Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)

National Institutes of Health (NIH)

Components of Participating Organizations

National Institute of General Medical Sciences (NIGMS)

Funding Opportunity Title

National Institute of General Medical Sciences (NIGMS) Bridges to the Baccalaureate Research Training Program (T34)

Activity Code

T34 Undergraduate NRSA Institutional Research Training Grants

Announcement Type

Reissue of PAR-19-299

Related Notices

- **April 16, 2024** - Notice of Change to Budget Information in PAR-22-125. See Notice NOT-GM-24-030
- **July 20, 2023** - Notice of a Question and Answer "Office Hour" with NIGMS Staff for Bridges to the Baccalaureate and Bridges to the Doctorate Applicants. See Notice NOT-GM-23-050
- **November 29, 2022** - Clarification of Eligibility for Institutions with Multiple Campuses in PAR-22-125 "National Institute of General Medical Sciences (NIGMS) Bridges to the Baccalaureate Research Training Program (T34)". See Notice NOT-GM-23-008
- NOT-OD-23-012 Reminder: FORMS-H Grant Application Forms and Instructions Must be Used for Due Dates On or After January 25, 2023 - New Grant Application Instructions Now Available
- **August 25, 2022** - Adjustments to NIH and AHRQ Grant Application Due Dates Between September 22 and September 30, 2022. See Notice NOT-OD-22-190.
- **July 7, 2022** - Notice of Applicant Information Webinar for the NIGMS Bridges to the Baccalaureate (B2B) (T34) and the Bridges to the Doctorate (B2D)(T32). See Notice NOT-GM-22-040

Funding Opportunity Announcement (FOA) Number

PAR-22-125

Companion Funding Opportunity

None

Number of Applications

See Section III. 3. Additional Information on Eligibility.

Assistance Listing Number(s)

93.859

Funding Opportunity Purpose

The goal of the Bridges to the Baccalaureate Research Training Program is to provide structured activities to prepare a diverse cohort of research-oriented students to transfer from associate degree-granting institutions to baccalaureate degree-granting institutions and complete a baccalaureate degree in disciplines related to the biomedical sciences. This funding opportunity announcement (FOA) provides support to eligible, domestic institutions to develop and implement effective, evidence-informed approaches to biomedical training and mentoring that will keep pace with the rapid evolution of the research enterprise. NIGMS expects that the proposed research training programs will incorporate didactic, research, mentoring, and career development elements. This program requires strong partnerships between at least two post-secondary educational institutions offering science, technology, engineering, or mathematics (STEM) degrees. At least one partner must be an institution that offers the associate degree as the highest STEM degree and the other partner(s) must offer baccalaureate degrees in biomedically relevant STEM fields. Upon completion of the Bridges to the Baccalaureate Research Training program, trainees are expected to be well positioned to pursue research-oriented biomedical higher degree programs or enter careers in the biomedical research workforce.

This Funding Opportunity Announcement (FOA) does not allow appointed Trainees to lead an independent clinical trial, but does allow them to obtain research experience in a clinical trial led by a mentor or co-mentor.

Key Dates

Posted Date

April 05, 2022

Open Date (Earliest Submission Date)

August 26, 2022

Letter of Intent Due Date(s)

Not Applicable

The following table includes NIH standard due dates marked with an asterisk.

Application Due Dates			Review and Award Cycles		
	Renewal / Resubmission			**Advisory**	

New	/ Revision (as allowed)	AIDS	Scientific Merit Review	Council Review	Earliest Start Date
September 26, 2022	September 26, 2022	Not Applicable	March 2023	May 2023	July 2023
September 25, 2023 *	September 25, 2023 *	Not Applicable	March 2024	May 2024	July 2024
September 25, 2024 *	September 25, 2024 *	Not Applicable	March 2025	May 2025	July 2025

All applications are due by 5:00 PM local time of applicant organization.

Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date.

Expiration Date

September 26, 2024

Due Dates for E.O. 12372

Not Applicable

Required Application Instructions

It is critical that applicants follow the Training (T) Instructions in the SF424 (R&R) Application Guide, except where instructed to do otherwise (in this FOA or in a Notice from the *NIH Guide for Grants and Contracts*). Conformance to all requirements (both in the Application Guide and the FOA) is required and strictly enforced. Applicants must read and follow all application instructions in the Application Guide as well as any program-specific instructions noted in Section IV. When the program-specific instructions deviate from those in the Application Guide, follow the program-specific instructions. **Applications that do not comply with these instructions may be delayed or not accepted for review.**

There are several options available to submit your application through Grants.gov to NIH and Department of Health and Human Services partners. You **must** use one of these submission options to access the application forms for this opportunity.

1. Use the NIH ASSIST system to prepare, submit and track your application online.
   Apply Online Using ASSIST
2. Use an institutional system-to-system (S2S) solution to prepare and submit your application to Grants.gov and eRA Commons to track your application. Check with your institutional officials regarding availability.
3. Use Grants.gov Workspace to prepare and submit your application and eRA Commons to track your application.

Table of Contents

Part 2. Full Text of Announcement

Section I. Funding Opportunity Description

The overall goal of the NIH Ruth L. Kirschstein National Research Service Award (NRSA) program is to help ensure that a diverse pool of highly trained scientists is available in appropriate scientific disciplines to address the Nation's biomedical, behavioral, and clinical research needs. In order to accomplish this goal, NRSA training programs are designed to train individuals to conduct research and to prepare for research careers. More information about NRSA programs may be found at the Ruth L. Kirschstein National Research Service Award (NRSA) website.

Purpose and Background Information

The NRSA program has been the primary means of supporting predoctoral and postdoctoral research training programs since enactment of the NRSA legislation in 1974. Each program should provide high-quality research training, mentored research experiences, and additional training opportunities that equip trainees with the technical (e.g., appropriate methods, technologies, and quantitative/computational approaches), operational (e.g., independent knowledge acquisition, rigorous experimental design and interpretation of data, conducting research in the safest manner possible) and professional (e.g., management, leadership, communication, and teamwork) skills required for careers in the biomedical research workforce.

The National Institutes of Health (NIH) recognizes the need to diversify the scientific workforce by enhancing the participation of individuals from groups identified as underrepresented in the biomedical, clinical, behavioral and social sciences (collectively termed "biomedical") research workforce. Individuals from all backgrounds deserve an equitable opportunity to engage in the biomedical research enterprise, to pursue their scientific interests and further their careers. Additionally, research shows that diverse teams working together and capitalizing on innovative ideas and distinct perspectives outperform homogenous teams. Scientists and trainees from diverse backgrounds and life experiences bring different perspectives, creativity, and individual interests to address complex scientific problems. There are many benefits that flow from a diverse NIH-supported scientific workforce, including fostering scientific innovation, enhancing global competitiveness, contributing to robust learning environments, improving the quality of research, enhancing public trust, and increasing the likelihood that health disparities and the needs of underserved populations are addressed in biomedical research.

NIGMS strives to ensure that future generations of researchers will be drawn from the entire pool of potential contributors, bringing different aptitudes, perspectives, interests, and experiences to address complex scientific problems. NIGMS seeks to enhance the diversity of the biomedical research workforce by supporting individuals from a variety of backgrounds at multiple training and career stages in a variety of institutions and educational settings across the country. The Bridges to the Baccalaureate Research Training Program provides an opportunity to develop new, or expand existing, effective institutional

programs aimed at a key juncture within higher education: the transition from associate degree-granting institution(s) to baccalaureate degree-granting institution(s) that offer STEM degrees in disciplines related to the biomedical sciences.

Need for the Program

In spite of recent advances, individuals from certain groups and backgrounds are underrepresented in the biomedical sciences research workforce as described in the Notice of NIH's Interest in Diversity. The severity of the underrepresentation of these groups increases throughout the training stages. For example, students from certain racial and ethnic groups, including Black or African American, Hispanic or Latina/o/x, American Indian or Alaska Native, Native Hawaiian or other Pacific Islander comprise ~38 percent of the college age population, but earn only ~22 percent of bachelor's degrees and ~14 percent of Ph.D. degrees in the life sciences (as per data from the National Center for Science and Engineering Statistics). Additionally, while the United States has seen a significant increase in the number of Ph.D. degrees in the biomedical sciences earned by scientists from historically underrepresented racial and ethnic groups in the biomedical research workforce, corresponding increases in the ranks of the faculty in basic science departments (Gibbs, et al., eLife 2016; Valantine, Lund & Gammie, CBE-Life Sciences Education, 2016) or NIH-funded investigators (Hoppe et al, 2019; Lauer, 2020) have not occurred.

Several reports (see for example, ACD Working Group on Diversity in the Biomedical Workforce, 2012; PCAST Report, 2012; From College to Careers: Fostering Inclusion of Persons with Disabilities in STEM, 2014; Increasing College Opportunity for Low Income Students, 2014; Barriers and Opportunities for 2-Year and 4-Year STEM Degrees, 2016; Indicators for Monitoring Undergraduate STEM Education, 2018; and Minority Serving Institutions: America's Underutilized Resource for Strengthening the STEM Workforce, 2019) recommend supporting programs that strive to recruit, train, and mentor students from underrepresented groups who have an interest in science, technology, engineering and math (STEM) as a means to effectively build a diverse and competitive scientific workforce.

Programmatic Approach

This FOA is intended to enable the community to develop and implement evidence-informed approaches to biomedical research training and mentoring to enhance diversity in the biomedical research workforce. The President's Council of Advisors on Science and Technology (PCAST) report provided evidence that financial concerns and the absence of a community of peers from similar backgrounds can erode self-confidence and the desire to remain in STEM majors (PCAST Report, 2012). NIGMS diversity enhancing institutional training grants offset the cost of appointed trainee stipends, tuition and fees, and training related expenses, including health insurance, in accordance with approved NIH support levels. Additionally, funded programs are expected to provide activities that will build a strong cohort of research-oriented individuals while enhancing the science identity, self-efficacy, and a sense of belonging among the cohort members. Programmatic activities include, but are not limited to, providing authentic research experiences, academic enhancements, skills development, and additional mentoring -- activities proven to increase persistence in STEM fields (cited in PCAST Report, 2012, Graduate STEM Education for the 21st Century, 2018, and The Science of Effective Mentoring in STEMM, 2019).

Each Bridges to the Baccalaureate Research Training Program must consist of a strong partnership/consortium composed of at least two institutions: an associate degree-granting institution that offers the associate degree as the terminal degree in STEM, and a baccalaureate degree-granting institution with STEM degrees in disciplines related to the biomedical sciences. Each program should provide high-quality training that equips individuals with the technical (e.g., appropriate methods, technologies, and quantitative/computational approaches), operational (e.g., independent knowledge acquisition, rigorous experimental design, and interpretation of data, conducting research in the safest manner possible) and professional (e.g., management, leadership, communication, and teamwork) skills required for careers in the biomedical research workforce.

