

HOWARD HUGHES MEDICAL INSTITUTE

PHYSICIAN-SCIENTIST EARLY CAREER AWARD

Program Announcement
2008

Application deadline: March 13, 2008
Award notification: June 2008

HHMI
HOWARD HUGHES MEDICAL INSTITUTE
Graduate Science Education Program

**HOWARD HUGHES
MEDICAL INSTITUTE**

www.hhmi.org

The Howard Hughes Medical Institute, a nonprofit medical research organization that ranks as one of the nation's largest philanthropies, plays a powerful role in advancing biomedical research and science education in the United States. HHMI's flagship program in biomedical research rests on the conviction that scientists of exceptional talent, commitment, and imagination will make fundamental biological discoveries for the betterment of human health if they receive the resources, time, and freedom to pursue challenging questions.

Through its grants program, HHMI seeks to strengthen science education and biomedical research by supporting current and future leaders to advance scientific knowledge, develop educational resources, and implement outstanding educational practices.

PHYSICIAN-SCIENTIST EARLY CAREER AWARD

Basic discovery and translation of new research-based knowledge into practice are important for the advancement of medicine and public health. To provide a pathway to careers in academic biomedical research, HHMI supports medical, dental, and veterinary students for one or two years of full-time research training in two programs, the HHMI-NIH Research Scholars Program and the HHMI Research Training Fellowships for Medical Students (see www.hhmi.org/grants/individuals). To further the probability that previous participants in these programs will begin a successful research career, HHMI is offering a new program providing early career support for selected alumni of the two research-training programs. The award will provide \$375,000 over a five-year period.

ELIGIBILITY

This competition is open to alumni of the HHMI-NIH Research Scholars and the HHMI Research Training Fellowships for Medical Students programs who have received an M.D., M.D./Ph.D., D.D.S., or equivalent degree.

You are eligible to apply if you are either in the terminal year of mentored training (e.g., last year of residency, postgraduate fellowship, or K award) or in the first two years of a full-time appointment that is tenure track or the equivalent or that normally leads within a short time to tenure-track or the equivalent at a U.S. academic institution. Although you can apply for this award while still in your mentored training, you must submit a letter of institutional commitment by April 14, 2008, stating that you have received (or will receive by July 1, 2008) a full-time appointment that is tenure track or the equivalent or that normally leads within a short time to tenure track or the equivalent. If an institutional letter of commitment (see additional information under "Institutional Requirement" below) is not received by April 14, 2008, your application will be removed from consideration.

AREAS OF RESEARCH

The proposed project must be in the basic, translational, or applied biomedical sciences. HHMI is especially interested in projects that arise from patient interaction and those that are closely related to the diagnosis, mechanisms, and treatment of human diseases.

Basic Science Research

Basic science research is conducted to increase understanding of the physical, chemical, and functional mechanisms of life processes and diseases.

Translational Research

Translational research is the process of applying ideas, insights, and discoveries generated through basic scientific inquiry to the treatment or prevention of human diseases.

Applied Research

Applied research is directed toward specific objectives, such as the development of a new drug, therapy, or therapeutic procedure. It involves the application of existing knowledge to a specific medical problem. Applied research can be conducted with animals; non-animal alternatives, such as computer models or tissue cultures; or humans.

RESEARCH REQUIREMENT

Award recipients must devote at least 70 percent of their professional time to research-related activities for the duration of the grant. Institutions and grantees must commit in writing to this requirement.

INSTITUTIONAL REQUIREMENT

An appropriate institutional official must submit a letter of institutional commitment describing the research environment and the institution's commitment to your success as a researcher. The letter must include information describing the intellectual environment, including seminars, journal clubs, and mentoring by senior faculty. In addition, available resources,

including laboratory facilities, office space, equipment, and other facilities required for the project, should be described. Set-up or start-up funds from the hiring institution must be documented. The letter must also affirm the institution's commitment to provide you with at least 70 percent time for research-related activities.

