New Awards for Science Education to HHMI Professors

2017 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 a five-year grant to support their science education activities.

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.
Through this competition, HHMI expects to appoint up to 15 new HHMI professors. The five-year, nonrenewable grants will enable the professors to develop and implement science education activities.

The HHMI Professors Program identifies highly accomplished research scientists who have compelling ideas to advance science education, and provides them with flexible support to try out these ideas. The program empowers and raises the visibility of scientists with high research credibility as exemplars of and advocates for excellence in science education.

HHMI professors:
• are highly visible scientists who are deeply engaged with the research community;
• identify and pursue significant questions in science education in a rigorous manner;
• advance their chosen research field into new areas of inquiry and effectively integrate their scientific research with education;
• develop new tools and methods that lead to creative approaches in science education, bringing to bear concepts or techniques from other disciplines when appropriate;
• effectively forge links between the research community and the science education community, and in so doing, positively affect their colleagues; and
• demonstrate great promise for future original and innovative contributions.

Rationale and background

The leading research universities in the United States are home to some of the world’s best scientists and recruit the nation’s most accomplished young people. With a strong commitment to the highest quality of scholarship, the best science faculty at research universities also provide leadership in the development, implementation, and dissemination of innovations in science education. In an era of increasing pressures on research funding, new emphases on student enrollment and retention, new technologies for delivering education and measuring student learning, and new scholarship in discipline-based education research, science faculty members are challenged to navigate an increasingly complex landscape. Science faculty members who are able to successfully advance their research and teaching goals through creative integration of the two are a valued asset to their departments and important exemplars for their colleagues. The HHMI Professors Program provides grants to faculty members whose primary research and scholarship is aimed at advancing scientific discovery in the laboratory or the field. By supporting advances in science education conducted by leaders in the scientific research community, this program seeks to develop models for how scientists can engage in undergraduate education. HHMI professors are encouraged to consider ways through which they can build meaningful connections with the growing community of education researchers whose scholarship is in understanding how science is taught and learned.

Fifty-five 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 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 who will receive grants to enable them to develop and implement science education activities. The 2017 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. Each HHMI professor will receive a five-year, nonrenewable grant totaling $1 million. In addition to the grants to individual professors, this opportunity includes the option for teams of two eligible scientists from the same institution to apply for collaborative awards, each team award totaling $1.5 million over five years.

It is anticipated that the competition for these appointments will be extremely keen. Those candidates with outstanding records in scientific research and who
have shown evidence of significant originality and accomplishments in science education are encouraged to apply. HHMI seeks to support a community of professors that represents the depth and breadth of our scientific talent pool and capitalizes on the energy and perspective of our top scientists, including those traditionally underrepresented in the sciences.

Eligibility

To be eligible, an applicant will:¹

- be a full-time, tenured faculty member of a baccalaureate degree-granting natural science department (biological/life sciences, chemistry/biochemistry, physics, earth/geosciences, astronomy) at one of the eligible research universities (see Appendix A). Applicants from non-natural science departments (for example, computer science, mathematics, and engineering) will be considered if their research has direct impact on a natural science field. If the institution does not offer tenure, applicants with a full-time faculty appointment that reflects significant institutional commitment may be eligible.

- be currently appointed full time, and will have held the full-time appointment in their current home department for at least three consecutive years;

- have an assigned role in the development or implementation of the undergraduate curriculum in their home department as part of the responsibilities of their faculty appointment (teaching undergraduate courses, chair of the department curriculum committee, etc.); and

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

Application

Prospective applicants first submit an Intent to Apply online at www.hhmi.org/hhmi prophs2017. The deadline to submit an Intent to Apply is July 1, 2016. Eligible applicants will then be granted access to the competition website and will submit their applications electronically according to instructions on the competition website. The deadline for applications is October 6, 2016. The elements of the application will include the following (please refer to the competition website for details):

- curriculum vitae and current and pending research support;

- statement of the applicant’s significant scientific achievements;

- statement of the applicant’s significant achievements in undergraduate science education;

- narrative detailing how the proposed activities will advance the applicant’s research and teaching goals, incorporate evidence-based practice, and impact science education within the applicant’s department, home university, and the broader scientific community (NOTE: Two applicants may link their applications in order to collaborate on a single project);

- statement of how the appointment as HHMI professor will enhance the applicant’s identity as a scientist-educator and empower her/him to be an advocate for effective science education;

- up to two scientific 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 October 2017, 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 October 2 to October 4, 2017.

Please send all inquiries to profcomp@hhmi.org.

¹In order to qualify for an award, applicants must meet all eligibility criteria by September 1, 2017.
Key Dates
Access to online Intent to Apply and application site: April 11, 2016 – www.hhmi.org/hhmiprofs2017
Deadline to submit Intent to Apply: July 1, 2016
All application materials submitted: October 6, 2016
Symposium for finalists: October 2–4, 2017
Awards begin: January 1, 2018

BIBLIOGRAPHY


Cover image: “Crambin,” watercolor. Credit: Irving Geiss/HHMI

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Appendix A
2017 HHMI PROFESSORS COMPETITION
Eligible Institutions

Alabama
University of Alabama at Birmingham

Arkansas
University of Arkansas, Fayetteville

Arizona
Arizona State University, Tempe
University of Arizona, Tucson

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, Fort Collins
University of Colorado Boulder

Connecticut
University of Connecticut, Storrs
Yale University

District of Columbia
George Washington University
Georgetown University

Delaware
University of Delaware, Newark

Florida
Florida International University
Florida State University
University of Central Florida
University of Florida
University of Miami
University of South Florida, main campus

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 at Urbana-Champaign

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

Iowa
Iowa State University
University of Iowa

Kansas
Kansas State University, Manhattan
University of Kansas, Lawrence

Kentucky
University of Kentucky
University of Louisville

Louisiana
Louisiana State University and Agricultural & Mechanical College
Tulane University of Louisiana

Maryland
Johns Hopkins University
University of Maryland, College Park

Massachusetts
Boston College
Boston University
Brandeis University
Harvard University
Massachusetts Institute of Technology
Northeastern University
Tufts University
University of Massachusetts Amherst

\(^2\)2015 Carnegie Classification of Institutions of Higher Education, 
R1: Doctoral Universities, Highest Research Activity
Michigan
Michigan State University
University of Michigan, Ann Arbor
Wayne State University

Minnesota
University of Minnesota, Twin Cities

Mississippi
University of Mississippi

Missouri
University of Missouri, Columbia
Washington University in St. Louis

Nebraska
University of Nebraska–Lincoln

New Jersey
Princeton University
Rutgers University–New Brunswick

New Mexico
University of New Mexico, main campus

New York
Columbia University
Cornell University
CUNY Graduate School and University Center
New York University
Stony Brook University
SUNY Albany
Syracuse University
University at Buffalo
University of Rochester

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

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

Oklahoma
University of Oklahoma, Norman

Oregon
Oregon State University
University of Oregon

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

Rhode Island
Brown University

South Carolina
Clemson University
University of South Carolina, Columbia

Tennessee
University of Tennessee, Knoxville
Vanderbilt University

Texas
Rice University
Texas A&M University, College Station
Texas Tech University
University of Houston
University of North Texas
University of Texas at Arlington
University of Texas at Austin
University of Texas at Dallas

Utah
University of Utah

Virginia
George Mason University
University of Virginia, main campus
Virginia Commonwealth University
Virginia Polytechnic Institute and State University

Washington
University of Washington, Seattle
Washington State University, Pullman

West Virginia
West Virginia University, Morgantown

Wisconsin
University of Wisconsin–Madison
University of Wisconsin–Milwaukee