Program Objective

The **Overarching Objective** of this Bridges to the Baccalaureate Research Training Program is to develop a diverse pool of research-oriented undergraduates who transition from an associate degree-granting institution to a baccalaureate degree-granting institution and complete a baccalaureate STEM degree, positioning them to pursue research-oriented biomedical higher degree programs, or enter careers in the biomedical research workforce. The long-term goal is to develop a diverse pool of well-trained biomedical scientists, who have the following technical, operational, and professional skills:

- A broad understanding across biomedical disciplines and the skills to independently acquire the knowledge needed to advance their chosen fields;

- Expertise in a biomedical scientific discipline and the skills to think critically and independently, and to identify important biomedical research questions and approaches that push forward the boundaries of their areas of study;
- A strong foundation in scientific reasoning, rigorous research design, experimental methods, quantitative and computational approaches, and data analysis and interpretation;
- The skills to conduct research in the safest manner possible, and a commitment to approaching and conducting biomedical research responsibly, ethically, and with integrity;
- Experience initiating, conducting, interpreting, and presenting rigorous and reproducible biomedical research with increasing self-direction;
- The ability to work effectively in teams with colleagues from a variety of cultural and scientific backgrounds, and to promote inclusive and supportive scientific research environments;
- The skills to teach and communicate scientific research methodologies and findings to a wide variety of audiences (e.g., discipline-specific, across disciplines, and the public); and
- The knowledge, professional skills and experiences required to identify and transition into careers in the biomedical research workforce (i.e., the breadth of careers that sustain biomedical research in areas that are relevant to the NIH mission).

Diversity at all levels from the kinds of science to the regions in which it is conducted, to the backgrounds of the people conducting it is integral to excellence in research training environments and strengthens the research enterprise. This FOA is intended to support outstanding research training programs that will enhance diversity in the biomedical research workforce. As part of NIGMS strategy to support the development of a diverse pool of well-trained biomedical scientists, the Bridges to the Baccalaureate Research Training Program supports trainees at a critical transition point in the biomedical research training pathway (i.e., the transition from associate degree-granting institutions to baccalaureate degree-granting institutions), and prepares them to enter a research-oriented biomedical higher degree program, or careers in the biomedical research workforce.

Program Considerations

NIGMS intends to fund applications that propose feasible academic and research focused training programs that will enhance diversity in the biomedical workforce. Programs are expected to have mentors from biomedical disciplines relevant to the NIGMS mission to provide a breadth of research experiences to trainees. Proposed programs focused on disciplines outside of the NIGMS mission (e.g., allied health professions, forensic science) will be considered a low priority for funding.

The Bridges to the Baccalaureate Research Training Program requires strong partnerships between associate degree-granting institutions and baccalaureate degree-granting institutions. At least one partner must be an institution that offers the associate degree as the highest STEM degree and the other partner(s) must offer baccalaureate degrees in disciplines related to the biomedical sciences. Two different scenarios are anticipated for these partnerships:

- One associate degree-granting institution as the applicant institution partnering with one or more baccalaureate degree-granting institutions, or
- One baccalaureate degree-granting institution as the applicant institution partnering with one or more associate degree-granting institutions.

The program does not support single institutions offering both associate and baccalaureate degrees where graduates or transfers from the associate degree programs enter the baccalaureate programs, even if the students are moving to another department, school, or college. To reinforce strong partnerships, the Bridges to the Baccalaureate Research Training Program requires the participation of least one Program Director/Principal Investigator (PD/PI) from each partner institution.

The Bridges to the Baccalaureate Research Training Program recognizes the heterogeneity of institutional settings and institutional missions. Therefore, each application must include a self-assessment of each participating institution that includes baseline data on student demographics, enrollment, transfer rates, research experience, and degree attainment rates. Program objectives should be based on this self-assessment and must align with the purpose of the Bridges to the Baccalaureate Research Training Program. Applicants are expected to identify training objectives (i.e., specific, measurable, and obtainable outcomes the program intends to achieve) and to develop plans to implement evidence-informed training and mentoring activities that are grounded in the literature and from evaluations of existing relevant programs. Funded programs are expected to provide evidence of accomplishing the training objectives in progress reports and in renewal applications, to make training and career outcomes publicly available, and are strongly encouraged to disseminate successful training practices to the broader community.

Funded programs are also expected to implement robust plans to enhance diversity and to promote inclusive, safe, and supportive research environments. Specifically, funded programs should have institutional and departmental environments where individuals from all backgrounds are welcomed and feel integrated into and supported by the biomedical community. Programs are also expected to implement plans to enhance trainee retention, i.e., to sustain the scientific interests and participation of trainees from all backgrounds. Additionally, safety in research training should encompass (1) environments free from harassment and intimidation, in which everyone participating is treated in a respectful and supportive manner, (2) laboratory and clinical settings where individuals exercise the highest standards of practice for chemical, biological and physical safety, and (3) practices at the institutional leadership and research community levels that demonstrate core values and behaviors to emphasize safety over competing goals.

Institutional commitment and support for the proposed training program are important elements of the application. The Bridges to the Baccalaureate Research Training Program may complement and synergize with other ongoing federally supported research training programs at the applicant and partnering institution(s); however, the Bridges to the Baccalaureate Research Training Program goals and activities to achieve those goals must be distinct from related programs currently receiving federal support at the applicant and partnering institution(s). In cases where an institution has multiple NIGMS training grants, it is expected that these programs will create administrative and training efficiencies to reduce costs and improve trainee services and outcomes. The training grant should be well integrated within one or more department(s)/program(s) and should exert a strong, positive influence on the development and execution of the outreach and recruitment of potential trainees, curriculum, training opportunities, and mentoring. Training grant funds may not be used solely as a vehicle to provide stipends for trainees to conduct research.

Training grants are usually awarded for five years. The grant offsets the cost of stipends, tuition and fees, and training related expenses, including health insurance, for the appointed trainees in accordance with the approved NIH support levels. Trainees are typically provided full-time support for two years of undergraduate studies within the Bridges to the Baccalaureate Research Training Program partnership. There is flexibility in how the two years of support can be administered, but there must be robust support at both the associate degree-granting and baccalaureate degree granting-institutions. Research-oriented trainees must be enrolled at the associate degree-granting institution at the time of initial appointment. Typically, one year of full-time support is provided at the associate degree-granting institution and one year of full-time support at the baccalaureate degree-granting institution. However, at baccalaureate institutions where other NIH undergraduate research training programs (e.g., U-RISE, MARC) exist, the Bridges to the Baccalaureate trainees may transition into or benefit from these training programs. In this case, trainees may receive up to two years of full-time support at the associate degree-granting institution.

This FOA does not allow appointed trainees to lead an independent clinical trial but does allow them to obtain research experience in a clinical trial led by a mentor or co-mentor. NIH strongly supports training towards a career in clinically relevant research and so gaining experience in clinical trials under the guidance of a mentor or co-mentor is encouraged.

See Section VIII. Other Information for award authorities and regulations.

Section II. Award Information

Funding Instrument

Grant: A support mechanism providing money, property, or both to an eligible entity to carry out an approved project or activity.

Application Types Allowed

New
Renewal - Renewal of awards submitted to PAR-19-299
Resubmission

The OER Glossary and the SF424 (R&R) Application Guide provide details on these application types. Only those application types listed here are allowed for this FOA.

Clinical Trial?

Not Allowed: Only accepting applications that do not propose clinical trials.

Note: Appointed Trainees are permitted to obtain research experience in a clinical trial led by a mentor or co-mentor.

Need help determining whether you are doing a clinical trial?

Funds Available and Anticipated Number of Awards

The number of awards is contingent upon NIH appropriations and the submission of a sufficient number of meritorious applications.

Award Budget

Application budgets should reflect the actual needs of the proposed project.

Recipients are expected to be familiar with and comply with applicable cost policies and the NRSA Guidelines (*NIH Grants Policy Statement* - Institutional Research Training Grants). Funds may be used only for those expenses that are directly related to and necessary for the research training and must be expended in conformance with OMB Cost Principles, the *NIH Grants Policy Statement*, and the NRSA regulations, policies, guidelines, and conditions set forth in this document.

Award Project Period

Awards may be for project periods up to five years in duration and are renewable.

Other Award Budget Information

Stipends, Tuition, and Fees

Kirschstein-NRSA awards provide stipends as a subsistence allowance to help defray living expenses during the research training experience.

NIH will contribute to the combined cost of tuition and fees at the rate in place at the time of award.

Stipend levels, as well as funding amounts for tuition and fees and the institutional allowance are announced annually in the *NIH Guide for Grants and Contracts,* and are also posted on the Ruth L. Kirschstein National Research Service Award (NRSA) webpage.

Trainee Travel

NIGMS recognizes the need of trainees to attend scientific meetings, training events, and to build professional networks. NIGMS will provide up to $1,000 per trainee per year for scientific meetings or training experiences that will enhance scientific development, build science identity, create a sense of belonging in the scientific community, and build professional networks. Plans for trainee travel should be well justified. For Bridges to the Baccalaureate-supported institutions outside the continental United States, $1,250 for travel per trainee per year will be provided.

Trainees are required to spend at least one summer in a research training experience at a baccalaureate degree-granting institution that is a partner in the awarded program. Funds for the summer research experience will be provided as follows: $3,000 per Bridges trainee, to be used in accordance with the institutional policies as a per diem for a period of up to ten weeks.

Foreign travel is not allowed.

Training Related Expenses

NIGMS will provide funds to help defray other research training expenses, such as health insurance, staff salaries, consultant costs, equipment, research supplies, and faculty/staff travel directly related to the research training program.

Training related expenses are limited to a maximum of $10,000/trainee/year. The maximum cap for the TRE portion of the proposed budget is $100,000/year.

Allowable costs include those associated with the following:

- Skills development training activities (e.g., focusing on quantitative and computational, problem-solving, critical thinking, scientific writing, effective communication, and project management);
- Seminar speakers, who will serve as role models to the trainees
- Training or mentoring interventions designed to increase persistence in research (e.g., those designed to increase science identity, self-efficacy and a sense of belonging in the scientific community);
- Salary support for the PD(s)/PI(s). Typically, salary support does not exceed 1.8 person months (i.e., 15% effort on a 12-month basis) in total for all PD(s)/PI(s) depending on the size and scope of the program;
- Salary support for administrative personnel. Typically, the total combined salary support for the program administrator/program coordinator and/or program assistant/clerical support does not exceed 3.0 person months (i.e., 25% effort on a 12-month basis) depending on the size and scope of the program;
- Limited program evaluation costs (typically, up to $3,000 for the 5-year training grant period) and other program-related expenses may be included within the budget for training-related expenses.

Other program-related expenses may be included within the budget for training-related expenses. These expenses must be justified as specifically required by the proposed program and must not duplicate items generally available at the applicant institutions.