The letter must also assure in writing that the position held as of July 1, 2008, is either tenure track or the equivalent or usually feeds into the tenure or the equivalent system. (Note: If you do not hold a tenure-track or equivalent position or one that feeds into the tenure or equivalent system at the time of application, the letter of commitment from the institution addressing the appropriate faculty position and committed time for research can be submitted as late as April 14, 2008. However, if this institutional commitment letter is not received by April 14, 2008, your application will be removed from consideration.)

AWARD TERMS

Awards will be made to institutions on behalf of the award recipients. The institutions will be responsible for disbursing the funds and for maintaining adequate supporting records and receipts of expenditures. Annual payments of \$75,000 will be made by HHMI to the awardees' institutions.

Since young faculty who are just starting to establish their laboratories may not accurately predict their budget needs, awardees may receive a no-cost extension for funds not expended in the year for which they were budgeted without approval from HHMI.

Award recipients must provide HHMI with an annual progress report detailing scientific progress and related mentoring activities. Institutions must provide an annual financial report. Both reports must be submitted via HHMI's online reporting system within 60 days of the end of each award year. Funding after the first year will depend on adequate scientific progress and research career development as evaluated by HHMI staff from the submitted progress reports.

The award must be used for direct research expenses (e.g., supplies, technical support, or equipment). No indirect costs are provided with this award, because it is meant to foster the acquisition of larger grants that do pay such costs.

The grant may not be used to replace or supplement the salary of the awardee, mentors, or other faculty.

This grant is meant to support research efforts, not postgraduate training or research toward an advanced degree or certification. However, the recipient may share laboratory space with other investigators or be mentored by more senior faculty.

The grant may not be used to replace start-up costs or research support that would otherwise be provided by the institution or department.

To activate this award, the awardee's institution must submit an institutional letter by April 14, 2008, confirming that by July 1, 2008, the applicant will hold a tenure-track or equivalent position or one that normally leads to a tenure-track or equivalent position.

The grant may be used as partial funding for a larger project, but the role of the HHMI funding must be made clear in the application.

Awardees are required to conduct research according to the highest scientific and ethical standards and in compliance with all applicable laws, regulations, and policies regarding protection of human research subjects, humane care and use of laboratory animals, and laboratory safety. Awardees are responsible for the conduct of research and the preparation of research results for publication within the established guidelines of their host institutions. HHMI assumes no responsibility for research findings or their interpretation.

This program announcement sets forth only the most basic program information. All awards are subject to the further provisions contained in the booklet *Information for Physician-Scientist Early Career Awardees and Their Institutions*, which will be sent to awardees and their institutions.

APPLICATION MATERIALS

Application for this award must be made using HHMI's Web-based competition system at www.hhmi.org/competitions. The application and supporting information must be submitted online by March 13, 2008, at 2 p.m. ET.

Applicants must observe the following formatting requirements for each uploaded document.

All files must be in one of the following three formats:

- Microsoft Word for Windows, with a filename extension of .doc.
- Rich Text Format, with a filename extension of .rtf.
- Portable Document Format, with a filename extension of .pdf.

For Word (.doc) or Rich Text Format (.rtf) documents:

- Ensure that the file does not exceed specified size limitations for characters, words, or pages. The character limit includes spaces. Do not use a font size that is smaller than 11 points.
- Ensure that uploaded files do not have password security. *Note:* If a file is uploaded without removing its password, it may be viewed, but the uploaded file will be missing from the full application PDF that is seen by the review panel.
- All submissions must be prepared separately using a word-processing program with a standard font, a minimum of 1.5-inch margins top and bottom and 1-inch margins left and right, an 8.5 x 11 inch paper format, and a file size no larger than 5 MB.
- Graphics, charts, and pictures must be included in their respective files, not uploaded separately.
- Do not include the applicant's full name at the top of each page. This will be done by the application-generation system.
- Do not number the pages in the body of the document. This will be done by the application-generation system.
- Do not include headers or footers in the document.
- For optimal figure resolution in the final PDF, convert to PDF (Adobe 6.0 or higher) before uploading.

A complete application includes the following:

Registration. Application for this grant is limited to individuals who have completed at least one year of the HHMI-NIH Research Scholars Program or HHMI Research Training Fellowships for Medical Students. To apply, you must complete an online registration form that includes your name, e-mail address, and a self-selected password. The e-mail address provided during registration becomes your login ID.

