# New Awards for Science Education to HHMI Professors

**2014** Competition

HHMI
HOWARD HUGHES MEDICAL INSTITUTE

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## 2014 COMPETITION

**The Howard Hughes Medical Institute announces a new competition for HHMI professors. We expect to appoint up to 15 HHMI professors and award each professor up to $1 million over a five-year period.**

The Howard Hughes Medical Institute plays a powerful role in advancing biomedical research and science education in the United States. HHMI's program in biomedical research rests on the conviction that scientists of exceptional talent, commitment, and imagination will make fundamental discoveries for the betterment of human health if they receive the resources, time, and freedom to pursue challenging questions. The Institute's science education program supports initiatives with the power to transform education in the life sciences for all students. Our objectives are to recruit and develop talented students who will be the future leaders of science and science education, and to promote scientific literacy among all students. Just as today's researchers solve complex questions by working across scientific disciplines and integrating tools from these disciplines, HHMI seeks to support undergraduate science education by integrating a variety of tools and approaches that will engage students in science.

## Rationale and background

Much of the responsibility for sustaining excellence in science in the United States falls on research universities. Home to some of the world's best scientists, they recruit the nation's most talented young people, who reflect the dynamic demographics of the country. The approximately 100 universities classified by the Carnegie Foundation for the Advancement of Teaching as having "very high research activity" account for about 36 percent of science and engineering baccalaureate degrees and 47 percent of science and engineering doctoral degrees in the United States. Thus, because of their high potential impact on the future of science, it is important for research universities to provide an excellent educational environment for the development of young scientists.

The quality of universities depends on their faculty. In an era of new business models for higher education, increasing pressures on research funding, new emphases on student enrollment and retention, and new technologies for delivering education, science faculty members are challenged to navigate a complex course. While the traditions of science often emphasize the singular accomplishments of an individual scientist, each faculty member is expected to excel simultaneously in multiple arenas, balancing the demands of research and teaching. Science faculty members who are able to successfully advance their research and teaching goals through creative integration of the two are both a valued asset to their departments and important exemplars for their colleagues.

Begun in 2002, the HHMI Professors Program aims to empower research scientists who can convey the excitement and values of scientific research to undergraduate students. In the last decade, 40 scientists have been appointed HHMI professors and have received grants to foster innovations in undergraduate science education (**www.hhmi.org/grants/professors**). The HHMI professors are an accomplished group, including, for example, members of the National Academy of Sciences, the National Academy of Engineering, the American Academy of Arts and Sciences, and recipients of the Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring.

## This competition

Through this competition, HHMI expects to appoint up to 15 new HHMI professors. The five-year, non-renewable grants will enable the professors to develop and implement science education activities. HHMI professors are expected to demonstrate a combination of the following attributes that distinguish them from other accomplished scientists:

- They identify and pursue significant questions in science education in a rigorous and deep manner.
- They push their chosen research field into new areas of inquiry and effectively integrate their scientific research with education.
- They develop new tools and methods that enable creative approaches to science education, bringing to bear, when appropriate, concepts or techniques from other disciplines.
- They effectively forge links between research and education, and in doing so positively affect their colleagues.
- They demonstrate great promise for future original and innovative contributions.

## Eligibility

The 2014 HHMI professor competition places no restrictions on the number of applications from an eligible institution. Eligible scientists may apply directly; prior institutional endorsement is not part of the application process. It is anticipated that the competition for these appointments will be extremely keen. Those candidates with outstanding records who have shown evidence of significant originality and accomplishments in science education are encouraged to apply. HHMI welcomes applications from women and members of minority groups that are underrepresented in science.

To be eligible, an applicant must:

- Be a full-time, tenured faculty member of a baccalaureate degree-granting natural science department at one of the eligible research universities (**see Appendix A**). If the institution does not offer tenure, the applicant must hold a full-time faculty appointment that reflects significant institutional commitment at the time of the application deadline;

• Have a full-time faculty appointment in the current home department for at least three consecutive years prior to the application deadline;

• Teach undergraduates regularly as part of the responsibilities of faculty appointment in the home department; and

• Be a principal investigator on one or more active, national peer-reviewed research award of at least three years duration, such as an NIH R01 grant, an NSF research grant, or an American Cancer Society research grant, at the time of the application deadline. Mentored awards, career development, and training grants do not qualify.

## Application

The deadline for applications is July 16, 2013. Prospective applicants must first establish their eligibility (**www.hhmi.org/competitions**). Eligible applicants will then be able to access the competition website and submit their applications electronically according to instructions on the competition website. The site is now open, and applicants can begin the process at any time. However, please note that eligibility for the competition must be established before June 4, 2013. The elements of the application include the following (please refer to the competition website for details):

• curriculum vitae;

• brief statement of the applicant's significant scientific achievements;

• brief statement of the applicant's significant achievements in undergraduate science education;

• proposal of how the applicant will promote effective teaching at her/his institution and effectively integrate research and teaching, and the anticipated impact of the professor's activities on the department;

• brief statement of how the appointment as HHMI professor will enhance the applicant's identity as a scientist-educator;

• up to two publications; and

• proposed budget.