Indirect Costs

Indirect Costs (also known as Facilities & Administrative [F&A] Costs) are reimbursed at 8% of modified total direct costs (exclusive of tuition and fees, consortium costs in excess of $25,000, and expenditures for equipment), rather than on the basis of a negotiated rate agreement.

NIH grants policies as described in the NIH Grants Policy Statement will apply to the applications submitted and awards made from this FOA.

Section III. Eligibility Information

1. Eligible Applicants

Eligible Organizations

Higher Education Institutions

- Public/State Controlled Institutions of Higher Education
- Private Institutions of Higher Education

The following types of Higher Education Institutions are always encouraged to apply for NIH support as Public or Private

Institutions of Higher Education:

- Hispanic-serving Institutions
- Historically Black Colleges and Universities (HBCUs)
- Predominantly Black Institutions (PBI)
- Tribally Controlled Colleges and Universities (TCCUs)
- American Indian/Alaska Native Serving, Non-Tribal Institutions (AI/AN)
- Alaska Native and Native Hawaiian Serving Institutions
- Asian American Native American Pacific Islander Serving Institutions (AANAPISIs)

Nonprofits Other Than Institutions of Higher Education

- Nonprofits with 501(c)(3) IRS Status (Other than Institutions of Higher Education)
- Nonprofits without 501(c)(3) IRS Status (Other than Institutions of Higher Education)

Governments

- Indian/Native American Tribal Governments (Federally Recognized)
- Indian/Native American Tribal Governments (Other than Federally Recognized)
- U.S. Territory or Possession

Other

- Native American Tribal Organizations (other than Federally recognized tribal governments)
- Faith-based or Community-based Organizations

The sponsoring institution must assure support for the proposed program. Appropriate institutional commitment to the program includes the provision of adequate staff, facilities, and educational resources that can contribute to the planned program.

Eligible Bridges to the Baccalaureate Research Training Programs must consist of a partnership/consortium composed of at least two institutions: an institution that offers the associate degree as the terminal degree in STEM fields (associate degree-granting institution), and a distinct institution granting baccalaureate degrees in STEM fields (baccalaureate degree-granting institution). An institution where the associate degree is the highest degree offered in STEM fields but offers a baccalaureate degree in unrelated disciplines is eligible to participate in a Bridges to the Baccalaureate Research Training Program. The program seeks to promote and enhance partnerships between institutions. Accordingly, institutions offering both associate and baccalaureate degrees in STEM fields may not form partnerships within their own institution even if the students transition to another department, school, or college.

The associate degree-granting institution(s) must have a sufficient pool of training grant-eligible students in STEM programs. The baccalaureate degree-granting partner institution(s) must have the resources and structures in place to support the Bridges trainees to facilitate baccalaureate degree completion in a timely manner.

An eligible institution may participate in more than one Bridges to the Baccalaureate Research Training Program if multiple partnerships are strongly justified.

An institution is not allowed to serve as the applicant institution on more than one Bridges to the Baccalaureate Research Training Program.

The applicant and partner institution(s) must assure support for the proposed program. Appropriate institutional commitment to the program should be detailed in the Institutional Support Letter in the Letters of Support attachment. Additionally, a signed letter is required from a Provost or similar official with institution-wide responsibility verifying the eligibility of the applicant and partner institutions at the time of application submission according to the eligibility criteria indicated above. See the application instructions for the required Letters of Support instructions in Section IV.

Foreign Institutions

Non-domestic (non-U.S.) Entities (Foreign Institutions) **are not** eligible to apply.

Non-domestic (non-U.S.) components of U.S. Organizations **are not** eligible to apply.

Required Registrations

Applicant Organizations

Applicant organizations must complete and maintain the following registrations as described in the SF 424 (R&R) Application Guide to be eligible to apply for or receive an award. All registrations must be completed prior to the application being submitted. Registration can take 6 weeks or more, so applicants should begin the registration process as soon as possible. The NIH Policy on Late Submission of Grant Applications states that failure to complete registrations in advance of a due date is not a valid reason for a late submission.

- System for Award Management (SAM) Applicants must complete and maintain an active registration, **which requires renewal at least annually**. The renewal process may require as much time as the initial registration. SAM registration includes the assignment of a Commercial and Government Entity (CAGE) Code for domestic organizations which have not already been assigned a CAGE Code.
- NATO Commercial and Government Entity (NCAGE) Code Foreign organizations must obtain an NCAGE code (in lieu of a CAGE code) in order to register in SAM.
- Unique Entity Identifier (UEI)- A UEI is issued as part of the SAM.gov registration process. SAM registrations prior to fall 2021 were updated to include a UEI. For applications due on or after January 25, 2022, the UEI must be provided on the application forms (e.g., FORMS-G); the same UEI must be used for all registrations, as well as on the grant application.
- Dun and Bradstreet Universal Numbering System (DUNS) Organization registrations prior to April 2022 require applicants to obtain a DUNS prior to registering in SAM. By April 2022, the federal government will stop using the DUNS number as an entity identifier and will transition to the Unique Entity Identifier (UEI) issued by SAM. Prior to April 2022, after obtaining a DUNS number, applicants can begin both SAM and eRA Commons registrations. The same DUNS number must be used for all registrations, as well as on the grant application.
- eRA Commons - Once the unique organization identifier (DUNS prior to April 2022; UEI after April 2022) is established, organizations can register with eRA Commons in tandem with completing their full SAM and Grants.gov registrations; all registrations must be in place by time of submission. eRA Commons requires organizations to identify at least one Signing Official (SO) and at least one Program Director/Principal Investigator (PD/PI) account in order to submit an application.
- Grants.gov Applicants must have an active SAM registration in order to complete the Grants.gov registration.

Program Directors/Principal Investigators (PD(s)/PI(s))

All PD(s)/PI(s) must have an eRA Commons account. PD(s)/PI(s) should work with their organizational officials to either create a new account or to affiliate their existing account with the applicant organization in eRA Commons. If the PD/PI is also the organizational Signing Official, they must have two distinct eRA Commons accounts, one for each role. Obtaining an eRA Commons account can take up to 2 weeks.

Eligible Individuals (Program Director/Principal Investigator)

Any individual(s) with the skills, knowledge, and resources necessary to carry out the proposed research training program as the Training Program Director/Principal Investigator (Training PD/PI) is invited to work with his/her organization to develop an application for support. Individuals from underrepresented racial and ethnic groups as well as individuals with disabilities are always encouraged to apply for NIH support (see NOT-OD-22-019).

For institutions/organizations proposing multiple PDs/PIs, visit the Multiple Program Director/Principal Investigator Policy and submission details in the Senior/Key Person Profile (Expanded) Component of the SF 424 (R&R) Application Guide.

As described in the instructions for the Training Program Director(s)/Principal Investigator(s) (PD(s)/PI(s)) in Section IV.2 below, applicants to the Bridges to the Baccalaureate Research Training Program must designate a PD/PI from each participating institution (applicant and each partner institution(s)) with the PD/PI of the applicant institution listed as the contact PD/PI. The contact PD/PI is expected to have a full-time appointment at the applicant institution unless extremely well-justified. If the full-time status of the contact PD/PI changes after the award, the institution must obtain prior program approval to appoint a new PD/PI or request a deviation from the full-time rule. **Applications that do not designate the PDs/PIs accordingly will be considered noncompliant and will not be reviewed.** At least one of the PDs/PIs should be an established investigator in the biomedical sciences and capable of providing both administrative and scientific leadership to the development and implementation of the proposed program. Additional PD(s)/PI(s), including individuals with

experience in the science of education, relevant social science disciplines, program evaluation, mentoring, and university administration may be included to achieve the training goals. Any of the PDs/PIs at the applicant institution may serve as the contact PD/PI.

The PDs/PIs will be responsible for the selection and appointment of trainees to the approved research training program, and for the overall direction, management, administration, and evaluation of the program. The PDs/PIs will be expected to monitor and assess the program and submit all documents and reports as required. The PDs/PIs have responsibility for the day-to-day administration of the program and are responsible for appointing members of the Advisory Committee (when applicable) and using their recommendations to determine the appropriate allotment of funds.

2. Cost Sharing

This FOA does not require cost sharing as defined in the NIH Grants Policy Statement.

3. Additional Information on Eligibility

Number of Applications

Only one application per institution (normally identified by having a unique DUNS number or NIH IPF number) is allowed.

The NIH will not accept duplicate or highly overlapping applications under review at the same time, per 2.3.7.4 Submission of Resubmission Application. This means that the NIH will not accept:

- A new (A0) application that is submitted before issuance of the summary statement from the review of an overlapping new (A0) or resubmission (A1) application.
- A resubmission (A1) application that is submitted before issuance of the summary statement from the review of the previous new (A0) application.
- An application that has substantial overlap with another application pending appeal of initial peer review (see 2.3.9.4 Similar, Essentially Identical, or Identical Applications).

Preceptors/Mentors

The selected faculty should be trained researchers in the biomedical sciences. When building a training team, programs should include faculty who are committed to training, mentoring, and providing supportive and inclusive research environments. Programs are encouraged to build a diverse team of preceptors/mentors that includes, for example, faculty from underrepresented groups (see Notice of NIH's Interest in Diversity) and faculty at different career stages (i.e., early-career as well as established faculty).

Trainees

The individual to be trained must be a citizen or a noncitizen national of the United States or have been lawfully admitted for permanent residence at the time of appointment. Additional details on citizenship, training period, and aggregate duration of support are available in the *NIH Grants Policy Statement*.

At the time of initial appointment, research-oriented trainees must be enrolled at the associate degree-granting institution(s) with plans to transition and complete a baccalaureate degree in a STEM field that will position them to transition into higher degree programs with a focus on biomedical research.

All trainees are required to pursue their research training full time, normally defined as 40 hours per week, or as specified by the sponsoring institution in accordance with its own policies. Appointments are normally made in 12-month increments, and no trainee may be appointed for less than 9 months during the initial period of appointment, except with prior approval of the NIH awarding unit.

Section IV. Application and Submission Information

1. Requesting an Application Package

The application forms package specific to this opportunity must be accessed through ASSIST, Grants.gov Workspace or an institutional system-to-system solution. Links to apply using ASSIST or Grants.gov Workspace are available in Part 1 of this FOA. See your administrative office for instructions if you plan to use an institutional system-to-system solution.

2. Content and Form of Application Submission

It is critical that applicants follow the Training (T) Instructions in the SF424 (R&R) Application Guide except where instructed in this funding opportunity announcement to do otherwise. Conformance to the requirements in the Application Guide is required and strictly enforced. Applications that are out of compliance with these instructions may be delayed or not accepted for review.

Page Limitations

All page limitations described in the SF424 Application Guide and the Table of Page Limits must be followed.

The page limits for each of the "Other Attachments" are specified with the attachment and must be followed.

Instructions for Application Submission

The following section supplements the instructions found in the SF424 (R&R) Application Guide and should be used for preparing an application to this FOA.

SF424(R&R) Cover

All instructions in the SF424 (R&R) Application Guide must be followed.

