

Government Scientists Do Stints in Embassies

A fast-growing new program aimed at fortifying science in the State Department is proving to be a hit with participating scientists, and with their home agencies and host embassies.

Rome, Zagreb, Kuala Lumpur, anyone? To make up for being short on science, the US State Department has begun sending government scientists to its embassies around the world.

In the Embassy Science Fellows Program, scientists from participating federal agencies work for one to three months in a US embassy, or on a project arranged through an embassy. Projects range from the specific, such as guiding Costa Rican officials through US regulations for genetically modified organisms or tracing pesticide contamination in water and soil in a park in Croatia, to the more nebulous, such as forging links to scientists in Shanghai or surveying the research capacity of Nigeria.

Eight NSF scientists served as embassy science fellows the first year, 2001–02. The program then expanded to include the National Oceanic and Atmospheric Administration, the Department of Agriculture, the Environmental Protection Agency, and the US Geological Survey; a total of 31 scientists did tours of duty in 2002–03. Now, with the program going into its third year, NASA and the Health and Human Services' Office of Global Affairs have signed on, and even more scientists are expected to participate. The Department of Energy and other agencies may also join, says Shauntia Hart, who coordinates the program for

the State Department. So far, she adds, the program is not open to academic and other nongovernment scientists, largely because of the complications and expense of obtaining security clearances. The home agency pays the salary, international travel costs, and a per diem for its scientists; the host embassy provides lodging, work space and equipment, and local travel.

'Stay as long as you can'

"We were given a list of embassies and their needs," says Robert Dickman, NSF's coordinator of radio astronomy facilities. "I was tempted to apply to go to Moscow. But Chile made so much sense professionally because of ALMA"—the Atacama Large Millimeter Array, which is part of Dickman's NSF purview. The embassy in Santiago "was looking for a Spanish-speaking information technology expert," Dickman adds. "They got none of the above."

During his two months in Chile last fall, Dickman's task was to look for opportunities and bottlenecks in IT—"especially bottlenecks that would be of concern to the US." For example, he says, despite Chile's excellent internal IT network, it can be hard to move astronomy data in and out of the country. His stint in Chile turned out to be useful for NSF, too. "It was a wonderful confluence of events because ALMA activities were becoming pretty intense. I got to do two jobs while I was there," says Dickman, who has one piece of advice for prospective embassy fellows: "Stay as long as you can."

After assessing South Africa's research capacity for two months last year, Herb Levitan, a biophysicist and section head in NSF's division of undergraduate education, says, "What I provided at the end was a list of individuals that I thought could be contacted for fruitful collaborations—20 people, of all ages and all fields." But, he adds, in both academia and industry, scientists are wary about collaborating with the US and other western countries. "They feel they have been

exploited. Someone will take samples out of the country and not give them credit, and financial return doesn't get back to South Africa. I will try to make contact with folks [in the US] and alert them to that sensitivity, and tell them that a lot could be gained by collaborating with scientists in South Africa."

"One feature that I really gained an appreciation of is the involvement of young people—ages 14 to 35—in South Africa," says Levitan. "This group had such a large responsibility in the transition to get rid of apartheid. Nothing goes on without their involvement." In the US, by contrast, he says, "decisions are almost all done without their input. The tendency is to say, 'What do they know?'" Levitan and his col-

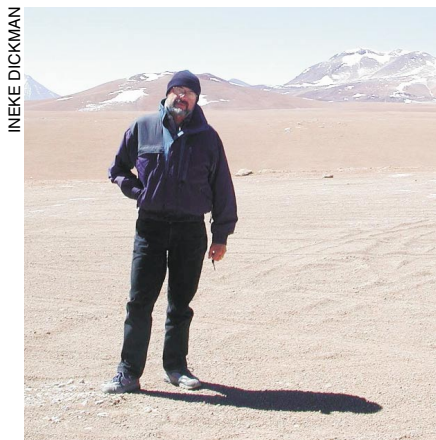


DERMONT BOUCHARD

This pond was part of a pesticide survey that EPA researcher and embassy science fellow Dermont Bouchard helped carry out in Lonjsko Polje, a nature park in Croatia.

leagues at NSF are experimenting with having young researchers as reviewers on proposals. His experience in South Africa, he says, "made me realize how hard I have to work to get students and grad students and postdocs involved. And it's given me a greater motivation to push it."

Joan Frye, who oversees NSF's chemical instrumentation program, chose to go to Africa because she is "concerned about diversity, not just at a local level, but also on a worldwide basis. I am concerned about the growing technological gap." In crisscrossing Nigeria to survey its science and technology capabilities, the healthiest areas of research Frye found were traditional medicine, agricultural sciences, and nontraditional uses of agricultural products. "There are really



INEKE DICKMAN

Robert Dickman combined his duties as NSF overseer of the Atacama Large Millimeter Array—to be built at this site in Chile—with new responsibilities as an embassy science fellow.

bright scientists—many of them had studied in world-class institutions,” she says. “But their knowledge base is old. And they have very little equipment. For Internet access, they go to Internet cafes. Excluding private industry, there are three NMR [nuclear magnetic resonance] machines in the whole country. I didn’t expect it to be as bad as it was.” She was on a fact-finding mission, she adds, “but I don’t know what the State Department will do with the facts.”