Eligibility. You are eligible to apply only if you meet all of the following criteria:

1. You are a former participant in the HHMI Research Training Fellowships for Medical Students or HHMI-NIH Research Scholars Program.
2. You must have received an M.D., M.D./Ph.D., D.D.S., or equivalent degree.
3. You are either in the terminal year of mentored training (e.g., last year of residency, postgraduate fellowship, or K award) or in the first two years of a full-time appointment that is tenure track or equivalent or that normally provides access to a tenure-track or equivalent position at a U.S. academic institution. If you are in the terminal year of mentored training, a full-time tenure-track or equivalent position or an appointment that normally leads to a tenure-track or equivalent position must be confirmed by submitting an institutional commitment letter by April 14, 2008.

If you wish to request an exception to the eligibility criteria, you must submit an eligibility exception request via the online application system for review by HHMI staff. Such requests should be made early in the application process.

References. You must have three letters of recommendation. The letters should be solicited from academic/professional and research mentors or persons who are familiar with your training and research experience.

Institutional Commitment Letter. You must enter the name and contact information for the institution official who will submit a commitment letter. Once the contact information is entered, you will use the online system to generate and send an e-mail to the institution official instructing him or her how to log into the system to complete the information required for this application.

The institution official will be asked to provide the following:

- The name, contact information, and administrative role (title) of the person making the commitment. The individual must have the authority to make the commitments described in the commitment letter.
- Commitment letter: The institution must demonstrate that it will provide the environment necessary for you to perform the proposed research project and will nurture your scientific development. The letter should include a description of the intellectual environment, physical environment, and administrative resources and personnel that will be provided to you. Further, the institution must agree to provide 70 percent of your professional time for research. The letter must also include a description of your faculty appointment, including an assurance that this position is either tenure track or equivalent or will provide access to tenure-track or equivalent status. This grant program is meant to facilitate the development of the junior faculty member applicant and is not intended to support postgraduate training.

Note: If you are in the process of applying for a faculty position and will not have contact information for an institution official by the application deadline, you must provide a copy of the commitment letter to HHMI by April 14, 2008.

HHMI Affiliations. You must provide information about whether you have previously participated in an HHMI-funded program as a high school, undergraduate, or graduate student (not including the HHMI-NIH Research Scholars Program and the HHMI Research Training Fellowships for Medical Students) or as a postdoctoral fellow. This information will be viewed by HHMI for statistical purposes only.

Proposed Research Summary. You must provide the name of your expected award (faculty) institution and the percentage of time you spend in research, clinical, administrative, and teaching in your current position. You must also provide the following information about the proposed project that will be supported by this award: the research area/fields, project title (255-character limit, including spaces and punctuation), and a research plan abstract

(1,600-character limit, including spaces and punctuation).

Research Experience. You should describe any research experience you have had during undergraduate, graduate, professional, and postgraduate training. For each research experience, the following must be entered: dates, academic level, institution, department, project title, and mentor's/ adviser's name. A brief summary of each research project (3,500-character limit each) is also required. This summary should include the question addressed, your specific contributions to the research, and the major findings and conclusions of the research.

Professional Positions. You must provide all previous (including residency) and current professional positions. You may report any activities, such as employment, volunteer activities, and academic or research-related activities not listed under "Research Experience," that are relevant to an academic research career. For each professional activity, the following must be entered: dates, position, organization, city, and state.

Grant Data. You must provide funding information about your submitted, ongoing, or completed (during the last three years) research projects (federal and nonfederal support). Include all R01 funding for which you have applied. For each grant, the following must be entered: the name of the sponsor (e.g. NIH, Damon Runyon, ABC University), award title (e.g. Clinical Investigator Award), project title, your role in the project, type of sponsor, type of award, term dates, and current and total grant amounts.

Honors and Awards. You should report any honors, awards, fellowships, prizes, or other recognition of achievement not listed elsewhere that are relevant to a research career. For each honor or award, the following must be entered: the name of the honor or award, the sponsoring organization or institution, and the year awarded.