SF424(R&R) Project/Performance Site Locations

All instructions in the SF424 (R&R) Application Guide must be followed.

SF424 (R&R) Other Project Information

All instructions in the SF424 (R&R) Application Guide must be followed.

Are Human Subjects Involved: Check "No" unless the training program itself requires the trainees to take a workshop or course that will involve human subjects.

Are Vertebrate Animals Used: Check "No" unless the training program itself requires the trainees to take a workshop or course that will involve vertebrate animals.

Facilities & Other Resources: Describe how research training at the undergraduate level is supported. Examples of institutional commitment specific to undergraduate biomedical research training may include, but are not limited to:

- Support of an Office of Undergraduate Research;
- Stipend and tuition remission for research-oriented undergraduates;
- Undergraduate biomedical research counting towards course credit hours and/or degree requirements;
- Funds and protected time for faculty to develop course-based undergraduate research experiences that will fulfill degree requirements;
- Faculty teaching models that support integrated/interdisciplinary STEM curricula and activities;
- Funds to sustain research-oriented courses;
- Support of research training administrators and coordinators;
- Supervised student access to research facilities during non-standard work hours; and
- Personnel dedicated to undergraduate student success and oversight (e.g., tutoring and academic support services, infrastructure to identify students in need) at the associate and baccalaureate degree-granting institutions.

Project Summary/Abstract: Provide an overview of the entire program. Include the mission, objectives, rationale and design of the research training program. Highlight key activities in the training plan that promote skills development and the successful transition from an associate degree-granting institution to a baccalaureate degree-granting institution and completion of a baccalaureate degree in a field related to the biomedical sciences. Indicate the planned duration of appointments, the projected number of trainees and intended trainee outcomes.

Other Attachments:

Advisory Committee (1-page maximum). An Advisory Committee is not a required component of a training program. However, if an Advisory Committee is intended, provide a plan for the appointment of an Advisory Committee to monitor

progress of the training program. The roles, responsibilities, and desired expertise of committee members, frequency of committee meetings, and other relevant information should be included. Describe how the Advisory Committee will assess the overall effectiveness of the program. *To avoid conflicts in the review process, only pre-existing Advisory Committee members should be named in the application. Potential Advisory Committee members should not be identified or contacted prior to receiving an award.* Please name the file Advisory_Committee.pdf .

Recruitment Plan to Enhance Diversity (3-page maximum). The participating institutions must provide a *Recruitment Plan to Enhance Diversity*. The *Recruitment Plan to Enhance Diversity* should integrate approaches from the participating institutions and include outreach strategies and activities designed to recruit potential training program candidates who are from diverse backgrounds, including students from underrepresented racial and ethnic groups, individuals with disabilities, and students from disadvantaged backgrounds (see Notice of NIH's Interest in Diversity). Applicants are encouraged to consult the NIGMS webpage for strategies to enhance diversity in training programs when designing their plans. Describe the specific efforts to be undertaken by the training program and how these might coordinate with trainee recruitment efforts of the institution. Centralized institutional efforts alone will not satisfy the requirement to recruit individuals from underrepresented groups. Participating faculty are expected to be actively involved in recruitment efforts. Data from all participating institutions must be included in a single file. Please name the file Recruitment_Plan.pdf . If this attachment is not included, the application will be considered incomplete and will not be reviewed.

Trainee Retention Plan (3-page maximum). The participating institutions must provide a *Trainee Retention Plan*. The *Trainee Retention Plan* should integrate approaches from the participating institutions and must describe efforts to sustain the scientific interests as well as monitor the academic and research progress of trainees from all backgrounds within a program (i.e., retention). Applicants are encouraged to consult the NIH's extramural diversity website to identify promising retention practices and to use evidence-informed practices for retention with the recognition that the variety of trainee backgrounds and experiences may necessitate the need to tailor retention approaches. Describe the specific efforts to be undertaken by the training program and how these might coordinate with trainee retention efforts of the institution(s). Centralized institutional efforts alone will not satisfy the requirement to implement robust and successful mechanisms to retain all trainees (e.g., participating faculty are expected to be actively involved in trainee retention efforts). Data from all participating institutions must be included in a single file. Please name the file Retention_Plan.pdf . If this attachment is not included, the application will be considered incomplete and will not be reviewed.

Outcomes Data Collection and Storage Plan (2-page maximum). The application must provide an *Outcomes Data Collection and Storage Plan* to track the outcomes for all supported trainees for a minimum of 15 years beyond the trainee's participation in the program. Programs are encouraged to make the aggregate outcome data available on the applicant institution's website. If the applicant intends to make the data available, describe how the aggregate data will be de-identified before public posting. The applicant must include a strategy to ensure the secure storage and preservation of program data and outcomes. Describe how the data will be centralized, safeguarded, and retrievable during leadership changes. Please name the file Data_Collection_Storage_Plan.pdf . If this attachment is not included, the application will be considered incomplete and will not be reviewed.

Dissemination Plan (1-page maximum). The application must provide a specific *Dissemination Plan* to publish or present nationally any findings or materials developed under the auspices of the program. Examples of dissemination may include data or materials from successful training or mentoring interventions via web postings, presentations at scientific meetings, and/or workshops. Please name the file Dissemination_Plan.pdf . If this attachment is not included, the application will be considered incomplete and will not be reviewed.

Articulation Agreement(s). The application must provide specific and detailed information regarding articulation agreements, to provide evidence that there is synergy between the participating institutions in terms of transfer of course credits, to ensure timely progression to a baccalaureate degree. Please name the file Articulation_Agreement.pdf . If this attachment is not included, the application will be considered incomplete and will not be reviewed.

The filename provided for each Other Attachment will be the name used for the bookmark in the electronic application in eRA Commons.

SF424(R&R) Senior/Key Person Profile Expanded

Follow all instructions provided in the SF424 (R&R) Application.

The following modifications apply. This FOA requires the designation of multiple PDs/PIs as key personnel, with a PD/PI from

each participating institution. All PDs/PIs must be assigned the "PD/PI" role. The role of "Co-PD/PI" is not currently used by NIH or other PHS agencies to designate a multiple PD/PI application. Do not use the role of "Co-PD/PI". Applicants should visit the Multiple Program Director/Principal Investigator Policy and submission details in the Senior/Key Person Profile (Expanded) Component of the SF 424 (R&R) Application Guide.

Profile Project Director/Principal Investigator. List the contact PD/PI in this section of the form. The PD/PI of the applicant institution must be designated as the contact PD/PI. Select a Project Role of PD/PI .

Profile Senior/Key Person. List a PD/PI from each of the partner institutions. Select a Project Role of PD/PI .

Biographical sketch. The personal statement should describe a commitment to scientific rigor, training, mentoring, as well as to promoting inclusive, safe, and supportive scientific environments.

PHS 398 Cover Page Supplement

Follow all instructions provided in the SF424 (R&R) Application.

PHS 398 Training Subaward Budget Attachment(s)

Follow all instructions provided in the SF424 (R&R) Application Guide.

Training Budget

Follow all instructions provided in the SF424 (R&R) Application Guide with the following additional modifications:

- Include all allowable categories of funds requested to support trainees in the program.
- As per the instructions, request actual amounts for tuition/fees and provide justification. Applicants should request full needs for tuition and fees. If tuition is charged per credit hour, request an amount based on the average number of credit hours taken by full time students at your institution in programs similar to those in the proposed training programs. NIH will determine the amount of tuition and fees to be provided according to the policies current at the time of award.

PHS 398 Research Training Program Plan

The PHS 398 Research Training Program Plan Form is comprised of the following sections:

- Training Program
- Faculty, Trainees, and Training Record
- Other Training Program Sections
- Appendix - Note that the Appendix should only be used in circumstances covered in the NIH policy on appendix materials or if the FOA specifically instructs applicants to do so.

Follow all instructions provided in the SF424 (R&R) Application Guide with the following modifications:

Attention must be given to the required Training Data Tables for **New** or **Renewal undergraduate applications (Training Tables 2, 3, 4, 5C, and 8D).** In the Program Plan, applicants should also summarize key data from the tables that highlight the characteristics of the applicant pool, program faculty, institutional support, student outcomes, and other factors that contribute to the overall training environment of the program.

Training Program

Follow all training instructions provided in the SF424 (R&R) application guide except where instructed to do otherwise below.

Program Plan: The "Program Plan" attachment is required and must adhere to the NIH Table of Page Limits, as well as the organization and instructions provided below.

Do not follow the organization and instructions provided in the SF424 (R&R) application guide for the Program Plan attachment; instead applicants must use the instructions below. Start each section with the appropriate heading.

Rationale, Mission, and Objectives

The application should describe how the Bridges to the Baccalaureate Research Training Program will develop a diverse

pool of research-oriented undergraduates who have the technical, operational, and professional skills required to conduct research in a safe, ethically responsible and rigorous manner, and who will transfer from an associate degree-granting institution to a baccalaureate degree-granting institution and complete baccalaureate degrees in biomedically relevant fields as delineated in the Program Objective. The application should discuss feasibility of success in the context of the trainee pool and institutional setting. The application should also describe how the program will enhance the training environment and not simply provide financial support to trainees. Specifically, applicants should describe the following:

- The rationale for the proposed Bridges to the Baccalaureate Research Training Program, including a strong justification for the benefit to the participating students;
- A justification for the selection of the partnering institutions. Describe the proximity of the institutions and any ongoing collaborations;
- Current diversity enhancing activities. The application should describe the current institutional efforts (at all institutions) to promote diversity and to create inclusive research training environments, and how the Bridges to the Baccalaureate Research Training Program will enhance, but not duplicate these efforts. The rationale for the program should expand upon the "Training Outcome" data requested below that provides institutional baseline data on previous student outcomes comparing success rates for groups that are well-represented and underrepresented in the biomedical research workforce (see Notice of NIH's Interest in Diversity);
- Current student and faculty pool. The application must demonstrate the presence across the Bridges consortium of a sufficient number of STEM-focused trainees from diverse backgrounds, including those from underrepresented groups. Applicants are encouraged to use the Suggested Table Formats A.1, A.2, and A.3. However, any Suggested Tables must be included within the Program Plan attachment, and count towards the 25-page limit. Suggested Tables may not be uploaded in Other Attachments on the R&R Other Project Information form or in the Data Tables attachment on this form. The application must also demonstrate the presence of faculty mentors/participating faculty in the appropriate biomedical fields (Table 2 and 4), as well as the existence of sufficient resources to achieve the training objectives (Table 3). Information from all participating institutions should be included in the tables;
- The consortium's current bridging and baccalaureate completion baseline data. Applicants should indicate the number of students pursuing relevant STEM degrees who currently transfer from the associate degree-granting institution(s) to the baccalaureate degree-granting institution(s) for the institutions within the proposed Bridges consortium. Applicants must provide baseline baccalaureate completion rates of transfer students from participating institutions in relevant biomedical disciplines (Suggested Table Format A.3); and
- The training mission (i.e., broad statement of purpose of the program), and objectives (i.e., specific measurable outcomes the program intends to achieve). The baseline data, the trainee pool, and the institutional context should inform the objectives and the design of the proposed training program. The program-specific mission and objectives should align with the Overarching Objective of this funding announcement. Objectives should include, but not be limited to, the rate of bridging of trainees from the associate degree-granting institution to the baccalaureate degree-granting institution and baccalaureate completion in STEM fields and appropriate time-to-degree(s).

