

National Advisory Council for Human Genome Research

May 17-18, 2021

Concept Clearance for RFA

Supporting Talented Early Career Researchers in Genomics (R01)

Purpose:

The National Human Genome Research Institute (NHGRI) proposes to issue a Request for Applications (RFA) for Supporting Talented Early Career Researchers in Genomics. This program is intended to identify and support research projects by exceptionally promising early career individuals with a long-term career interest in pursuing innovative research in genomics. The program will also include a focus on career promotion activities for these outstanding early career genomics researchers. This opportunity is open to research in all areas relevant to the mission of NHGRI, including genomic sciences, genomic medicine, genomic data science, and ethical, legal, and social implications of genomics.

Background:

As highlighted by the NIH Next Generation Researchers Initiative, and other similar activities, there are a number of longstanding challenges faced by researchers trying to establish and sustain independent research careers. NHGRI is committed to the Next Generation Researchers Initiative aims to promote the growth, stability, and diversity of the biomedical workforce. One approach that NHGRI is taking to achieve the goal of supporting early career scientists (both Early Stage and New Investigators) is through the use of specific, targeted funding programs. This concept, Supporting Talented Early Career Researchers in Genomics, introduces a successor to one such program, the recently expired Genomic Innovator Award.

Proposed Scope and Objectives:

An essential element of the mission of NHGRI is to support exceptionally talented, innovative researchers who will make the next scientific breakthroughs in the field of genomics. This concept proposes a Funding Opportunity Announcement (FOA) that will build on the success of the Genomic Innovator program. The proposed program will incorporate changes intended to better assist emerging early career researchers in the field as they establish a vibrant, independent research program in genomics.

Applicants must have Early Stage Investigator status as defined by the NIH. There are no other specific eligibility requirements for this FOA. NHGRI is committed to expanding the community of genomics researchers, including those from groups underrepresented in biomedical research, those from institutions that have not traditionally received significant funding from NHGRI, and those who have not previously been involved in NHGRI consortia. To be competitive for this FOA, applicants should demonstrate exceptional scientific creativity and accomplishment in the field, such as previous leadership roles, or other important contributions that suggest their potential for advancing the field of genomics.

Unlike the Genomic Innovator Award, this FOA will use the R01 mechanism, and is intended to support a defined research project. Research projects proposed in response to this FOA

must be scientifically within the mission of NHGRI. This includes the development of resources, approaches, and technologies that will accelerate genomic research on the structure of genomes, the biology of genomes, and the biology of disease; that will use genomics to advance the science of medicine, or that will incorporate genomics to improve the effectiveness of healthcare. This also includes genomic research in several cross-cutting areas, including the ethical, legal and societal implications of genomics and genetics research, bioinformatics, and technology development. More information about NHGRI interest areas can be found on the three research funding division pages (Division of Genome Sciences, Division of Genomic Medicine, Division of Genomics and Society) on the NHGRI website, as well as in the NHGRI 2020 Strategic Vision.

An important goal of this program is the career promotion of outstanding, early career genomics researchers. In addition to a detailed experimental plan, the FOA is expected to request that applicants include a plan for career enhancement activities, including plans to engage an external advisory committee to provide consultation and feedback on both the research program, and to offer career guidance. Applicants will be expected to attend a yearly meeting focused on both research and career promotion topics. The FOA is also expected to request recommendation letters from prior mentors, and a letter from the institution that outlines how they will actively support the applicant's career development and establishment of a robust research program.

Relationship to Ongoing Activities:

NHGRI accepts applications from investigators at all career stages, including Early Stage Investigators (ESI), through PA-20-185 (Parent R01). NHGRI is committed to providing substantial and sustained support for ESIs. NHGRI achieves this by remaining flexible in funding applications from ESIs that might have impact scores outside of the range that would be considered for established investigators; by not imposing reductions to council-recommended budgets beyond that required by the NIH fiscal year grants policy; by supporting ESIs for up to five years, if requested and approved by the initial review group and the NACHGR, unless specific circumstances require otherwise; by supporting early career investigators applying for their first competitive renewal; and by encouraging postdoctoral fellows to accelerate their independence in academia through Pathway to Independence Awards (i.e. K99/R00).

NHGRI also participates in several funding opportunity announcements that are specifically targeted at subgroups of early career researchers, or researchers otherwise new to NIH funding (i.e. New Investigators (NI)). The proposed FOA complements these opportunities.

The Genomic Innovator (RFA-HG-18-006, R35), which expired in October 2020, was an NHGRI program intended to support broad research programs from ESI or NI who had played key roles in large consortia or other team science type efforts. This program ran for three years and has thus far supported 18 early career researchers, with decisions on FY 2021 awards still pending. The proposed FOA is designed to build on the success of this FOA.

The Stephen I. Katz Early Stage Investigator Research Project Grant (PAR-21-038, R01) is a new program that started in FY21. This unique, trans-NIH program is intended specifically for ESIs making a significant shift in research direction and does not allow preliminary data to be included in the application.

NHGRI also participates in two FOAs focused on increasing diversity among NHGRI-funded researchers, both of which are targeted at New Investigators. The New Investigators to

Promote Workforce Diversity in Genomics and other Health-Related Research (Notice of Intent to Publish NOT-HG-21-024, R01) RFA is intended to support NI from diverse backgrounds, including those from groups underrepresented in the biomedical sciences as described in the NIH Diversity Statement (NOT-OD-20-031). The Small Grants for New Investigators to Promote Diversity in Health-Related Research FOA (PAR-19-222, R21), has a similar goal, but supports exploratory/developmental projects.

Mechanism of Support:

NHGRI is proposing the R01 grant mechanism for this initiative.

Funds Anticipated:

NHGRI anticipates funding 3-5 applications each year of the 3-year FOA, for an approximate set aside of \$2M total cost for competing awards each year. Each application will be limited to 5 years. The resulting total commitment will be approximately \$30 M over 7 years, as outlined in the table below.

	<i>FY22</i>	<i>FY23</i>	<i>FY24</i>	<i>FY25</i>	<i>FY26</i>	<i>FY27</i>	<i>FY28</i>	<i>7yr. total</i>
<i>FY22 starts</i>	\$2 M	\$2 M	\$2 M	\$2 M	\$2 M			\$10 M
<i>FY23 starts</i>		\$2 M	\$2 M	\$2 M	\$2 M	\$2 M		\$10 M
<i>FY24 starts</i>			\$2 M	\$2 M	\$2 M	\$2 M	\$2 M	\$10 M
<i>total</i>	\$2 M	\$4 M	\$6M	\$6 M	\$6 M	\$4 M	\$2 M	\$30 M