FRONTIERS OF SCIENCE

A Bridge Across the Mideast Divide

With help from the U.S. National Academy of Sciences, Israeli, Palestinian, and Jordanian scientists are planning to bring together young Middle Eastern scientists in a meeting like NAS's Frontiers in Science symposium

IRVINE, CALIFORNIA—Within 2 hours of meeting at the 14th Annual Frontiers of Science Symposium here last month, a small group of Israeli, Palestinian, and Jordanian scientists hashed out a solution to the Middle East conflict. "Why can we do it in 2 hours, and our people are fighting on this for decades?" asked Israeli Ran Nathan, an environmental ecologist at Ben Gurion University of the Negev in Be'er Sheva.

The six Middle Eastern scientists—who do not speak for their respective countries in any official capacity—attended this unusual meeting as observers. They came to explore the possibility of staging a Mideast version of this symposium, in which the U.S. National Academy of Sciences (NAS) gathers together bright North American scientists under age 45 for 3 days to educate one another about their diverse specialties. "Science is a common language, and there are no borders," said Palestinian Khuloud Jamal Khayyat-Dajani, a public health specialist at Al-Quds University in Jerusalem. "We need to find the common language that can be understood during the hardest of times." Nathan put it more bluntly: "If we can bring together people who strongly hate each other, we think they'll see that they're human beings despite their terrible stories."

Physicist Michael Greene of the Policy and Global Affairs division of NAS's National Research Council dubbed their mission "Seeds of Peace for scientists," a reference to a program that unites Arab and Israeli teenagers. "It's not easy to sell the idea [of such a meeting] in the regions these scientists come from because people don't understand what it's about," explained Greene, who helped arrange their participation here. "What it's about is bringing together young scientists who will be leaders in the next generation so they'll know one another better."

Since 1993, NAS has helped sponsor meetings between scientific academies from Israel and its Arab neighbors to help fuel the peace process. The program—known as Science Academies and Councils of the Middle East—has faced some setbacks over the years. Some Arab countries, such as Saudi Arabia and Kuwait, declined from the start to send their scientists, and Egypt played an active role before suddenly canceling a 1995 meeting in Cairo. "It's hard to find out why," says Greene. "The Egyptians haven't participated, despite a lot of effort to include them." The Palestinian uprisings, or intifadas, also have brought the program to a grinding halt at various points.

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Peace paths. This entourage of Middle Eastern scientists, with help from NAS's Michael Greene (second from left), has begun to pave its own road to calm tensions in the region.

But the societies that stuck with the program have had some tangible successes. A 4-year collaboration between Jordanian, Palestinian, Israeli, and American water scientists led to a well-regarded report, "Water for the Future: The West Bank and Gaza Strip, Israel, and Jordan." In addition to continuing work on water resources, three committees that sprang from this success have addressed micronutrient deficiencies, biodiversity, and telemedicine. (The micronutrient committee completed a report, but the others shut down because of the second intifada in 2000.)

Following the 11 September attacks last year, NAS invited members of the project to Washington, D.C. At that meeting, NAS president Bruce Alberts and William Wulf, president of the National Academy of Engineering, proposed the idea of holding a Frontiers of Science and Engineering meeting for Middle Eastern scientists, partially funded by NAS.

By the second day of last month's Frontiers of Science meeting, the Middle Eastern observers had optimistic, even dreamy, ideas about what they might do, mixed with starkly realistic and depressing assessments of what they could not accomplish. Holding a similar meeting, said Eitan Reuveny, a biochemist at the Weizmann Institute of Science in Rehovot, Israel, "is probably the first bridge we can rebuild to acquire confidence on both sides, not on a level of scientific cooperation but of scientific exchange." Similarly, Sami Husein Mahmood, a physicist at Yarmouk University in Irbid, Jordan, said that such a gathering would provide "a great opportunity" to young Middle Eastern scientists, allowing them to meet their neighbors, win recognition for their work, and gain confidence. "I'm hoping this will help us jump over the psychological barriers," said Mahmood.

But how to organize and stage such a meeting presented some sticky challenges. Foremost among them: where to hold the gathering. Reuveny thought that it might work best in a remote spot, possibly in Israel, that offered a retreat atmosphere and security. But all of the Arab scientists insisted that the gathering could not take place in the Middle East. "In the beginning, it should be done in a neutral country," said Jihad Al-Sawair, an environmental scientist at the Royal Scientific Society in Amman, Jordan. "But in time, when things become clear and hopefully become better, maybe it will be done in the region."

Obvious disparities also exist between Israeli scientists, who have a well-established and well-funded scientific culture, and Palestinian scientists, who have few institutions and little support. This makes it difficult to mix the most accomplished young scientists from each country and have them interact as they do in North America. "You can't compare the level of science," says Reuveny. "They just got started. But maybe they can learn from us: how we get our funding, and how we distribute it."

To Reuveny, though, these differences are overshadowed by the larger vision. "People who do science on both sides are the most moderate for peace," he says. "They have been outside. They know peace is the only solution. How do you spread this message?" Gathering them together might not be the ultimate answer, but this modest attempt by Middle Eastern scientists to help resolve their region's intractable conflict is, in its own right, a frontier of science.

–JON COHEN