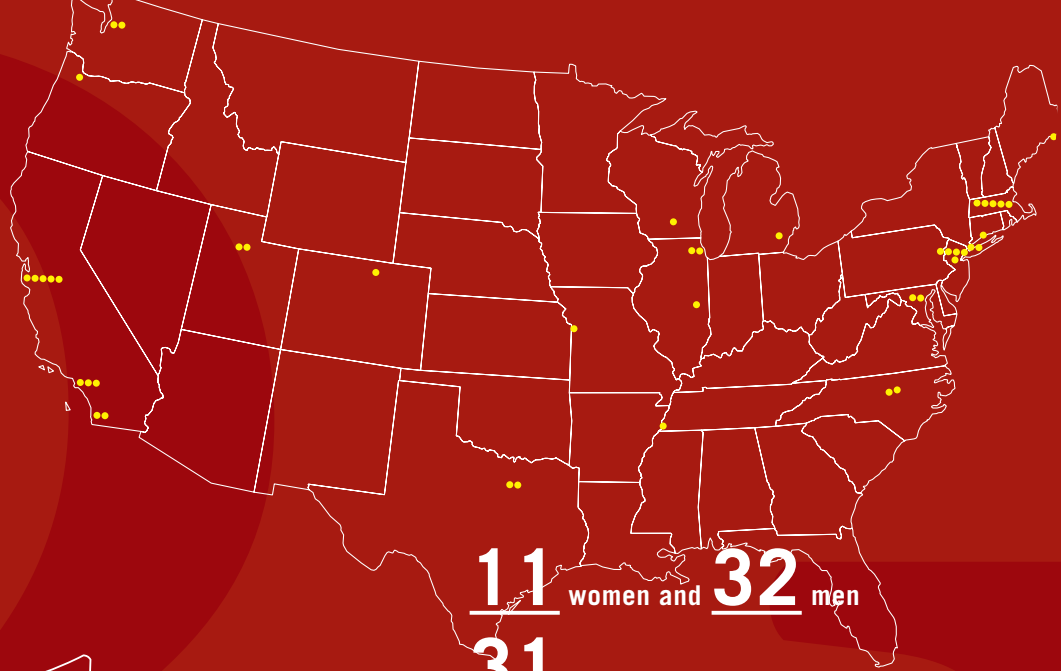


Surprise
& Gift
App



11 women and 32 men

31 institutions *(including 3 new to HHMI)*

25% from chemistry, physics, computer sciences, engineering, and geobiology

eed

Meet the latest class of HHMI investigators...

Among the 43 promising researchers newly tapped to be HHMI investigators, nearly a quarter bring expertise from fields outside the biological sciences.

HHMI has drawn significantly from outside the biological sciences for its latest class of investigators. The group comprises 32 men and 11 women from 31 institutions nationwide. Many represent traditional biomedical research disciplines, but nearly 25 percent received their primary training in areas such as chemistry, physics, computer sciences, engineering, and geobiology.

The four scientists below are representative of the group, both in the sense that they approach the scientific enterprise from unique perspectives, and in the way they work deftly across disciplines.

BRENDA A. SCHULMAN

Science took hold of Brenda A. Schulman early. She still remembers when her high-school biology teacher revealed the myriad roles of ATP (adenosine triphosphate) in a cell. Also while in high school, Schulman worked in a university lab that was exploring how genes are activated, and she went on to win the national Bausch & Lomb Science Award, given to students who have demonstrated unusual academic achievement in science.

Now head of her own lab at St. Jude Children's Research Hospital, in Memphis, Tennessee, Schulman works to integrate her knowledge of structural biology, biochemistry, cell biology, and genetics to address a central scientific question: How can cells respond quickly to the changing demands and cues of their environments?

STEPHEN R. QUAKE

The interests of Stanford University bioengineer Stephen R. Quake unite physics, biology, and biotechnology. With a toolbox that draws on the fields of mathematics, engineering, and materials chemistry, Quake has developed technology that will allow scientists to integrate several complex experiments on a single device and devised an entirely new approach to the vexing challenge of growing protein crystals.

JOSEPH DeRISI

To describe new investigator Joseph DeRisi, whose lab is at the University of California, San Francisco, as a molecular biologist who has made major contributions to malaria research would be accurate, but it would also be incomplete. He might be described more precisely as a scientific polymath who delights in tinkering with new technology, moves readily among disciplines, shares what he knows as widely as possible, and dives fearlessly into new scientific challenges. DeRisi helped pioneer the use of DNA microarray technology as a graduate student. He now uses the same approach to study the activity of the full range of malaria genes and has already generated provocative insights.

