Millennium Science Initiative

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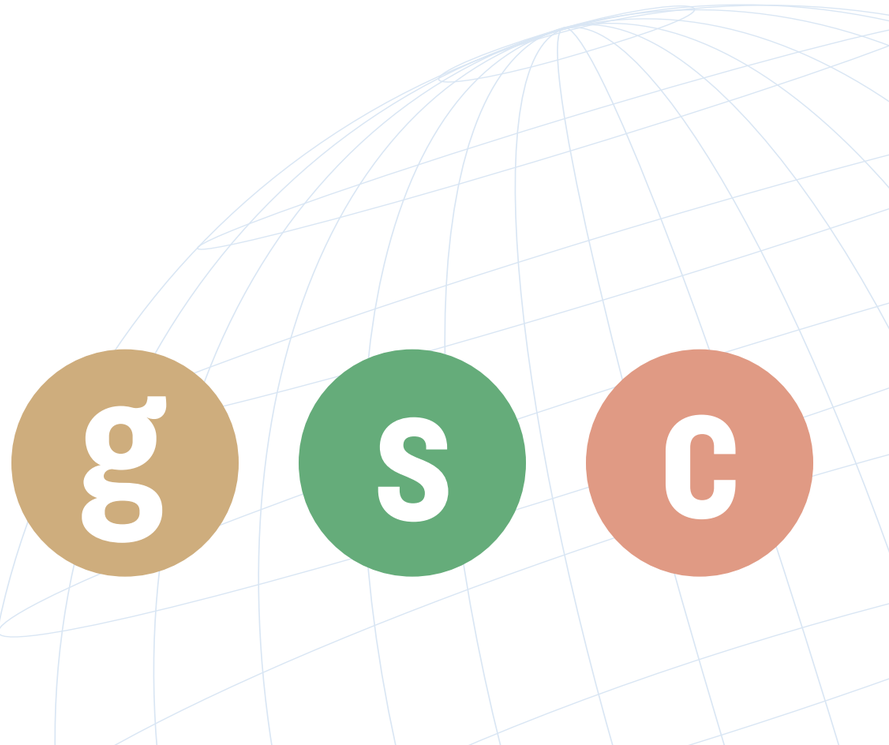
2004 SCIENCE INITIATIVE GROUP

Global Science Corps
Prospectus



The Global Science Corps (GSC), an innovative program in international scientific cooperation, will place scientists from developed countries in laboratories in developing countries to share expertise and collaborate with local partners.

Background

The concept for a Global Science Corps (GSC) was introduced by Dr. Harold Varmus, President of Memorial Sloan-Kettering Cancer Center, at the Nobel Prize Centennial in Stockholm in December 2001, where he proposed "establishing an International Corps for Global Science to allow science missionaries, young and old, to help build a global culture of science by working in those parts of the world that are underserved by science now." The GSC idea has since found resonance among the scientific community, government, foundation, and educational sectors and has moved to the threshold of implementation.

The Science Initiative Group and the Millennium Science Initiative

Institutional support for the GSC will be provided by the Science Initiative Group (SIG), on whose board Dr. Varmus serves. SIG is a small, independent NGO that provides oversight for a scientific capacity-building program called the Millennium Science Initiative (MSI).

The GSC will constitute an integral part of the Millennium Science Initiative, which supports local scientific leaders in designing and implementing excellent research and training programs—so-called "MSI Institutes"—in developing countries. Among the objectives of the MSI are to promote world-class education and training; forge linkages among outstanding research institutions, governments, and the private sector; and strengthen local institutions and leadership that can attract, support, and retain local scientific talent.[1]

MSI Institutes will serve as GSC host sites, as will centers of scientific activity, research and training that are at a comparable level of excellence.

How will the GSC work?

Dr. Varmus' vision will be realized through a program that provides a mechanism for academic scientists from the United States, Canada, Europe, and elsewhere to help build capacity in science through joint, active research across a broad spectrum, including basic research, clinical research, abstract product concepts, and product development, at leading centers of research and teaching in the developing world. GSC fellows also will share their expertise beyond the host facilities, lecturing at local institutions, visiting university laboratories, and spreading their knowledge through the educational system.