Curriculum and Overall Training Plan

The application should describe the following:

- How the courses, structured activities, and research experiences will accomplish the specific training mission and objectives, on both sides of the Bridges partnership(s). Explain how these training activities are designed to develop the technical, operational, and professional skills of trainees. The application must include the "Required Training Activities" appendix to provide material to assess the required training elements and may use the "Elective Activities" appendix to provide summaries of up to four additional activities;
- Proposed research training and mentoring practices to keep pace with the rapidly evolving biomedical research enterprise (e.g., curricular reforms, incorporation of additional quantitative and computational skills development, etc.);
- The mechanisms to ensure that trainees participate in authentic research experiences throughout the training period. Applications that propose classroom-centered research training activities should describe the learning objectives, course attributes, participating faculty, training frequency, and expected trainee outcomes. If trainee research experiences are proposed to include other institutions, describe how the PD(s)/PI(s) will interact with the research mentors to promote trainee success;
- The mechanism for ensuring that the trainees are learning the highest standards of practice in biomedical research (e.g., record keeping and safety);
- How the participating faculty will teach laboratory safety throughout the didactic and mentored portions of the program;

- How the training activities will employ evidence-informed approaches to trainee learning, mentorship, inclusion, and professional development;
- The activities that will build a strong cohort of research-oriented individuals while enhancing the science identity, self-efficacy, and a sense of belonging among the cohort members;
- The trainees academic background needed to pursue the proposed training and plans to accommodate differences in preparation among trainees (e.g., supplementary instruction throughout the training experience).
- Representative examples of training programs for individual trainees. Examples may include degree requirements, didactic courses, laboratory experiences, and other training or mentoring activities, such as seminars, journal clubs, etc. Describe how each trainee's program will be guided, and how the trainee's performance will be monitored and evaluated. Discuss the anticipated time required to complete the training program up to degree attainment;
- Description of the steps taken to ensure timely attainment of the baccalaureate degree. Expand upon the articulation agreement(s) and other program activities designed for timely baccalaureate degree attainment.
- For multi-disciplinary and/or multi-departmental programs, indicate how the individual disciplinary and/or departmental components of the program are integrated and coordinated, and how they will relate to an individual trainee's experience;
- The ways, when applicable, that the training plan is distinct from, but will share resources and synergize with, other federally-funded undergraduate training programs at the participating institutions (i.e., training programs listed in Table 3). See the "Program Considerations" section above; and
- How the training activities will be available to other trainees in the program(s), department(s) or institution(s) from which the supported trainees are drawn.

Career Development

The application should describe the following:

- How trainees will be provided with support as well as adequate, appropriate, and timely information regarding the steps required to transition into the next phase of the biomedical research workforce pathway (e.g., transfer from an associate degree-granting institution to a baccalaureate degree-granting institution and complete a baccalaureate degree in a STEM field);
- How the pool of potential applicants and trainees will be provided with information about the outcomes of graduates of the program (e.g., on publicly accessible websites);
- How trainees in the program will be provided with adequate and appropriate information regarding the variety of careers in the biomedical research workforce, and pathways to these careers; and
- How the trainees will be sponsored or mentored by individuals who will enhance their career opportunities (e.g., contacts at national meetings and institutions with NIH-funded T32 training programs, as well as members of scientific societies, and the research community).

Program Oversight, Participating Faculty Selection, and Mentor Training

The application should include the planned strategy and administrative structure to oversee and monitor the program, and to ensure appropriate and timely trainee progress for the duration of the trainees' undergraduate careers (the application may include the "Evaluation and Assessment Instruments" Appendix to provide blank rubrics or forms). The application should describe how the participating faculty are trained to ensure the use of evidence-informed teaching, training and mentoring practices that promote the development of trainees from all backgrounds, e.g., trainees from underrepresented backgrounds in the biomedical sciences (see Notice of NIH's Interest in Diversity). Applicants should describe the following:

- How the program will ensure that participating faculty employ the highest standards of scientific rigor and impart those standards to their trainees;
- How the program will ensure that participating faculty reinforce and augment the curricular material on responsible conduct of research, and methods for enhancing reproducibility;
- The mechanism for matching trainees with the appropriate participating faculty (e.g., laboratory rotations, faculty forums, interviews);
- How the program will ensure that participating faculty engage in activities that promote trainee career development

(including but not limited to the utilization of Individual Development Plans) and fulfill the need of the trainees to transfer and obtain their baccalaureate degrees in a timely fashion with the skills, credentials, and experiences to transition into further training or careers in the biomedical research workforce that are consistent with the trainees interests and values;

- A mechanism to monitor mentoring, including oversight of the effectiveness of the trainee/participating faculty match, and a plan for removing faculty displaying unacceptable mentorship qualities from the training program (applicants may use the Appendix labeled Conflict Resolution Protocols to provide details of the plan);
- A mechanism for the coordination and communication among multiple sites to ensure timely trainee progress; and
- If a program coordinator or administrator position is planned to enhance oversight, a description of the person's administrative capabilities that are essential to coordinate the program must be included in the application.

Institutional and Departmental Commitment to the Program

A letter providing assurances of the institutional commitments to the program must be included in the **"Letters of Support"** section of the application. Applicants may use this section to expand upon the Facilities & Other Resources section and the Letters of Support section, as necessary, to provide additional information regarding the institutional and departmental commitment to the program. Do not repeat information contained elsewhere in the application.

Training Program Director(s)/Principal Investigator(s) (PDs/PIs)

The application should describe how the multiple Principal Investigators (MPI) team, i.e., a minimum of one PI from each partner institution, will promote the success of the trainees and training program. The application should expand on the information in the biosketches to address how the MPI team has:

- The expertise, as well as the administrative and training experience, to provide strong leadership, direction, management, and administration of the proposed research training program;
- The time to commit sufficient effort to ensure the program's success given other professional obligations (the application should indicate the PDs/PIs percent effort in the proposed program);
- At least one member of the team who has scientific expertise in the biomedical sciences and a record of using rigorous and transparent methods in experimental design, data collection, analysis, and reporting;
- A demonstrated commitment to training the next generation of the biomedical research workforce, leading recruitment efforts to enhance diversity, and fostering inclusive research environments. As with all participating faculty, the PD(s)/PI(s) should have received training on how to effectively mentor trainees from all backgrounds, e.g., trainees from groups underrepresented in the biomedical sciences (see Notice of NIH's Interest in Diversity); and
- A clearly delineated administrative structure and leadership succession plan for critical positions, including the MPI team.

Preceptors/Mentors (Participating Faculty)

The application should describe how the participating faculty at the participating institutions will promote the success of the trainees and training program, and conduct responsible and rigorous research. Describe how the program has or will assemble a diverse team of participating faculty (e.g., individuals from underrepresented backgrounds (see Notice of NIH's Interest in Diversity) and faculty at different career stages) to provide potential role models within the training program and to enhance the excellence of the training environment. The application should summarize and expand on the material presented in the Training Tables 2 and 4 and biosketches, and indicate who among the participating faculty will be available to the trainees during the academic year and/or summer. The application should address how the participating faculty:

- Have sufficient time to commit to training given their other professional obligations;
- Receive training in effective, evidence-informed teaching and mentoring practices;
- Promote the use of highest standards of practice to ensure the safety of all individuals in the research environment;
- Cooperate, interact, and collaborate across partnering institutions;

- Promote the development of trainee skills in approaches to rigorous experimental design, methods of data collection, data analysis and interpretation, and reporting;
- Provide opportunities for trainees to initiate, conduct, interpret, and present rigorous, reproducible and responsible biomedical research with increasing self-direction;
- Demonstrate a commitment to effective mentoring, and to promoting inclusive, safe and supportive scientific and training environments; and
- Are evaluated as teachers and mentors.

Trainee Positions, Appointment Process, Retention and Support

Through the narrative and summaries of the information presented in the required Training Tables and the required attachments the following areas relevant to trainees should be addressed:

- Provide a strong justification for the number of requested trainee positions in the context of the training grant eligible (TGE) pool from diverse backgrounds (as described in the rationale section of the application), the number of participating biomedically-oriented faculty, and other training programs at the institutions. Potential trainees should be research-oriented individuals enrolled in a major that could lead to a baccalaureate degree in a STEM field. *For Renewal Applications*- Describe the characteristics of the previously awarded trainees as part of the justification for the requested positions;
- Explain the proposed training grant support structure, i.e., how many individuals (e.g., 4 per year), at what stage (e.g., second-year students at associate degree-granting institution), and how support for the trainees will be structured (e.g., one year at the associate degree-granting institution, and one year at the baccalaureate degree-granting institution); and
- Describe the review process to identify research-oriented candidates for the program. Programs are encouraged to develop a process that considers metrics beyond grade point average (GPA), and standardized test scores, and that will identify promising candidates who, with training and support, will complete a baccalaureate degree in a STEM field, and be well-positioned to pursue further biomedical research training or enter careers in the biomedical research workforce.

Applicants may use this section to expand upon the Recruitment Plan to Enhance Diversity, or Trainee Retention Plan (provided in the "Other Attachments") and to provide evidence of the program's commitment to ensuring the well-being and success of all trainees throughout their training.