LINDA C. HSIEH-WILSON

At the California Institute of Technology, Linda C. Hsieh-Wilson brings her chemist's training—and indefatigable curiosity—to neurobiology. Instead of concentrating exclusively on the “big picture,” as some neurobiologists often do, Hsieh-Wilson is focusing on a less well-studied—but perhaps even more important—area: How does the right chemistry keep the brain working properly? Her work integrates organic chemistry with neurobiology to understand how key carbohydrates, and their various derivatives, alter the structure and function of proteins in the brain.

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- 4 **BONNIE L. BASSLER**
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- 5 **ALBERT BENDELAC**
The University of Chicago—Chicago, IL
- 6 **RONALD R. BREAKER**
Yale University—New Haven, CT
- 7 **ANDREW CAMILLI**
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- 8 **EDWIN R. CHAPMAN**
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- 9 **ZHIJIAN CHEN**
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- 10 **JOSEPH DeRISI**
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- 11 **SASCHA DU LAC**
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- 43 **XIAOWEI ZHUANG**
Harvard University—Cambridge, MA



EXCEPTIONAL PROMISE

To find the new HHMI investigators, the Institute looked specifically for candidates who demonstrated exceptional promise within 4 to 10 years of their becoming independent scientists. “These scientists are on the rapidly rising slope of their careers,” says HHMI President Thomas R. Cech. “We have every reason to believe that they will use their creativity to extend the boundaries of scientific knowledge for many years to come.”

In a competition open to approximately 200 universities, medical schools, and institutes, more than 300 such individuals were nominated.

The outcomes represent a boon not only to those selected. David A. Clayton, vice president and chief scientific officer of the Institute, says the competition allows HHMI to respond to new areas of scientific interest and emerging fields. “The scientists we identified through this competition are impossible to pigeonhole into traditional categories—and that is good news for the future of research in the life sciences,” Clayton says. “By my estimation, about 20 percent of them are drawn from the physical sciences, including chemistry and physics. And while nearly a quarter of these researchers are in the burgeoning field of neuroscience, it’s fair to say that we expect the impact of their work to be felt across the full spectrum of biological research.”

The competition for new investigators, HHMI’s first since 2000, represents a continued expansion of the Institute’s biomedical research mission. The selection of these scientists means that HHMI will invest more than \$300 million in additional support for biomedical research over the next 7 years, according to Cech. (The Institute’s current annual budget for biomedical research is \$416 million.) HHMI is also about to conclude the first phase of recruitment of scientists for the Janelia Farm Research Campus—HHMI’s community for collaborative, interdisciplinary research—scheduled to open in Northern Virginia in 2006.

The cadre of 43 new investigators includes scientists at five institutions that do not currently have an HHMI investigator: Weill Medical College of Cornell University, the University of Illinois Urbana-Champaign, Colorado State University in Fort Collins, Stowers Institute for Medical Research in Kansas City, Missouri, and the University of North Carolina at Chapel Hill. The latter three are joining the HHMI program for the first time.

SCIENTIFIC VALUE

HHMI grounds its research programs on the conviction that scientists of exceptional talent and imagination will make fundamental contributions of lasting scientific value and benefit to mankind when given the resources, time, and freedom to pursue challenging questions. HHMI urges its researchers to take risks, to explore unproven avenues, to embrace the unknown—even if it means uncertainty or the chance of failure.

Widely recognized for their creativity and productivity, the current group of HHMI investigators includes 10 Nobel Prize winners and more than 100 members of the National Academy of Sciences. HHMI investigators have made many key research advances—from the discovery of genes related to cystic fibrosis, obesity, high blood pressure, colon cancer, and other diseases to new insights into memory, vision, and olfaction.

WHAT IS THE HHMI INVESTIGATOR PROGRAM?

The Institute seeks out highly creative investigators at distinguished universities, research institutes, and medical schools across the United States whose work spans the full range of leading-edge biological and biomedical research. Investigators are identified through multilevel peer-reviewed competitions. Following a philosophy to support “people, not projects,” HHMI provides long-term, flexible funding to enable its investigators to pursue their scientific interests wherever they lead.

Joining such an accomplished group, the new investigators come to the table in a swirl of high expectations. At the same time, given each new investigator’s track record, there is abundant confidence and optimism about what the new class might accomplish.

“We are committed to providing these scientists—and the nearly 300 scientists who are already part of HHMI—with the freedom and flexibility they need in order to make lasting contributions to mankind,” Tom Cech says. Speaking specifically of the new class, but perhaps defining a characteristic that distinguishes all HHMI investigators, he adds, “We want and expect them to be daring.” ■

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