Alumni Network

In the longer term, the GSC will promote two-way exchanges with host countries. GSC fellows and host country colleagues will form an active alumni network, crossing scientific disciplines and breaking down geopolitical boundaries. To help ensure that contacts are maintained and additional linkages fostered, the GSC will organize annual or biannual meetings of alumni and their host-country counterparts.

What distinguishes the GSC?

Some of what the GSC seeks to do is already happening under a variety of auspices, including programs run by Scandinavian, U.S., Canadian and Japanese organizations. But existing collaborative projects tend to be between individual scientists in developed and developing countries. With a few exceptions, nothing systematic or organized like the GSC exists. The objective of the GSC is to channel these activities into more active research and integrate them more fully into a country's overall development strategy.

GSC Fellows

GSC fellows might include individuals at several different career stages who wish to share their skills and experience: older scientists who are nearing retirement or have recently retired; faculty members seeking sabbatical experiences that would expose them to new scientific problems; trainees finishing post-doctoral work and looking for a novel and valuable experience before making a more permanent career commitment; and others. The length of stay will be one to two years.

The fellows for the pilot stage will be recruited primarily through partnerships with select universities and research institutions that have expressed an interest in supporting sabbaticals or other leave mechanisms for scientists to become GSC fellows. Following the initial phase, the GSC program will cast a wider net, generating publicity via articles and notices, the Internet, and university fellowship offices. Recruitment will be based on the research priorities of the host countries.

Benefits of the GSC

Host country scientists and advanced students will gain directly from training and research collaboration with the GSC fellows, an important step in the development of human capital.

GSC fellows will benefit from exposure to science in another culture, opportunities to form longstanding research collaborations, access to clinical and biological materials, and chances to develop new research interests and address urgent local challenges such as malaria, AIDS, and food security issues. The natural laboratories in much of the developing world provide richer resources for investigation in some areas than even the most advanced labs in the developed world. Senior scientists will also have the opportunity to begin work on new topics, using methods and knowledge acquired during substantial careers in advanced countries.

Research conducted by GSC fellows and their host country collaborators could have a lasting and continuing impact not only on intellectual capital, but also on local economies, leading to the development of intellectual property and/or contributing to the development of exports.

Opportunities for Involvement

Host Institutions: MSI Institutes and other research institutions meeting MSI's stringent quality standards will be eligible to apply for GSC fellow placements at their labs. Host institutions will benefit from the expertise of the visiting fellows. The GSC program also will provide limited upgrades to laboratory facilities and supplies.

Universities and Research Institutions: Universities and research institutions in advanced countries will be asked to identify GSC fellows and provide sabbatical funding and flexible leave policies to allow one- to two-year placements abroad. SIG in turn will endeavor to maximize the value to the university or research institutions of the fellows' placement and the resulting research.

GSC Fellows: The mechanisms for application are being developed. It is likely that in the pilot phase, scientists in selected fields will be invited to apply for GSC fellowships through the US National Science Foundation. As the program expands, it will be open to fellows in additional fields and from other developed and advanced developing countries.

National Science and Health Agencies: SIG is exploring with the US National Science Foundation the possibility of offering a limited number of GSC fellowships in selected fields. It is hoped that a comparable arrangement can be made with the National Institutes of Health, and with the equivalent agencies in Canada and perhaps some European countries.

Foundations: Foundations will be invited to play a significant role in the development and support of the GSC. Those involved in the Partnership for Higher Education in Africa and other capacity-building programs are in an ideal position to identify prospective sites that would benefit from GSC placements. Foundations also will be asked to help identify and support candidates for GSC fellowships. The GSC Alumni meetings described above could become a very visible foundation-sponsored initiative.

Expected Impact

At a minimum, the GSC will generate mutually beneficial, international collaboration among scientists approaching similar problems from different perspectives. Ideally, it also will result in innovations that improve the economies, environment, and public health of participating countries around the world.

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[1] *See www.msi-sig.org for a description of the MSI in South and Central America and under development or being planned in Africa and Southeast Asia.*