Intangible benefits

The Embassy Science Fellows Program is part of a larger thrust in the State Department to integrate science into the foreign policy process. “There was concern from the external community that State was losing assets and that there was insufficient scientific and technical know-how to cover a pantheon of issues,” says Andy Reynolds, deputy to Norman Neureiter, the science and technical adviser to the Secretary of State—a position born of the same concerns about science at State (see accompanying story). Over 15 years or so, the State Department’s overall budget shrank by 35% in real terms, says Reynolds. “A decreasing number of officers were forced to cover a burgeoning number of global issues and cooperative agreements.” Things got worse when the US opened 14 new embassies after the dissolution of the Soviet Union, he adds. “We were forced to self-cannibalize to provide core staff for these new embassies. By the mid-1990s, we were so far decimated in science and technology that there was a



Gerd Binnig (left), who shared the 1986 Nobel Prize for inventing the scanning tunneling microscope, was one of many scientists that NSF’s Ken Chong visited during his embassy science fellowship in Switzerland.

clamor.” One of the conclusions of a 1999 study by the National Research Council was that, of 16 foreign policy strategic objectives, 13 were underlain by science, technology, and health.

While it’s tricky to measure the impact of the embassy science fellowships, all of the involved parties—the State Department, partner agencies, participating scientists, host embassies, and host countries—laud the program. “It’s enormously helpful,” says Reynolds. “It’s enriching the basis of foreign policy collaborations and allows the technical agencies even more direct stakes in our diplomatic process. And it gives you a multiplier effect—you get the assignment plus intangible benefits.”

Hosting NSF mechanics and mate-

rials program director Ken Chong in September 2001 “was a great boon to us,” says Richard O’Brien, the economics and global issues officer in the US embassy in Switzerland. Chong’s presence got the ball rolling to establish a US–Swiss science and technology framework agreement, O’Brien says. “My job at the embassy is to look for every possibility for improving government–government interactions. I noticed that we didn’t have any kind of formal collaboration agreement. So we are asking scientists on both sides, who are involved in federally funded research, to decide if they want one.” Chong, he adds, “visited centers of science from one end of the country to the other. Because he had been here, a number of Swiss officials were stimulated about the notion of US–Swiss collaborations in a way they hadn’t been before. He churned up the waters a bit.”

“I became convinced that one of the best ways we can help is to tell an embassy when something is not a scientific question,” adds Brad Keister, NSF program director for nuclear and experimental physics, who spent six weeks in Italy as one of the inaugural embassy science fellows. “I think the State Department is best served by learning where science does and does not matter. There is an attitude where they get in a pinch and say, ‘Ask the scientists.’ But the ambiguities are not necessarily scientific. And the scientific community has to realize that as well. Science is only one piece of what State has to juggle.”

Toni Feder

Neureiter Increases State Department Science Acumen Through Salesmanship and Outside Experts

In an era when many international issues involve science, technology, or the environment, the infusion of scientists into the State Department is leading to better-informed foreign policy decisions. But those decisions are ultimately political, not scientific.

When the State Department’s Norman Neureiter showed up at a recent Capitol Hill reception for the US Physics Olympiad team, he did what he has become adept at doing during his past two years in Washington: He saw the science-oriented gathering as a recruiting opportunity and worked the room. Neureiter congratulated the high-school physics students for their achievements, and then urged them to consider the State Department as a career option. As he left for his next event, Neureiter made sure there was a stack of his recruitment brochures on the table just outside the door.

“Calling all adventurous scientists and engineers,” the bright blue brochure announces above photos of exotic places around the globe. “Join the Foreign Service and do the most interesting work in the world!”

Neureiter, who retired from Texas Instruments in 1996, was lured to the State Department in 2000 to fill the newly created position of science and technology adviser to the secretary. The job was created in response to a National Research Council report that chronicled a serious decline in the role of science at the department (see PHYSICS TODAY, November 2000,

page 44). Neureiter, an organic chemist, linguist, and Fulbright scholar, had extensive federal government experience. He’d been the State Department’s first science attaché to Eastern Europe, had helped develop President Richard M. Nixon’s science and technology cooperation programs with the Soviet Union and China, and had worked as an international affairs specialist with the old Office of Science and Technology.

When he returned to the State Department, Neureiter had three stated goals. “The first was outreach to the scientific community, and that went fine,” he said in a recent interview. “The second was bringing more science resources into the building, and I think we’ve had some success at that. And the third was to find issues which seemed