## Evaluation criteria

A panel of distinguished scientists and educators will review the proposals. The criteria by which the applications will be evaluated will include the following:

• the quality and impact of the applicant's research scholarship;

• the quality and impact of the applicant's previous efforts in undergraduate science education; and

• the anticipated impact of the proposed activities including the impact on the applicant's colleagues and home department.

We plan to convene a symposium in May 2014, at which the finalists will present summaries of their proposed activities. All of the finalists must be available to travel to HHMI headquarters in Chevy Chase, MD, from May 27 to May 30, 2014.

Please send all inquiries to **profcomp@hhmi.org**.

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## Key Dates

Access to online eligibility and application site:
**March 14, 2013 – www.hhmi.org/competitions**

Establish applicant eligibility: **June 4, 2013**

All application materials submitted: **July 16, 2013**

Symposium for finalists: **May 27–30, 2014**

Awards begin: **September 1, 2014**

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*Cover image:* Carboxypeptidase A, watercolor. *Credit:* Irving Geiss/HHMI

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# Appendix A
# 2014 HHMI PROFESSORS COMPETITION
## Eligible Institutions

**Alabama**
University of Alabama, Birmingham
University of Alabama, Huntsville

**Arizona**
Arizona State University, main campus
University of Arizona

**Arkansas**
University of Arkansas, main campus

**California**
California Institute of Technology
Stanford University
University of California, Berkeley
University of California, Davis
University of California, Irvine
University of California, Los Angeles
University of California, Riverside
University of California, San Diego
University of California, Santa Barbara
University of California, Santa Cruz
University of Southern California

**Colorado**
Colorado State University
University of Colorado, Boulder

**Connecticut**
University of Connecticut
Yale University

**Delaware**
University of Delaware

**District of Columbia**
George Washington University
Georgetown University

**Florida**
Florida State University
University of Central Florida
University of Florida
University of Miami
University of South Florida

**Georgia**
Emory University
Georgia Institute of Technology, main campus
Georgia State University
University of Georgia

**Hawai'i**
University of Hawai'i, Manoa

**Illinois**
Northwestern University
University of Chicago
University of Illinois, Chicago campus
University of Illinois, Urbana-Champaign

**Indiana**
Indiana University, Bloomington
Purdue University, main campus
University of Notre Dame

**Iowa**
Iowa State University
University of Iowa

**Kansas**
University of Kansas, main campus

**Kentucky**
University of Kentucky
University of Louisville

**Louisiana**
Louisiana State University
Tulane University

**Maryland**
Johns Hopkins University
University of Maryland, College Park

**Massachusetts**
Boston University
Brandeis University
Harvard University
Massachusetts Institute of Technology
Tufts University
University of Massachusetts, Amherst

**Michigan**
Michigan State University
University of Michigan, Ann Arbor
Wayne State University

**Minnesota**
University of Minnesota, Twin Cities

**Mississippi**
Mississippi State University

**Missouri**
University of Missouri, Columbia
Washington University, Saint Louis

**Montana**
Montana State University

**Nebraska**
University of Nebraska, Lincoln

**New Hampshire**
Dartmouth College

**New Jersey**
Princeton University
Rutgers, New Brunswick

**New Mexico**
University of New Mexico

**New York**
Columbia University
Cornell University
New York University
Rensselaer Polytechnic Institute
State University of New York, Albany
State University of New York, Buffalo
State University of New York, Stony Brook
University of Rochester
Yeshiva University

**North Carolina**
Duke University
North Carolina State University, Raleigh
University of North Carolina, Chapel Hill

**North Dakota**
North Dakota State University

**Ohio**
Case Western Reserve University
Ohio State University, main campus
University of Cincinnati

**Oklahoma**
University of Oklahoma, Norman

**Oregon**
Oregon State University
University of Oregon

**Pennsylvania**
Carnegie Mellon University
Pennsylvania State University, main campus
University of Pennsylvania
University of Pittsburgh, main campus

**Rhode Island**
Brown University

**South Carolina**
University of South Carolina, Columbia

**Tennessee**
University of Tennessee, Knoxville
Vanderbilt University

**Texas**
Rice University
Texas A&M University, main campus
University of Houston
University of Texas, Austin

**Utah**
University of Utah

**Virginia**
University of Virginia, main campus
Virginia Commonwealth University
Virginia Polytechnic Institute and State University

**Washington**
University of Washington, Seattle
Washington State University

**Wisconsin**
University of Wisconsin, Madison