SCIENCE EDUCATION

A Record Grant for College Programs

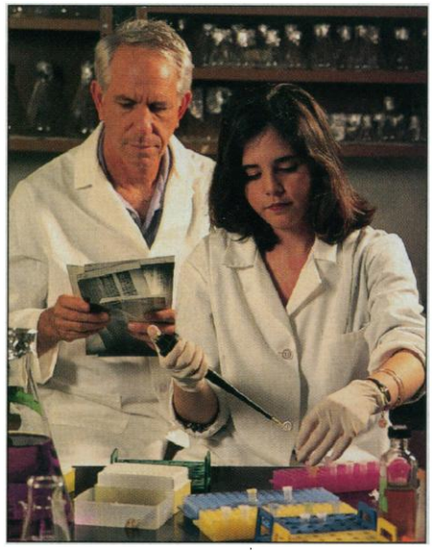
The Howard Hughes Medical Institute (HHMI), best known for picking elite researchers and providing them with generous funding, announced this week that it is making a huge investment in the next generation of potential Hughes investigators. It will provide the largest grant in U.S. history to support undergraduate education in biology: $91.1 million to 58 universities.

The initiative will serve "to train the next generation" of biologists, says Joseph Perpich, HHMI's vice president for grants and special programs. "But it's also to provide very strong biology education to anyone who wants it." The new grants, which range from $1.2 million to $2.2 million over 4 years, continue an undergraduate science program Hughes launched 10 years ago. All but four of the recipients have received grants in the past.

Existing HHMI-funded programs range from a Biology Scholars Program at the University of California, Berkeley, that reaches out to women and minorities underrepresented in the life sciences, to matching undergraduates with faculty members conducting lab research at the University of Arizona, Tucson. That program has expanded from 19 participating faculty members in 1988 to more than 230 today. HHMI support for undergraduate science "has really helped change the value system at research universities," says Sam Ward, a professor of molecular and cellular biology at the University of Arizona and program manager for the HHMI grant.

One of the rookies in this year's program, Clemson University in Clemson, South Carolina, plans to spend its $1.6 million grant on a combined effort among the biology, education, and earth science departments in training middle and high school teachers in hands-on biology methods. The University of Arizona, one of two schools receiving the maximum grant of $2.2 million, will also use some of its money to support teacher training. It plans a sabbatical program in which high school science teachers will spend a year on campus studying science.

HHMI announced its new round of awards just a week after the National Research Council (NRC) released a report that pointed to a glut of life sciences Ph.D.s flooding the academic job market (*Science*, 11 September, p. 1584). Perpich says this new series of grants is not aimed at pushing more biologists into that pipeline. The intent, he says, is to produce graduates better educated in the life sciences, regardless of what career path they choose after college.



C. J. WALKER

One on one. In University of Miami program, undergrads conduct research with professors.

Shirley Tilghman, a biologist at Princeton University who chaired the panel that wrote the NRC report, agrees: "I'm 100% behind these undergraduate science grants." Tilghman, an elite Hughes investigator herself, says the Hughes grants "stimulate faculty [members by] giving them the resources" and the freedom to implement innovative teaching methods. **–JENNIFER COUZIN**

BIOMEDICAL RESEARCH

China Sets Rules for Foreign Collaboration

BEIJING—China is about to issue new rules governing the export of human genetic materials that will provide a legal framework for foreign collaborations in biomedical research. The rules strengthen the rights of patients involved in international studies and establish a formula for sharing any commercial proceeds among the collaborators. Although scientists who have read the rules generally applaud them, some worry that the additional bureaucratic procedures—including the collection of fees by local authorities at the start of a project—could raise the cost and extend the duration of many projects.

The regulations, drafted by the Ministry of Health and the former State Commission of Science and Technology (now a ministry), will tighten controls on work being done in China by outside researchers and pharmaceutical companies. Press reports of such activities, including one in *Science* (19 July 1996, p. 315), triggered concern that foreigners were plundering China's genetic resources. As a result, all such collaborations ground to a halt last year while the government drafted the new rules (*Science*, 17 October 1997, p. 376).

ScienceScope

RUSSIAN FRONT OPENS IN OZONE FIGHT

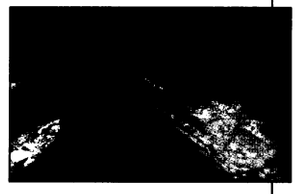
The campaign to heal Earth's protective ozone layer is shifting to a new battleground. Last week, United Nations officials marked the 11th anniversary of the 1987 Montreal Protocol—the global pact that calls for phasing out key ozone-destroying chemicals, such as chlorofluorocarbon (CFC) refrigerants—by pledging to help cash-strapped Russia make good on Soviet-era promises.

Scientists predict that Earth's eroded ozone layer, which screens out the nastiest ultraviolet radiation, can be restored by 2150 if nations adhere to the Montreal pact. But some signatories, including Russia, have missed deadlines for ending the manufacture of CFCs and other ozone eroders. Now, in an effort to put tardy nations back on track, the United Nations and the World Bank will pay to put CFC producers out of business. In Russia, for instance, the bank plans to spend $25 million to buy out Russian CFC facilities and close them down by 2000.

RESEARCHERS SEEK CONSENSUS AT MERCURY SUMMIT

A simmering debate among public officials about the health risks from eating mercury-tainted fish will soon get a public airing. In November, the White House will gather experts to review key studies in the hope of ironing out lingering disagreements.

Officials are at odds over how to interpret two ongoing studies of how mercury in fish affects the neurological development—memory and motor skills, for example—of children in the Faroe and Seychelles islands. Last December, the Environmental Protection Agency (EPA) recommended a safe level of no more than 0.1 micrograms of mercury per kilogram of fish, a level supported by the Faroe Islands study. But other agencies have set less stringent levels and say they're backed by the Seychelles results.



NEWMAN/GREENPEACE

Investigators from both studies will be at the mercury summit, hosted by the National Institute of Environmental Health Sciences in North Carolina. The plan is to "sift through the evidence ... and see if we can build a scientific consensus," says White House official Fran Sharples.

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