panies as well as individuals are eligible for the award. Commerce Secretary Malcolm Baldridge commented that "this medal will honor those who have advanced U.S. competitiveness in world markets, created new jobs, and made technological contributions to industries and people everywhere."

Nominations for the first round of awards—to be limited to no more than 12 on one occasion—will be open until 30 November.

Acid Rain Researchers Get Up to Nitty-Gritty

A joint research project agreed to by Canada and the United States could help take the sour taste out of relations between the two countries on the subject of acid rain. The project is designed to test techniques for tracking acid rain–causing pollutants to their sources. Identifying these sources has been a major cause of contention between the two countries. There is no dispute that acid rain has damaged forests and killed fish and plant life in lakes in eastern Canada and the northeastern United States, but Reagan Administration officials have angered the Canadians by insisting that the sources of pollutants have not been established with scientific certainty.

Under the new project, teams of American and Canadian scientists will monitor the flow of pollutants from two areas which are prime suspects as generators of acid rain, the U.S. Ohio Valley and Canada's Ontario Province.

The tests are to be conducted over a 6-week period starting in mid-September as part of the so-called Captex program, an acronym for the ongoing "cross-Appalachian tracer experiment." Started several years before acid rain became a diplomatic issue, Captex is an effort to resolve questions about long-range transport in the atmosphere. The problem of acid deposition fits in nicely with the long-term aims of Captex.

According to National Oceanic and Atmospheric Administration scientist Kenneth Demerjian, currently on loan to the Environmental Protection Agency, the new project is intended primarily to test the feasibility of tracers and set the stage for a comprehensive field study next year.

Scientists will make three releases of tracer materials during the tests and track the results from planes and ground stations. The release points will be in the areas of Dayton in southwestern Ohio, where a number of soft-coal burning power plants are concentrated, and Sudbury, Ontario, which has a cluster of nickel and copper smelting plants.

In announcing the project, Canada's environment minister, Charles Caccia, said, "The Captex project will help in future refinement of the atmospheric models used in designing optimum emission control strategies in both countries."

In less diplomatic terms, this translates into Canadian hopes that the research results will push the United States toward accepting an international air quality agreement that would require effective measures to staunch acid rain.

Survey Documents Life After the Ph.D.

A survey of the employment plans of a recent crop of research doctorate recipients suggests that a flat economy and tight academic job market continue to be dominating factors. Among new Ph.D.'s generally, the percentage heading for jobs in business and industry is increasing. Job opportunities in academe, which peaked in the late 1960's and plunged in the later 1970's, showed gains of only a few decimal points over the lows of recent years.

The National Research Council survey* was based on questionnaires answered by about 95 percent of the holders of the 31,048 doctorates granted between mid-1981 and mid-1982. The survey leaves some margin for uncertainty, since it includes sets of responses both from those with definite job plans and those still seeking appointments, but the patterns are evident.

In both the life sciences and physical sciences, the trend to industry is clear. Among chemistry Ph.D.'s, for example, those with definite plans to work in industry were up to 37.2 percent compared to 33.6 percent last year and 10.5 percent in 1972. In biochemistry, where nearly 75 percent of new degree holders had postdoctoral fellowships or were seeking them, some 7.1 percent of the others had definite plans to work in industry compared with 4.9 percent the previous year and 2.4 percent in 1972.

In engineering, where a different professional pattern prevails from that in research science, only 2644 doctorates were awarded compared with 4288 in the physical sciences and 5565 in the life sciences. The most noticeable change in the data for engineering was that a larger number of new Ph.D.'s than in recent years were still seeking appointments when the survey was made. No analysis accompanies the survey to indicate why this occurred.

The survey showed that the number of new doctorates plateaued at under 32,000 a year in the late 1970's. Within the total, there have been increases in the number of doctorates granted in the sciences, a sharp decrease in the humanities and lesser declines in some of the social and behavioral sciences and education.

Significant shifts also occurred in the citizenship status and sex of those who earned degrees. An upward trend in the percentage of doctorates granted women began in 1965 when they received 11.8 percent of the total and continued through 1982 when the level reached 32 percent. The percentage of non-U.S. citizens winning doctorates rose only from 12 to over 20 percent between 1960 and 1982, but they have claimed major shares of doctorates in some fields—50.8 percent in engineering, 34 percent in agriculture, 34 percent in computer science, and 36 percent in economics.

One of the strongest trends indicated by the survey data was the growth in the proportion of new Ph.D.'s in the life sciences and physical sciences taking up postdoctoral appointments after earning their degrees. In the biosciences, the total was over 70 percent. The survey shows that postdoctoral training has become virtually obligatory for those contemplating research careers in these disciplines. What it doesn't show is what happens to the postdocs when the fellowships run out.

—*John Walsh*

*Summary Report 1982, *Doctorate Recipients from United States Universities* (National Research Council, Washington, D.C., 1983).