Training Outcomes

This section is intended to provide outcomes for the program described in the application (or for new programs, to provide outcomes for training grant eligible students for the proposed program). For applications from institutions that do not have previous partnerships, describe the outcomes for each member of the proposed consortium. The application should provide the information below about recent outcomes through narrative descriptions and a summary of the data presented in the required training tables. For institutions with previously funded NIGMS Bridges to the Baccalaureate programs, the data may be provided for program participants and for institutional comparator groups (e.g., students with similar demographics and aptitude metrics who did not participate in the program). Although the training tables for new applications only allow for five years of recent outcomes, the application may describe up to 15 years of outcomes in the narrative. The application should describe the following:

- The rate of transfer toand baccalaureate degree attainment at the participating institutions. The application should include outcome data regarding the number of training grant eligible students who (1) transferred and graduated with a baccalaureate degree in a STEM field (obtained goal), (2) are still enrolled and on track to graduate with a baccalaureate degree in biomedically related STEM field (in training), or (3) did not transfer or obtain a baccalaureate degree (attrition). Include time-to-degree for recent graduates (Suggested Table Formats A.3). In the narrative, clearly explain how the time-to-degree was calculated, including the start and endpoints;
- A description or analysis of how the baccalaureate degree attainment, time-to-degree data, and evidence of scholarly productivity (e.g., peer-reviewed publications, or other measures of scientific accomplishment appropriate to the field) for recent program graduates from underrepresented groups (see Notice of NIH's Interest in Diversity) compares to

the data for recent program graduates from well-represented groups;

- The success of former students transitioning to the next phase in the biomedical research workforce pathway (e.g., matriculation to a research-focused biomedical higher degree program or entering the biomedical research workforce). Applicants must complete Training Table 8D, and are encouraged to use the Suggested Table Formats B.1, B.2, or B.3. Any Suggested, or other, Tables must be included in the Training Program section and will count towards the 25-page limit; and
- Evidence that recent program participants conducted rigorous research that advanced scientific knowledge and/or technologies, with increasing self-direction (e.g., peer-reviewed publications in Training Table 5C, or other measures of scientific accomplishment appropriate to the field such as presentations at national meetings and earning fellowships);

Program Evaluation and Dissemination

NIGMS funded training programs must conduct ongoing evaluations to monitor the success of the training and mentoring activities. The application should describe:

- The evaluation or assessment process to determine whether the overall program is effective in meeting its training mission and objectives, and whether the scientific research climate is inclusive, safe, and supportive of trainee development (the application may include the "Evaluation and Assessment Instruments" Appendix to provide blank survey instruments, rubrics, or forms);
- Plans for being responsive to outcomes analyses, critiques, surveys and evaluations;
- How the program will track and post the career outcomes of trainees (applicants should expand upon, but not duplicate the information in the Outcomes Data Collection and Storage Plan); and
- How the program will share the outcomes of the training or mentoring interventions with the broader community (applicants may expand upon, but not duplicate the information in the Dissemination Plan).

Plan for Instruction in the Responsible Conduct of Research

Applicants are required to comply with the instructions for Plan for Instruction in the Responsible Conduct of Research as provided in the SF424 (R&R) Application Guide, along with the following additional instructions:

Describe how the Responsible Conduct of Research (RCR) components are well integrated into the overall curriculum, i.e., how they are taught at multiple stages of trainee development and in a variety of formats and contexts. Explain how the teaching of RCR synergizes with elements of the curriculum designed to enhance trainees abilities to conduct rigorous and reproducible research. Describe how all participating faculty will reiterate and augment key elements of responsible conduct when trainees are performing mentored research in their laboratories.

Plan for Instruction in Methods for Enhancing Reproducibility: Applicants are required to provide a Plan for Instruction in Methods for Enhancing Reproducibility as provided in the SF424 (R&R) Application Guide.

Applicants are encouraged to consult the NIGMS clearinghouse for training modules to enhance data reproducibility and other resources when developing the plans.

Multiple PD/PI Leadership Plan: Since multiple PDs/PIs must be designated in the application, the application must include a Multiple PD/PI Leadership Plan as indicated in the SF424 (R&R) Application Guide.

Progress Report (only for Renewal applications): For applications describing programs that were previously funded under PAR-19-299 follow the instructions provided in the SF424 (R&R) Application Guide with the following exceptions.

For the "Program Overview" section, follow the page limit indicated in the SF424 (R&R) application guide, but follow the instructions below instead:

- Indicate the period covered since the last competitive review.
- Include information to demonstrate that the program successfully trained a diverse pool of individuals who have the technical, operational, and professional skills to transition into further training or careers in biomedical research.
- Describe successes and challenges with regards to implementing the programmatic elements described in the

previous application, including but not limited to the following areas:
    - Incorporating evidence-informed training and mentoring practices into the program.
    - Teaching of rigor and transparency, and the responsible and safe conduct of research throughout the training experience.
    - The challenges and successes for enhancing diversity and inclusion in the research training environment.
    - Overseeing all aspects of the program (e.g., of the mentor/mentee matches, the participating faculty, and trainee progress).
    - Preparing trainees for a broad range of careers in the biomedical research workforce (including but not limited to the use of Individual Development Plans, IDPs).
- Provide justifications for failing to implement previously proposed programmatic elements.
- Provide evidence that the specific and measurable objectives described in the previous application were achieved and if not, provide a justification for failing to achieve the objectives.
    - Describe how the funds provided under "Training Related Expenses" were used to benefit the program.
    - Provide the methods and results of the evaluations of the program activities. Indicate whether the training activities were effective in contributing to the program objectives.
    - Provide evidence that the scientific research climate is inclusive, safe, and supportive of trainee development.
    - Expand upon the "Training Outcomes" to highlight successes and areas for improvement.
    - Describe how the program responded to outcomes analyses, critiques, surveys and evaluations. Describe the barriers to success and indicate changes to the program designed to address these barriers.
    - Describe how the program makes training and career outcomes publicly available.
    - Indicate whether the PD(s)/PI(s) disseminated nationally any findings or materials developed under the auspices of the program to the broader training community.
    - Indicate the broader impact of the program (e.g., on the curriculum, training environment, or institutional practices).
    - Highlight how the training program has evolved in response to changes in relevant scientific and technical knowledge, educational practices, and evaluation of the training program.

Faculty, Trainees, and Training Record

Participating Faculty Biosketches: Participating faculty should provide a personal statement that describes the appropriateness of their research background for the proposed training program, and their commitment to the following:

- Training, mentoring, and promoting inclusive, safe and supportive research environments;
- Maintaining a record of, and providing training in rigorous and unbiased experimental design, methodology, analysis, interpretation, and reporting of results;
- Promoting the use of highest standards of practice to ensure the safety of all individuals in the research environment;
- Supporting trainees participating in activities required to identify and transition into careers in the biomedical research workforce that are consistent with the trainees skills, interests, and values; and
- Fulfilling the need of the trainees to transfer and to complete their baccalaureate degrees in a timely fashion with the skills, credentials, and experiences to transition into further training or careers in biomedical research.

Letters of Support: The application must include the following three letters of support.

1. Institutional Support Letter (10-page maximum). The application must include a single letter on the applicant institution's letterhead that is signed by each participating institution's central administration (e.g., a President, Provost, Dean, or similar key institutional leader) that describes the activities and resources provided by the institutions that are designed to ensure the success of the planned training program and its trainees. If this letter is not included, or does not include a signature from each of the participating institutions, the application will be considered incomplete and will not be reviewed.

The letter must outline each institution's respective role in administering the program, and these roles must be consistent with the goals and objectives of the proposed Bridges to the Baccalaureate Research Training Program. The letter should describe how the resources within the baccalaureate degree-granting partner institution(s) will be leveraged to enhance the competitiveness of STEM students and programs at the associate degree-granting partner institution(s). Additionally, the letter must include the following language regarding NIH consortium agreements:

"The appropriate programmatic and administrative personnel of each organization involved in this grant application are aware of the NIH consortium agreement policy and are prepared to establish the necessary inter-institutional agreement(s) consistent with that policy."

The institutional commitment to the following areas should also be described (as applicable):

- Developing and promoting a culture in which the highest standards of safety, scientific rigor, reproducibility, and responsible conduct are advanced;
- Ensuring sufficient start-up funding to permit early stage faculty to participate in training, and bridge funding to ensure that training may continue if a mentor experiences a hiatus in funds;
- Supporting core facilities and technology resources, and describing how they can be used to enhance training;
- Providing adequate staff, facilities, and educational resources to the planned program;
- Supporting the PDs/PIs and other key staff associated with the planned training program;
- Fostering and rewarding excellence in training (e.g., through institutional polices such as tenure and promotion);
- Supporting the remediation or removal of Participating Faculty from the program who are poorly performing mentors;
- Promoting diversity and inclusion at all levels of the research training environment (trainees, staff, faculty, and leadership);
- Ensuring a positive, supportive and inclusive research and training environment for individuals from all backgrounds;
- Ensuring the research facilities and laboratory practices promote the safety of trainees;
- Guaranteeing the research facilities are accessible to trainees with disabilities;
- Ensuring that proper policies, procedures, and oversight are in place to prevent discriminatory harassment and other discriminatory practices and to appropriately respond to allegations of such discriminatory practices, including providing any required notifications to NIH (e.g., requesting a change of PD/PI status; see NOT-OD-19-029);
- Providing trainees access to student support services, such as healthcare, counseling services, and housing;
- Ensuring that trainees will continue to be supported when they transition from the associate degree-granting institution to the baccalaureate degree-granting institution;
- Providing resources and expertise for evaluating the training outcomes of the program; and
- For institutions that have multiple NIGMS-funded predoctoral training grants, the letter should also explain what distinguishes the proposed program from existing ones at the same training level, how the programs will synergize and share resources when appropriate, and how the training faculty, pool of potential trainees, and resources are sufficiently robust to support the proposed program in addition to existing ones.

2. Associate Degree-Granting Institutional Eligibility Letter(s) (1-page maximum, per letter). For each partner institution where the associate degree is the terminal degree offered in STEM fields, the Provost or similar official with institution-wide responsibility must certify that the institution does not offer baccalaureate degrees in STEM fields, and meets the criteria described in Section III, Eligible Organizations . If a letter is not included for each institution, the application will be considered incomplete and will not be reviewed.

3. Baccalaureate Degree-Granting Institution Eligibility Letter(s). (1-page maximum, per letter). For each baccalaureate degree-granting partner institution, the Provost or similar official with institution-wide responsibility must certify that the institution offers baccalaureate degrees in STEM fields, and meets the criteria described in Section III, "Eligible Organizations". If a letter is not included for each institution, the application will be considered incomplete and will not be reviewed.

Other Letters of Support. Additional letters of support (e.g., from collaborating institutions or organizations) are permitted; however, these letters may not contain any information required in the Institutional Support Letter.

Combine all Letters of Support into a single PDF file.

Data Tables: The application must include the required Training Data Tables. For New applications: Tables 2, 3, 4, 5C, and 8D Part II. For Renewals: Tables 2, 3, 4, 5C, and 8D Part I. Applications that do not contain the required tables, or that

submit any additional tables in this attachment, will be considered noncompliant and will not be reviewed.

Appendix:

The Appendix is meant to provide additional details to the following topics but is not meant to substitute for clear descriptions in the body of the application. Do not include items other than the required and allowable materials described below, as doing so will result in administrative withdrawal of the application prior to review. Name the file according to the headings below. A summary sheet listing all the items included in the Appendix may be included in the first Appendix attachment.

The following are required Appendix materials:

- Required Training Activities (2 pages maximum per activity). To adequately assess the content of the didactic portion of the training program, the application must include brief descriptions of all required courses, workshops, and training (e.g., streamlined syllabi with topics, timelines, activities, credits, etc.).
- Responsible Conduct of Research Syllabi (2 pages maximum total). In addition to the Plan for Instruction in the Responsible Conduct of Research, the application must provide syllabi/outlines of materials relating to Responsible Conduct of Research and descriptions of when in the trainees career paths the material is taught.

