

## SCIENCE FOR PEACE IN THE MIDDLE EAST

### Association of Middle East and U.S. National Academies of Sciences

In 1994, the Association of Middle East<sup>1</sup> and U.S. National Academies of Sciences was founded by the Israel Academy of Sciences and Humanities, the Palestine Academy for Science and Technology<sup>2</sup>, the Higher Council for Science and Technology of Jordan, and the U.S. National Academies. The purpose of the Association is to further scientific cooperation and to strengthen the science academies in the region, especially in their role as advisors to governments and international organizations. This part of the Middle East is characterized by an environment of limited geography, a high degree of resource- and environment-related interdependence among the populations, and limited direct communication among the people. The international nature of science enables the science, engineering, and medical communities to overcome political obstacles and to communicate with their counterparts throughout the region. However, this type of communication is routine only among a few institutions in and around Jerusalem. In this regard, the role of the U.S. National Academies is to facilitate the interactions between the three Middle Eastern Science Academies.

The members of the Association are in the unique position of having the necessary international channels and the technical and communications capabilities to meet, discuss problems and collaborate to find solutions to regional problems. The academy leaders have met in Amman in 1995, in Ramallah in 1999, in Washington in 2000, in Seville in 2007, and in the Dead Sea region in 2008. One joint study and publication, *Water for the Future: the West Bank and Gaza Strip, Israel, and Jordan* was published by the National Academies Press in 1999. The Association has sponsored workshops in the region on micronutrient deficiencies in children, biodiversity, telemedicine, and water resources, and convened two technical conferences on micronutrients. In addition, a program of symposia called Frontiers of Science, Engineering, and Medicine was initiated in 2003. The first two symposia brought together over 150 young scientists of the region.

At the January 2008 meeting of the Association, working groups of scientists from the four countries proposed five projects to the academy presidents. In response, the presidents of the partner academies approved an expanded program of scientific cooperation in four technical areas: **water resources, pollution control, renewable energy sources, and a web-based center for information and communication among students and scientists in the region.** They also endorsed continuing activities in Frontiers of Science, Engineering, and Medicine and the creation of a Middle East Food and Nutrition Board.

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<sup>1</sup> For the purpose of this prospectus the Middle East is defined as comprising the areas of Jordan, the Palestine Authority, Israel, and the neighboring countries

<sup>2</sup> Once established, the Palestine Academy of Science and Technology replaced the original founding organization, the Palestine Red Crescent Society.

## PROGRAM OF SCIENTIFIC COOPERATION

- **Frontiers of Science, Engineering, and Medicine (FOSEM)**

Every few years, this program of symposia brings some of the best and brightest young scientists of the region – those rising to positions of leadership in their institutions and professions – together in an interdisciplinary environment to discuss exciting advances and opportunities in their fields, build partnerships, and develop personal relations that transcend borders. The next symposia are planned for 2010 and 2011.

*Estimated Cost: \$450,000 for 2 symposia*

- **Middle East Food and Nutrition Board**

A regional Board on Food and Nutrition is being formed to address micronutrient deficiencies and other nutrition-related issues in the Middle East and to advise the Association, and subsequently regional governments, on appropriate public health and nutrition programs in the region. It further aims to encourage academic institutions in the region to participate in specific nutritional monitoring activities. This program will benefit from the assistance of the U.S. Institute of Medicine's Food and Nutrition Board in staff training and organizing and conducting studies and workshops. *Estimated Cost: \$1,317,200 for 36 months*

- **Assessing approaches to protecting environmental quality in the Middle East**

An expert committee of distinguished scientists from the region and abroad will address a broad range of issues pertinent to standardizing environmental laws and regulations in the region, including the potential benefits of harmonization and common approaches to address water quality, wastewater, air pollution, solid waste disposal and other shared challenges. A study report will be issued to the Association and subsequently presented by the Science Academy leadership to the environment authorities of Jordan, Palestine, and Israel.

*Estimated Cost: \$883,000 for 28 months*

- **Renewable energy and energy efficiency workshop in the Middle East**

Based on the limitation of fossil fuels but abundant renewable energy resources (solar in particular) in Jordan, Palestine, and Israel, two workshops are planned to evaluate the potential of renewable energy and energy efficiency in the Middle East. Participants will suggest a program of public information on energy resources and provide ideas for implementing the priorities that emerge from the workshop.

*Estimated Cost: \$413,000 for 18 months*

- **Protecting, conserving, and augmenting regional waters in the Jordan Rift Valley**

The Association plans to hold a workshop to evaluate the water resource needs of the Jordan Rift Valley and the roles different technologies and strategies can play in addressing the region's water resource challenges. A workshop summary will present the results to high level policy makers and government officials in the region. Subsequent colloquia on priority water topics will follow. *Estimated Cost: \$197,000 for 8 months*

- **Research and Education Web Portal in the Middle East**

A web portal will be developed for improved communication and information-sharing within the scientific community in the Middle East, particularly for students and young researchers with limited access to international channels of communication. Initial topics will include water resources, renewable energy, and natural hazards, with information available in Arabic, Hebrew, and English.

*Estimated Cost: \$483,000 for 24 months*

- **Organization and Structure of the Association of Middle East and U.S. National Academies of Sciences**

During the next two years, the U.S. National Academies will organize the secretariat for the Association, draft statutes and operational procedures, and provide support for staff training, fundraising, and convening activities. *Estimated Cost: \$208,000 for 24 months*

**For more information** on the Association and the program of scientific cooperation, please contact Michael Greene ([mgreene@nas.edu](mailto:mgreene@nas.edu)) or John Boright ([jbright@nas.edu](mailto:jbright@nas.edu)).