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HHMI, NIBIB/NIH to Invest Up to \$35 Million in Interdisciplinary Ph.D. Programs

As biomedical science becomes more interdisciplinary, research progress will depend on contributions from life scientists who are familiar with the tools and ideas of the physical and computational sciences and engineering. The Howard Hughes Medical Institute (HHMI) and the National Institute of Biomedical Imaging and Bioengineering (NIBIB) of the National Institutes of Health (NIH) are joining forces to provide both start-up funds and sustaining support for graduate training programs that integrate the biomedical sciences with the physical sciences and engineering.

HHMI will award up to 10 three-year grants of as much as \$1 million each to support the development and early phases of the interdisciplinary programs. NIBIB, a new NIH institute with broad, interdisciplinary goals, will provide five additional years of support to the HHMI grantees through peer-reviewed institutional training grants.

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— **Thomas R. Cech**

Building on work begun by the Whitaker Foundation, the National Science Foundation, and the Burroughs Wellcome Fund, HHMI and NIBIB together have created a new model to support the initiation, development, and maintenance of new graduate programs to provide upcoming biomedical scientists with the cross-disciplinary knowledge and skills they will need.

"This groundbreaking partnership between the NIBIB and HHMI will produce researchers who are skilled in biomedical disciplines, bioengineering, and quantitative sciences," said Elias A. Zerhouni, NIH director.

In October 2004, HHMI will open a competition for up to 10 grants to educational institutions, totaling as much as \$1 million each. The grants will be awarded in November 2005. All U.S. institutions that grant Ph.D. degrees in the biological sciences will be eligible for the three-year awards.

The HHMI-NIBIB partnership will capitalize on the different strengths of each organization. “HHMI can provide flexible support to catalyze the development of new, interdisciplinary programs,” said Thomas R. Cech, president of HHMI. “The NIBIB will sustain these young programs once they are developed, as NIH does so well with traditional training grants.”

Roderic Pettigrew, NIBIB director, said, “NIBIB is excited to enter into this historic alliance with HHMI to support training of the biomedical scientist of the future, one skilled in interdisciplinary research. These scientists will be better equipped to meet the complex challenges of 21st century medicine.”

The new NIH Roadmap and recent reports from the National Academies Convocation on Facilitating Interdisciplinary Research and the Association of American Medical Colleges' Graduate Research, Education and Training Group emphasize the need for a new kind of graduate education that will prepare scientists to work across disciplinary lines to solve complex biomedical problems.

“We're looking for training programs that provide strategies to eliminate or lower barriers between seemingly disparate scientific disciplines,” said Peter J. Bruns, HHMI vice president for grants and special programs.

The new graduate training program parallels HHMI's commitment to bring together biologists, computer scientists, engineers, physicists, chemists, and mathematicians to conduct collaborative research at Janelia Farm, HHMI's new research campus now under construction in Loudoun County, Virginia.