Publications. You may upload a list of your accepted, in-press, or published scientific publications by using the publications template provided in this section. The uploaded file should not exceed 8,000 characters, which is approximately two pages. You may, for example, include journal articles, review articles, book chapters, and abstracts. All abstracts should be identified with the word "abstract" at

the end of the citation. You should use the following format to list citations:

Author(s). Article title. Journal title
volume:pages. Publication year.

Education. You must enter information on any postsecondary institutions or programs you have previously attended or are participating in for educational training (including baccalaureate, postbaccalaureate, medical/dental/veterinary, professional, graduate, postgraduate, and residency education) whether or not you received a degree from those institutions. For each education record, the following must be entered: degree (if applicable), education level, year awarded/completed/expected, institution name, dates attended, field of study (for baccalaureate and graduate only), and specialty/subspecialty (for residency only).

Career Goals. You must provide a description of your short-term goals and long-term objectives regarding your career plan and how this award will help you achieve your goals. You should describe the balance you seek among various professional activities (e.g., research, clinical care, and teaching). The medical or scientific fields on which you intend to focus should be stated. You should also address how your research and clinical interests relate to one another. This section should be used to explain not only your intellectual motivation but also any personal motivation for your chosen career path (e.g., inspiration by a key mentor or a personal experience). The limit for this upload is 4,000 characters, which is approximately one page.

Proposed Research Plan. In this section, you will describe the research plan that will be supported by this award. The limit for this upload is 16,000 characters, including spaces and punctuation. The project plan section should not exceed 12,000 characters (approximately three single-spaced pages), including spaces and punctuation. The research plan references should not exceed 4,000 characters (approximately one single-spaced page), including spaces and punctuation.

The plan should include:

- Hypothesis to be tested and specific aims of the planned work.
- Brief background for the work and its significance to medicine and the biomedical sciences.
- Experimental methods and procedures.
- Long-term objectives, including specific plans for application to clinical medicine (if applicable).
- Explanation of how the research to be supported by this award will differ from or enhance research supported by other sources if you have received funds from or applied to other sources for extended support to cover research in the area of the proposal.
- If applicable, a justification for the use of human subjects or patient samples in the research and their availability. All research conducted as part of this award involving human subjects must follow Public Health Service guidelines and have the approval of the appropriate Institutional Review Board (IRB).
- Literature citations. You should use the following format to list citations:

Author(s). Article title. Journal title
volume:pages. Publication year.

Proposed Five-Year Budget and Budget Justification. Using the template provided in the online application, you must provide a budget that explains how the award will be spent. Note the following:

- No requests for your salary or other faculty salary or fringe benefits will be funded.
- Include a justification for the proposed use of the award for salary support of any laboratory personnel who will be working on the proposed research project.
- Include a justification for major expenditures (\$5,000 or more) and any unusual use of funds.
- List the proposed research expenses in the general categories provided in the budget template (e.g., equipment, consumable supplies, travel).
- No indirect costs (facilities and administrative costs, or F&A) may be charged against this grant.

EVALUATION AND SELECTION OF AWARDEES

Each award will be made on the basis of the applicant's ability and promise for a research career as a physician-scientist, the quality of the research plan, the research environment, and the plan for mentoring and development of the applicant as a physician-scientist. The applicant's intent to pursue a career incorporating biomedical research will be assessed on the basis of the letters of reference, career plans, and prior clinical and research training. The quality of the research plan will be evaluated on the scientific merit, appropriateness, and methodology of the proposed research. The quality of the research environment will be evaluated on information provided in the institutional commitment letter, which should include resources available to the applicant (e.g., space, equipment, mentoring, and time for research.)

Applications will be reviewed by a panel of distinguished biomedical scientists with expertise in the eligible fields of research. The panel convened by HHMI will evaluate each applicant's demonstrated scholarship, promise for future achievement in biomedical research, and commitment to a career in research.

The final selection of awardees will be made by HHMI, taking into account the evaluations of the review panel and the program goals. *Evaluations by the review panel are not made available to applicants.*

INFORMATION

For questions about this program, please call or e-mail.

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