The following are allowable Appendix materials:

- Elective Activities (2 pages maximum per activity). The application may include summary content for up to four additional elective courses, workshops, and/or training (e.g., streamlined syllabi with topics, timelines, activities, credits, etc.).
- Evaluation and Assessment Instruments. The application may include blank surveys, rubrics, and/or forms used to (a) document and monitor trainee progress and (b) determine whether the training and research environment is effective, inclusive, safe, and supportive.
- Conflict Resolution Protocols (3-page maximum total). The application may include detailed protocols for addressing problems with trainee and faculty matches, removal of faculty from the training program with unacceptable training/mentoring skills and for conflict resolutions for multi PD(s)/PI(s) and mentor/mentee relationships.

Applications that do not include the required appendices or that exceed the number of allowed appendices or the page limitation of any of the allowed materials will be considered noncompliant and will not be reviewed.

PHS Assignment Request Form

All instructions in the SF424 (R&R) Application Guide must be followed.

3. Unique Entity Identifier and System for Award Management (SAM)

See Part 1. Section III.1 for information regarding the requirement for obtaining a unique entity identifier and for completing and maintaining active registrations in System for Award Management (SAM), NATO Commercial and Government Entity (NCAGE) Code (if applicable), eRA Commons, and Grants.gov.

4. Submission Dates and Times

Part I. Overview Information contains information about Key Dates and times. Applicants are encouraged to submit applications before the due date to ensure they have time to make any application corrections that might be necessary for successful submission. When a submission date falls on a weekend or Federal holiday, the application deadline is automatically extended to the next business day.

Organizations must submit applications to Grants.gov (the online portal to find and apply for grants across all Federal agencies). Applicants must then complete the submission process by tracking the status of the application in the eRA Commons, NIH's electronic system for grants administration. NIH and Grants.gov systems check the application against many of the application instructions upon submission. Errors must be corrected and a changed/corrected application must be submitted to Grants.gov on or before the application due date and time. If a Changed/Corrected application is submitted after the deadline, the application will be considered late. Applications that miss the due date and time are subjected to the NIH Policy on Late Application Submission.

Applicants are responsible for viewing their application before the due date in the eRA Commons to ensure accurate and successful submission.

Information on the submission process and a definition of on-time submission are provided in the SF424 (R&R) Application Guide.

5. Intergovernmental Review (E.O. 12372)

This initiative is not subject to intergovernmental review.

6. Funding Restrictions

All NIH awards are subject to the terms and conditions, cost principles, and other considerations described in the *NIH Grants Policy Statement*. The National Research Service Award (NRSA) policies apply to this program. An NRSA appointment may not be held concurrently with another Federally sponsored fellowship, traineeship, or similar Federal award that provides a stipend or otherwise duplicates provisions of the NRSA.

Pre-award costs are allowable only as described in the *NIH Grants Policy Statement*. Note, however, that pre-award costs are not allowable charges for stipends or tuition/fees on institutional training grants because these costs may not be charged to the grant until a trainee has actually been appointed and the appropriate paperwork submitted to the NIH awarding component. Any additional costs associated with the decision to allow research elective credit for short-term research training are not allowable charges on an institutional training grant.

7. Other Submission Requirements and Information

Applications must be submitted electronically following the instructions described in the SF424 (R&R) Application Guide. Paper applications will not be accepted.

Applicants must complete all required registrations before the application due date. Section III. Eligibility Information contains information about registration.

For assistance with your electronic application or for more information on the electronic submission process, visit How to Apply Application Guide. If you encounter a system issue beyond your control that threatens your ability to complete the submission process on-time, you must follow the Dealing with System Issues guidance. For assistance with application submission, contact the Application Submission Contacts in Section VII.

Important reminders:

All PD(s)/PI(s) must include their eRA Commons ID in the Credential fieldof the Senior/Key Person Profile form.Failure to register in the Commons and to include a valid PD/PI Commons ID in the credential field will prevent the successful submission of an electronic application to NIH.

The applicant organization must ensure that the unique entity identifier (DUNS number or UEI as required) provided on the application is the same number used in the organization's profile in the eRA Commons and for the System for Award Management. Additional information may be found in the SF424 (R&R) Application Guide.

See more tips for avoiding common errors.

Upon receipt, applications will be evaluated for completeness and compliance with application instructions by the Center for Scientific Review and NIGMS. Applications that are incomplete or non-compliant will not be reviewed.

Applicants Requesting $500,000 or more for direct costs (less consortium F&A) in any year

Applicants requesting $500,000 or more in direct costs in any year **are not required** to contact a Scientific/ Research Contact prior to submitting an application. The Policy on the Acceptance for Review of Unsolicited Applications that Request $500,000 or More in Direct Costs as described in the SF424 (R&R) Application Guide **is not** applicable to this FOA

Post Submission Materials

Applicants are required to follow the instructions for post-submission materials, as described in the policy.

Section V. Application Review Information

1. Criteria

Only the review criteria described below will be considered in the review process.

Applications submitted to the NIH in support of the NIH mission are evaluated for scientific and technical merit through the NIH peer review system.

Overall Impact

Reviewers will provide an overall impact score to reflect their assessment of the likelihood that the proposed training program will produce a diverse pool of well-trained scientists who will transfer from associate to baccalaureate degree-granting institutions and earn a baccalaureate degree in a STEM field that positions them to enter a research-oriented biomedical higher degree program or careers in the biomedical research workforce. Reviewers should consider whether the program is likely to promote a sustained interest in students in pursuing careers in the biomedical research enterprise. Reviewers should assess whether the program provides trainees with the technical (e.g., appropriate methods, technologies, and quantitative/computational approaches), operational (e.g., independent knowledge acquisition, rigorous experimental design, and interpretation of data), and professional (e.g., management, leadership, communication, and teamwork) skills necessary to conduct rigorous and reproducible research, and be positioned to transition into further training opportunities or careers in the biomedical research workforce, in consideration of the following review criteria and additional review criteria (as applicable for the program proposed).

Specifically, do the courses, structured training activities, mentoring, and research experiences equip the trainees with:

- A broad understanding across biomedical disciplines and the skills to independently acquire the knowledge needed to advance their chosen fields;
- Expertise in a biomedical scientific discipline, and the skills to think critically and independently, and to identify important biomedical research questions and approaches that push forward the boundaries of their areas of study;
- A strong foundation in scientific reasoning, rigorous research design, experimental methods, quantitative and computational approaches, and data analysis and interpretation;
- The skills to conduct research in the safest manner possible, and a commitment to approaching and conducting biomedical research responsibly, ethically, and with integrity;
- Experience initiating, conducting, interpreting, and presenting rigorous and reproducible biomedical research with increasing self-direction;
- The ability to work effectively in teams with colleagues from a variety of cultural and scientific backgrounds, and to promote inclusive and supportive scientific research environments;
- The skills to teach and communicate scientific research methodologies and findings to a wide variety of audiences (e.g., discipline-specific, across disciplines, and the public); and
- The knowledge, professional skills and experiences required to identify and transition into careers in the biomedical research workforce (i.e., the breadth of careers that sustain biomedical research in areas that are relevant to the NIH mission)

Does the proposed program support outstanding research training that will enhance diversity at all levels of the research training environment?

Scored Review Criteria

Reviewers will consider each of the review criteria below in the determination of the merit of the training program, and give a separate score for each. When applicable, the reviewers will consider relevant questions in the context of proposed short-term training. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

Training Program and Environment

Rationale, Mission, and Objectives

- Are the mission and objectives for the training program cohesive, specific, and measurable, and in alignment with the goal of producing a diverse pool of well-trained scientists with the technical, operational, and professional skills necessary for the trainees to pursue further research training or pursue careers in the biomedical research workforce?
- Does the application provide strong support for trainees at both the associate degree-granting and baccalaureate-degree granting institutions?

Is it clear how the proposed program will enhance the research training environment and not simply provide financial assistance for the trainees?
- Does the application provide a compelling rationale for the proposed research training program, and is the program likely to be successful given the institutional context?
- Is there a sound rationale for the selection of partnering institutions? Are the geographic proximity of institutions and articulation agreements likely to facilitate collaboration, trainee coursework and research training activities at the associate degree-granting and baccalaureate-degree granting partner institution(s)?
- Does the proposed program convincingly demonstrate the presence of a sufficient pool of potential trainees from diverse backgrounds, including those from underrepresented groups, in appropriate disciplines, program faculty with the appropriate scientific expertise (Tables 2 and 4), and resources to achieve the training objectives (Table 3)?

Curriculum and Overall Training Plan

- Will the courses, structured training activities, mentoring, and research experiences achieve the stated mission and objectives of the proposed training program?
- Does the application describe how courses, structured training activities and mentoring will take place on both sides of the Bridges partnership(s) for the duration of the program?
- Does the application propose research training and mentoring practices to effectively address the rapidly evolving biomedical research enterprise and current understanding of evidence-informed training and mentoring approaches?
- Does the application describe plans to ensure that the trainees complete at least one authentic summer research training experience at a partner baccalaureate degree-granting institution?
- Does the application describe effective mechanisms to ensure that trainees participate in authentic research experiences throughout the training period?
- Is there a robust mechanism for ensuring that the trainees are learning the highest standards of practice in biomedical research (e.g., record keeping and safety)?
- Will the Participating Faculty effectively teach laboratory safety throughout the didactic and mentored portions of the program?
- Does the training program plan provide a compelling explanation of how the courses, structured training activities, mentoring, professional development, and research experiences employ modern, evidence-informed approaches that are likely to enhance the success of the trainees?
- Are the activities likely to build a strong cohort of research-oriented individuals while enhancing the science identity, self-efficacy, and a sense of belonging among the cohort members?
- Are there appropriate plans to accommodate differences in preparation among trainees?
- Does the application provide appropriate examples of how each trainee’s progress will be guided and how the trainee’s performance and skills development will be monitored and evaluated?
- Are there clear and current articulation agreements for the transfer of courses and credits from the associate to the baccalaureate degree-granting institution(s) and other structures in place to ensure the timely completion of the baccalaureate degree?
- For multi-disciplinary and/or multi-departmental programs, is it clear how the individual disciplinary and/or departmental components of the program are integrated and coordinated, and how each will relate to an individual trainee's experience?
- If the institution has multiple funded training programs, is there a strong justification for the need for the proposed Bridges to the Baccalaureate Research Training Program? Does the application describe how the Bridges to the Baccalaureate Research Training Program is distinct from, but planning to share resources and synergize with other funded training programs at the institution (listed in Training Table 3, and reinforced in the Institutional Support Letter in the Letters of Support section)?
- Is it clear how the training activities will be available to other students in the program(s), department(s), or institution(s) from which the trainees are drawn?

