GEM Alumni—Success Stories

In 1973, some 17,152 masters' degrees in engineering were awarded by American colleges and universities. Of these, only 104 (0.6 percent) went to blacks; 139 (0.8 percent) to Hispanics; and 15 (0.09 percent) to Native Americans. To help address this disparity, in 1976, several research, industrial, and academic institutions formed the GEM Program.

GEM (National Consortium for Graduate Degrees for Minorities in Engineering, Inc.) now includes 41 employer and 40 university members, among them Howard University, the University of Illinois, Massachusetts Institute of Technology, University of Notre Dame, Stanford University, Argonne National Laboratory, Mobile Oil, Savannah River Laboratory, and the Xerox Corporation.

Last year, GEM supported 44 graduates (10 percent of the country's minority master's recipients in all fields of engineering). This year's total of some 60 graduates will bring the number of GEM alumni to nearly 200.

These alumni will be showcased at "The GEM Experience—An American Education Success Story." This 2-day symposium, to be held 18 and 19 October 1983, is cosponsored by GEM and the AAAS, and hosted by the Johns Hopkins University Applied Physics Laboratory.

In addition to GEM alumni, speakers will include Theodore M. Hesburgh, president, University of Notre Dame and honorary chair, GEM Program; Arturo Madrid, member, National Science Board Commission on Pre-College Education in Mathematics, Science, and Technology; Steven Muller, president, the Johns Hopkins University; Percy Pierre, president, Prairie View A&M University; and John B. Slaughter, chancellor, University of Maryland.

For further information, write EEO Office, Johns Hopkins University Applied Physics Laboratory, Room 1W-315, Johns Hopkins Road, Laurel, Maryland 20707.

CHEMRAWN II Calls for Twofold Increases in World Food Production

World food production must be increased at least twofold and preferably three- to fourfold during the next several decades in order to adequately feed the 8 billion people expected to be living by the year 2015.

This goal, which must be achieved without adding appreciably to the amount of land now under cultivation, will require agricultural practices that are more intensive, more selective, and more cost-effective than those in use today. If this is to be accomplished, the chemical sciences and technologies must play a key and central role.

These are among the conclusions of the Future Actions Committee of CHEMRAWN II, the International Conference on Chemistry and World Food Supplies—The New Frontiers. The committee, comprised of five Nobel laureates and 19 other prominent scientists from around the world, based its conclusions and subsequent recommendation on papers presented at the conference last December.

Noting a large gap between actual and potential food production in developing countries, the committee concluded that a combination of technology transfer and adaptation could provide much of the increased food production needed but that more research also is essential.

The committee assigned high priority to several research projects that could produce findings within the next decade to generate these necessary increases in food production. It concluded that, while success cannot be promised, the world risks truly severe shortfalls in food production unless such basic programs are supported adequately in the years ahead.

The Future Actions Committee developed 17 major recommendations encompassing both long- and short-range research goals. It assigned particularly high priority to:

- Genetic engineering research and development programs, particularly those dealing with increased nitrogen fixation, improved stress resistance in plants, control of animal diseases, and enhanced efficiency in milk and meat production.
- Plant physiology research, fundamental and interdisciplinary, with particular attention to understanding the molecular basis of reproduction, growth, stress, nutrition, and preservation.
- Development of less expensive and more cost-effective nitrogen fertilizers, including investigation of processes for oxidative nitrogen fixation, for producing hydrogen from water using solar radiation as the energy source, and for improved controlled-release fertilizers.

CHEMRAWN II, held 6 to 10 December 1982 in Manila, Philippines, was the first major effort by the world's chemical and agricultural communities to evaluate the problem of meeting the world's increasing need for food, review the options, and recommend future courses of action. It was cosponsored by the International Union of Pure and Applied Chemistry and the International Rice Research Institute, based in the Philippines. Some 600 leaders from government agencies, industrial companies, financial organizations, foundations, universities, and research institutions around the world participated.

Bryant W. Rossiter, director, Chemistry Division, Eastman Kodak Company, served as CHEMRAWN II's general chairman; Cyril Ponnamperuma, professor of chemistry and director of the Laboratory of Chemical Evolution, University of Maryland, chaired the Future Actions Committee; Carol L. Rogers, head, AAAS Office of Communications and Membership, was a member of the organizing committee and chair of the publicity committee.

Copies of conference *Papers* are available through Pergamon Press Canada, Ltd., 150 Consumer's Road, Ste. 104, Willowdale, Ontario, Canada M2J 1P9; *Recommendations* will be published by the International Rice Research Institute, Philippines.

CAROL L. ROGERS
Office of Communications and Membership

Editorial Search Committee Announced

E. Margaret Burbidge, chair of the AAAS Board of Directors, has appointed a Search Committee to consider nominations and applications for the post of editor of *Science* to succeed retiring editor Philip H. Abelson.

Frederick Mosteller, former president and Board chair, will head the Committee. The other members are Edward E. David, Jr., Exxon Research and Engineering Company, Inc.; Herman Feshbach, Massachusetts Institute of Technology; Irwin I. Shapiro, Massachusetts Institute of Technology; Maxine F. Singer, National Cancer Institute; Walter Sullivan, *The New York Times*; and Dael L. Wolfle, University of Washington.

Communications should be sent to Catherine Borras, secretary to the Search Committee, at AAAS, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036.