

American Chemical Society assistance to chemical scientists and engineers in developing countries*

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Abstract: The American Chemical Society, through its Office of International Activities, is engaged in a variety of activities to assist chemical scientists and engineers in developing countries. These include surveys of chemical activity in Latin America and Africa; assistance to sister chemical societies; organization of international exchange programs; production of environmental chemistry workshops; hosting invited visitors at PITTCON meetings; donations of materials and, especially, chemical literature through Project Bookshare; collaboration in producing CHEMRAWN conferences; and environmental chemistry activities.

INTRODUCTION

In order to provide enhanced professional opportunities for its members and their colleagues globally, and in hope of contributing to the quality of life worldwide, the American Chemical Society's (ACS) Office of International Activities conducts a variety of activities to benefit chemical education and research. These are listed as follows:

Studies and analysis of chemically related activity

The Office of International Activities has produced studies of current chemically related activity carried out by industry, education, government, and professional/learned societies in Africa and Latin America. The research is designed to identify opportunities for academic and industrial scientists in those regions to cooperate more fully in advancing the chemical enterprise in their countries.

Interactions with chemical societies in developing countries

ACS has established relations with chemical societies worldwide, including support for a visit to an ACS National Meeting by the president and secretary of the newly formed Tanzanian Chemical Society. ACS has provided support and/or representatives to attend chemical congresses worldwide, including the triennial International Congresses on Chemistry in Africa (ICCA), organized by the African Association for Pure and Applied Chemistry (AAPAC), meetings of the Federacion Latinoamericana de Asociaciones de Química (FLAQ), and scientific meetings sponsored by the Cuban Chemical Society.

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International initiatives

The International Initiatives program supports short-term exchanges of scientific personnel between the United States and selected countries in Central and Eastern Europe and Latin America (i.e., Argentina, Brazil, Bulgaria, Chile, Costa Rica, Czech Republic, Estonia, Hungary, Jamaica, Latvia, Lithuania, Mexico, Peru, Poland, Romania, Slovakia, Slovenia, and Venezuela). The purpose of the visits is to develop new contacts in research.

Exchange visits with Latin America

During 1989–1998, the Office of International Activities obtained support from the Petroleum Research Fund and the National Science Foundation to organize two-month “summer” visits by Latin American investigators to U.S. laboratories. Partner countries were Argentina, Brazil, Chile, Costa Rica, Mexico, and Venezuela.

Environmental chemistry workshops

With support from the National Science Foundation (NSF), the Office of International Activities has organized workshops on environmental chemistry, held in Lithuania, Russia, and the Czech Republic. The program also features 2-month “summer” visits to U.S. laboratories by young scientists from Central and Eastern Europe. An NSF-sponsored Workshop on Water Quality was held in July 2001 in Dakar, Sénégal in connection with the 8th International Congress on Chemistry in Africa.

PITTCON participation

Each year, the Committee on International Activities and the Office of International Activities host a group of 10–20 visitors from a given developing region at PITTCON, the world’s foremost exposition and conference on analytical methods and instrumentation. Scientists have been invited in various years from Africa, India, Latin America, Central Europe, and Russia. The visitors receive free registration at the conference, hotel accommodations, a meals allowance, enrollment in an ACS Short Course at the meeting, and assistance with travel costs.

Project Bookshare

For nearly two decades, Project Bookshare has sent quantities of books, journals, and other scientific materials donated by ACS members, government, industry, and academia to libraries and educational institutions around the world. Recipient institutions are normally responsible for shipping costs, but in some special cases, the program receives shipping funds from UNESCO and other sources.

Donations of reagents

On several occasions, ACS has coordinated donations of surplus chemical reagents, equipment, and other materials from chemical suppliers to laboratories in Central Europe and Africa.

CHEMRAWN

ACS International Activities has played a major role in organization, fund-raising, and outreach on behalf of IUPAC’s CHEMRAWN conferences, especially CHEMRAWN II (Chemistry and World Food Supplies), CHEMRAWN VII (Atmospheric Chemistry), and CHEMRAWN XIV (Green Chemistry). Funding and logistical support from ACS has facilitated CHEMRAWN participation by scientists from

developing countries. In several cases, special workshops for young scientists have been held in conjunction with the meetings. External support was obtained from agencies such as the United Nations Development Program (UNDP), U.S. Environmental Protection Agency (USEPA), and NSF.

International Organization for Chemical Sciences in Development

For some years, the American Chemical Society assisted the International Organization for Chemical Sciences in Development (IOCD) by helping to obtain funding, by participating in IOCD projects and by providing oversight through the Committee on International Activities. IOCD activities are focused on tropical diseases, plant chemistry, environmental analytical chemistry, and medicinal chemistry.

Environmental and green chemistry

The Education component of the ACS Division of Education and International Activities has produced introductory textbooks, such as *Chemistry in the Community*, and other teaching materials that demonstrate chemical principles using environmental examples. These materials have been translated into languages (e.g., Spanish and Russian) that make them useful in developing or transitional countries. Also, beginning in 2001, the Green Chemistry Institute has become a part of ACS. The Institute produces materials and symposia on topics such as green chemistry and water quality that will be important in both the developed and the developing world.

CONCLUSION

The American Chemical Society is very interested in the reactions of scientists from developing economies to these programs. It is felt that a solid scientific base is essential for economic development. Institutions in developing countries must focus their resources carefully on projects of national need, even as they pool instrumental capabilities and expertise through regional cooperation.