honours and awards, such as the Presidency of the Hellenic College of Cardiology and Cardiosurgery. His current scientific interests include computational fluid dynamics in the coronary artery tree, and epidemiology in patients with heart failure, atrial fibrillation, coronary heart disease and congenital heart disease.

Romania - Dr Marius Ioan Piso was appointed by the Romanian government as the new Romanian representative to the Science Committee in February 2005. Dr Piso is currently the President and Chief Executive Officer of the Romanian Space Agency, the Director of the National Aerospace RTD Programme and Head of Laboratory at the Institute of Space Science. He holds a doctorate in theoretical physics and astrophysics and has also graduated from the National Defence College of Romania. His main field of specialisation is magnetic nano-fluid science and applications for sensors, while his current research interests include security research and satellite navigation. Author of a wide range of academic papers and books, Dr Piso represents his country in several committees and agencies, such as the European Space Agency and the European Union's 6th Framework Programme's Aerospace Committee. From 1996 to 2004, he headed the delegation of Romania to the UN Committee on the Peaceful Uses of Outer Space.

Bidding farewell to NATO

Alain Jubier



A long-standing witness of the NATO Science Programme's changing role within the evolution of the Alliance has recently left the Organisation. After nineteen years as Programme Director, Dr Alain Jubier has moved on to pursue other interests. Fully involved in the re-orientation of the Science Programme to the new Security through Science Programme to better reflect NATO's priorities, he has been in charge of a broad range of activities. These included Collaborative Research Grants, Cell to Cell Signals, Fellowships, Supramolecular Chemistry, Collaborative Linkage Grants, Science and Technology Policy, NATO-Russia Joint Scientific and Technological Co-operation, Earthquake Initiative and Environmental Security. As many readers of this newsletter are aware, Dr Jubier has been fully dedicated to the launching and development of scientific co-operation with Russia, Central Asia, the Caucasus and the Mediterranean Dialogue.

Before joining NATO, Dr Jubier pursued his career both in France (at the University of Paris and at the *Centre National de la Recherche Scientifique*) and in the United States. We wish him all the best for his future undertakings.

Upcoming events

- ⇒ **Next Science Committee meeting**
in the format of the NATO-Russia Council, 13-14 June 2005, St Petersburg, Russia
- ⇒ **Workshop on 'From Science to Business'**
25-26 May 2005, Kyiv, Ukraine, jointly organised by NATO and the Science and Technology Centre (STCU) in Ukraine
- ⇒ **Advanced Research Workshop on 'Improving the Earthquake Safety of Public Buildings in the Maghreb Region'**
22-23 May 2005, Algiers, Algeria
- ⇒ **NATO Science Partnership Prize to be awarded in 2005**
detailed information will be available on the Security through Science programme website at <http://www.nato.int/science>



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