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Science and Medicine □ Bridging the Gap

The gap between basic biology and medical practice is growing. As knowledge in molecular genetics and cell biology accelerates, the biomedical community is finding it increasingly hard to harness the explosion of new information and translate it into medical practice. *Bridging the Bed-Bench Gap*, a National Research Council report published earlier this year, called training of Ph.D. researchers to translate science to clinical medicine a “critical need.”

To address this problem, the Howard Hughes Medical Institute (HHMI) will award up to \$10 million to stimulate the integration of medical knowledge into Ph.D. training. The goal is to prepare biomedical scientists to apply new biological knowledge to human health. A better understanding of medicine also can guide scientists in research directions that are most likely to benefit the diagnosis and treatment of human disease.

“We envision a new cadre of Ph.D. researchers who understand pathobiology and know the language and processes of medicine,” said HHMI President Thomas R. Cech. “Our goal is to increase the pool of people who are doing medically oriented research.”

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On December 1, 2004, the Institute will open a competition for grants for training programs that bring the knowledge and skills of medicine and pathobiology into biomedical graduate study. Awards will range from \$400,000 to \$1 million over four years. The smaller grants, beginning at \$100,000 per year, will support modification of existing programs. Innovative new graduate programs that incorporate significant pathobiological and medical knowledge and skills can receive up to \$250,000 a year.

“We seek creative, innovative and cost-effective solutions to this training challenge,” said Peter J. Bruns, HHMI vice president for grants and special programs. “We also are looking for approaches that can serve as models for the biomedical research training community.”

Any university in the United States that offers Ph.D. training in a biomedical science is eligible to apply. The grants can be used to support planning of new curricula, development of new courses, and release of clinical faculty to participate in graduate training activities. Student-related expenses can also be covered, including stipend support and health insurance, travel to medical meetings, expenses of clinical training experiences, and tuition.

“HHMI already supports two programs that give medical students insight into the world of basic science research: Research Fellowships for Medical Students and the HHMI-NIH Research Scholar Program,” said William Galey, HHMI director of graduate science education. “Basic scientists need a similar understanding of clinical medicine.”

For more information on the new HHMI Medicine into Graduate Training Initiative, see www.hhmi.org/grants/institutions/medintograd.html.

In another new graduate training initiative announced last month, HHMI is partnering with the NIH's National Institute of Biomedical Imaging and Bioengineering (NIBIB) to support biological science Ph.D. programs that incorporate the physical and computational sciences and engineering. See www.hhmi.org/news/092704.html.