

GLOBAL SCIENCE CORPS

Program Provides Opportunities For Established Scientists To Do Research In Developing Countries

An idea for international scientific collaboration, called the Global Science Corps (GSC), has been put forward by Harold E. Varmus, president of Memorial Sloan-Kettering Cancer Center. He envisions a program of fellowships that places established scientists from developed countries in universities and research institutions in developing countries.

Momentum is building to put his idea—originally put forward in a 2001 speech at the Nobel Foundation in Sweden—into action. GSC is today a program in search of funding that is being managed by the Science Initiative Group, an independent organization concerned with scientific capacity building in the developing world. Varmus serves on the board of SIG.

GSC is “capacity building through active research,” says SIG Executive Director Arlen K. Hastings. Initially anyway, she says, there will be a focus on institutions in Africa, and “the hope is that fellows will learn through joint research but also train other people in the lab.”

Hastings says GSC will place scientists from scientifically advanced countries at leading centers of research and training in the developing world to help build capacity in science through joint, active research across a broad spectrum of disciplines. GSC fellows will also share their expertise beyond the host facilities, lecturing at local institutions, visiting university laboratories and companies, and spreading their knowledge through the educational and private sectors.

“A 2007 goal for having fellows in place is pretty realistic,” she says.

Once funding partners for GSC are found, Hastings says, SIG will broker the placements. She says the fellowships will be for a one-year term, with the amount of funding dependent in part on the seniority of the fellow chosen. She says all travel and living expenses will be covered, and money will be available for the fellow’s research project.

Hastings says the goal for the first year is to have between six and eight fellows with funding for each scientist up to a maximum of \$200,000 per fellow. She says hosts sites in Africa identified so far have been involved with the Millennium Science Initiative (MSI), a science and technology capacity-building program administered

jointly by SIG and the World Bank (www.msi-sig.org). She emphasizes that fellows will not be starting research programs; rather, they will be joining research in progress.

“My laboratory is devoted to working on anti-infective agents from higher plants,” says Berhanu M. Abegaz, a professor of chemistry at the University of Botswana, in Gaborone. His institution is one of the potential host sites for GSC.

“The main interest is to find agents that have antiprotozoal substances,” Abegaz continues. “Malaria and African sleeping sickness are of relatively high interest. We are also actively pursuing a search for natural products that would reverse the resistance of the malaria parasite and mosquitoes to chloroquine and DDT, respectively. We isolate and characterize secondary metabolites from medicinal plants, and in some cases we also attempt the total or partial synthesis of interesting compounds. The availability and sustainability of potential sources of important natural products are of concern to us,” he says.

In that regard, Abegaz continues, his group has been collaborating with others in micropropagation studies to try to grow tissue cultures of a plant to be used for feeding studies that will help reveal the biosynthesis of a novel and unusual alkaloidal metabolite isolated from an African plant. “We are also in the process of establishing a center for scientific research, indigenous knowledge, and innovation, which has identified three major areas of engagement: treatment of infectious diseases [malaria and TB and sexually transmitted diseases including HIV/AIDS] using natural products and indigenous knowledge; food security through the use of local products and indigenous knowledge; and agronomic studies and domestication of noncultivated, culturally and economically important plants.”

Hastings says host country scientists and students will gain directly from training and research collaboration with GSC fellows. Fellows, she continues, will benefit from exposure to science in another culture, opportunities to form long-standing research collaborations, access to clinical and biological materials, and chances to develop new research interests and address urgent local challenges such as malaria, AIDS, environmental conservation, and food security.—WILLIAM SCHULZ

department now requires that all seniors pass an oral exam to graduate.

International experience can make a student more attractive to graduate schools, medical schools, and potential employers, says Washington’s Stone.

While students may get the most out of a study-abroad experience during their undergraduate years, Jay S. Siegel, director of the Institute of Organic Chemistry at the University of Zurich, in Switzerland, encourages students to consider doing their graduate work abroad. Siegel himself went abroad as a graduate student on a Fulbright scholarship and ended up doing a postdoc abroad. He says students who do their Ph.D. abroad will come back more aware of what’s going on in the world.

Many graduate students, however, say they don’t recommend pursuing a Ph.D. abroad because of the time commitment involved. They say doing a master’s or a postdoc abroad would be more practical. “There’s a lot of pressure on a Ph.D. student to get stuff done,” says Arif Karim, a grad student who moved to Zurich from San Diego several years ago with Siegel’s group. “If you get caught up in the culture shock, that’s definitely something that absorbs your time.”

Still, some students, like Lindsay Merte, are up for the challenge. Merte graduated from the University of Washington this year and studied abroad in Vienna; he’s planning on doing his Ph.D. in surface chemistry at the University of Aarhus, in Denmark. The opportunity resulted from a contact he

made in Vienna. Although he is concerned about being disconnected from the U.S. job market while abroad, he’s “not worried enough to not do it.”

Going abroad can be addictive. Emory’s Taylor went on to study for a semester in Bolivia, where she helped to bring hand sanitizers to a rural hospital. And Lomberk plans to spend the next two years in Australia, where she will work on a master’s in chemistry. But before she goes, she is taking a few months off to do something she hasn’t done in a long time: spend a summer in the U.S. ■

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