Career Development

- Will the trainees be provided with support as well as adequate, appropriate, and timely information regarding the steps required to transfer and complete the baccalaureate degree in a biomedically-relevant STEM field?
- Is there a clear mechanism to ensure the pool of potential applicants and trainees will be provided with appropriate information about the outcomes of former trainees of the program (e.g., on publicly accessible websites)?
- Will the trainees be provided with adequate and appropriate information regarding the wide variety of careers in the

biomedical research workforce for which their training may be useful?
- Will the trainees be introduced to sponsors or mentors who will enhance their career opportunities (e.g., contacts at national meetings, contacts with members of scientific societies, and the research community)?

Program Oversight, Participating Faculty Selection, and Mentor Training

- Does the application describe an effective strategy and administrative structure to oversee and monitor the program to ensure appropriate and timely trainee progress at both the associate and baccalaureate degree- granting institutions?
- Is selection of the program faculty based on a clear commitment to training and mentoring, and not simply research productivity?
- Will the participating faculty be appropriately trained to ensure the use of evidence-informed teaching and mentoring practices that promote the development of trainees from all backgrounds?
- Do the participating faculty have a strong record of employing the highest standards of rigor and transparency in their research, and plans to impart those standards to their trainees?
- Will the program ensure that program faculty regularly reinforce and augment the curricular material on responsible conduct of research, and methods for enhancing reproducibility?
- Is there a clear mechanism for matching the trainees with appropriate program faculty (e.g., interviews, presentations on research conducted in labs)?
- Is there a plan to ensure that the participating faculty engage in activities that promote trainee career development (including but not limited to the utilization of Individual Development Plans), and fulfill the need of the trainees to transfer and obtain their baccalaureate degree in a timely fashion with the skills, credentials, and experiences to either transition into careers in the biomedical research workforce or pursue a research-oriented biomedical higher degree program?
- Is there an effective mechanism to monitor mentoring, including oversight of the effectiveness of the trainee/participating faculty match, and a plan for removing participating faculty displaying unacceptable mentorship qualities from the training program?
- Are adequate plans provided for coordination and communication among multiple sites to ensure timely trainee progress?
- If a program coordinator or administrator position is planned, will the person's administrative capabilities contribute to the success of the program?
- Is there a sound plan for how the trainees will be supported, mentored, and tracked after bridging to the baccalaureate degree-granting partner institution(s)?

Institutional and Departmental Commitment to the Program

- Will the institutional and departmental commitment to research and training excellence promote the success of the trainees and training program?
- Is there a clear institutional commitment to develop and promote a culture in which the highest standards of safety, scientific rigor, reproducibility, and responsible conduct of research are advanced?
- Does the institution provide opportunities for early-stage faculty and those with a hiatus in research support to participate in research training?
- Are the core facilities and technology resources necessary for the success of the program well supported?
- Is there adequate support for the PD(s)/PI(s) and other key staff, facilities, and educational resources associated with the training program?
- Do participating faculty have sufficient protected time available to devote to the training and mentoring activities?
- Is there evidence that the institution(s) rewards excellence in training and mentoring through institutional policies?
- Does the institution(s) support the remediation or removal of Participating Faculty from the program who are poorly performing mentors?
- Are diversity and inclusion efforts promoted at all levels of the research training environment (e.g., trainees, staff, faculty, and leadership)?
- Do the institutions promote a positive, supportive, safe and inclusive research and training environments for individuals from all backgrounds?
- Is there evidence that the research facilities and laboratory practices ensure the safety of trainees?
- Is there a sound process in place to address access issues for trainees with identified disabilities?
- Are appropriate policies and procedures in place to protect trainees from harassment and other prohibited practices?

Is there evidence of an appropriate institutional commitment to providing the trainees access to student support services, such as health care, counseling services, and housing?
- Does the application outline how the trainees will continue to be supported when they transition from the associate degree-granting institution to the baccalaureate degree-granting institution?
- Is there robust support for undergraduate research training at the participating institutions?

Training Program Director(s)/Principal Investigator(s) (PD(s)/PI(s))

- Do the PD(s)/PI(s) have the scientific expertise, and administrative and training experience to provide strong leadership, direction, management, and administration of the proposed research training program?
- Do the PD(s)/PI(s) have the time to commit sufficient effort to ensure the program's success, given their other professional obligations?
- Does at least one member of the PD/PI team have a demonstrated record of using rigorous and transparent methods in experimental design, data collection, analysis, and reporting in the proposed scientific field?
- Do the PD(s)/PI(s) have a demonstrated commitment to training the next generation of the biomedical research workforce, leading recruitment efforts to enhance diversity, and fostering inclusive research environments? For established investigator(s), do the PD(s)/PI(s) have a strong training record (e.g., the success of former trainees in completing the baccalaureate degree and progressing to the next career or training stages in the biomedical research workforce)?
- Have the PD(s)/PI(s) received training on how to effectively mentor trainees, including those from underrepresented groups, and promote inclusive, safe, and supportive research training environments?
- Is there a well-designed administrative structure and leadership succession plan for critical positions (e.g., PD/PI)?
- Is there a clear leadership plan including the designated roles and responsibilities, governance, conflict resolution procedures, and organizational structure (see Multiple PD/PI Leadership Plan section)?

Preceptors/Mentors

- Do the participating faculty have a clear commitment to fulfilling the needs of the trainees to ensure the trainees transfer to the baccalaureate degree-granting institution and obtain their baccalaureate degrees in a timely fashion with the skills, credentials, and experiences to contribute to the biomedical research workforce?
- Do the preceptors/mentors have strong plans, and for established mentors strong records, as researchers in areas directly related to the proposed research training program?
- Do the participating faculty describe a compelling commitment to rigorous and unbiased experimental design, methodology, analysis, interpretation, and reporting of results?
- Do the participating faculty describe a compelling commitment to ethically sound and responsible scientific research?
- Do the selected program faculty come from diverse backgrounds, for example, individuals from groups underrepresented in the biomedical sciences, and faculty at different career stages (i.e., junior and senior faculty)? If not, are there plans to recruit faculty to enhance its diversity?
- Do the participating faculty have the time to commit sufficient effort to ensure trainee development and success, given their other professional obligations?
- Do the participating faculty receive up-to-date training in effective, evidence-informed teaching and mentoring practices?
- Do the participating faculty have plans to promote the use of highest standards of practice to ensure the safety of all individuals in the research environment?
- Is there evidence that the participating faculty cooperate, interact, and collaborate across partnering institutions (which can include joint sponsorship of trainee research)?
- Do the participating faculty have appropriate plans for ensuring their trainees develop skills in approaches to experimental design, as well as methods of data collection, analysis, interpretation, and reporting?
- Do the participating faculty provide opportunities for trainees to initiate, conduct, interpret, and present rigorous and reproducible biomedical research with increasing self-direction?
- Do the participating faculty demonstrate a commitment to effective mentoring, and promoting inclusive, safe, and supportive scientific and training environments?
- Do the participating faculty express a willingness to engage in activities that promote trainee career development (including, but not limited to the utilization of Individual Development Plans)?
- Does the application provide a sound description of how participating faculty will be evaluated as teachers and

mentors?

Trainee Positions, Appointment Process, Retention, and Support

- Does the application provide a compelling justification for the number of requested funded trainee positions given the pool of potential trainees, the size of the proposed program, the number of participating faculty, and other NIGMS funded training programs?
- Are trainees being appointed at the appropriate stage, and is support structured in such a way, so that they most strongly benefit from the training program?
- Is a candidate review process proposed that will allow a broad group of research-oriented trainees to participate in the training program? Does the process consider metrics beyond GPA and standardized test scores?
- Is there an adequate, evidence-informed retention plan to ensure the well-being and success of all trainees throughout their training (see the "Trainee Retention Plan" attachment)?
- Do the institutions have the resources to support trainees for the duration of their time in the training program, including after bridging to the baccalaureate degree-granting institution?

Training Record

Training Outcomes for Trainees (renewals) or Training Grant Eligible Pool (new applications)

- Are the former students transitioning to the next phase in the biomedical research workforce pathway (e.g., from associate to baccalaureate degree-granting institution(s) and completing the baccalaureate degree in a timely fashion; Training Table 8D)?
- Are completion rates, time-to-degree, and scholarly outcomes for the trainees (or training grant eligible pool) from underrepresented groups (see Notice of NIH's Interest in Diversity) comparable to those from well-represented groups?
- Are former students transitioning into the next phase of the biomedical research pathway (e.g., matriculating into a research-focused biomedical higher degree program or entering the biomedical research workforce)?
- For previously funded programs, does the application provide evidence that former trainees conducted rigorous research that advanced scientific knowledge and/or technologies?

Program Evaluation

- Is there a well thought out evaluation or assessment plan to determine whether the overall program is effective in meeting its training mission and objectives, and whether the training and scientific research climates are inclusive and supportive of trainee development (narrative and "Evaluation and Assessment Instruments" Appendix)?
- Are the resources and expertise for evaluating the training outcomes of the program appropriate?
- Is there evidence that the program has been and/or will be responsive to outcomes, critiques and evaluations?
- Are effective mechanisms in place for obtaining feedback from current and former trainees?
- Does the training program have a well-founded plan to track trainee outcomes and make the data available to potential applicants and trainees (narrative and "Outcomes Data Collection and Storage Plan" attachment)?
- Does the training program have a clear plan to ensure the preservation of and access to program data (narrative and "Outcomes Data Collection and Storage Plan" attachment)?
- Does the application provide an effective plan to share the outcomes of the training or mentoring interventions with the broader community (narrative and Dissemination Plan attachment)?

Additional Review Criteria

As applicable for the project proposed, reviewers will evaluate the following additional items while determining scientific and technical merit, and in providing an overall impact score, but will not give separate scores for these items

Training in Methods for Enhancing Reproducibility

Does the Instruction in Methods for Enhancing Reproducibility plan describe how trainees will be instructed in principles important for enhancing research reproducibility including, at a minimum, evaluation of foundational research underlying a project, rigorous experimental design and data analysis, consideration of relevant biological variables such as sex, authentication of key biological and/or chemical resources, data and material sharing, record keeping, and transparency in reporting? Are the rigor and transparency components sufficiently well integrated into the overall curriculum? Are they

taught at multiple stages of trainee development and in a variety of formats and contexts? Does the teaching synergize with elements of the curriculum designed to enhance trainees' abilities to conduct responsible research? Is there evidence that all participating faculty reiterate and augment key elements of methods for enhancing reproducibility when trainees are performing mentored research in their laboratories? The plan will be rated as ACCEPTABLE or UNACCEPTABLE, and the summary statement will provide the consensus of the review committee.

Recruitment Plan to Enhance Diversity

Reviewers will examine the strategies to be used in the recruitment of prospective individuals from underrepresented groups. The plan will be rated as ACCEPTABLE or UNACCEPTABLE, and the consensus of the review committee will be included in an administrative note in the summary statement.

Training in the Responsible Conduct of Research

All applications for support under this FOA must include a plan to fulfill NIH requirements for instruction in the Responsible Conduct of Research (RCR). Taking into account the specific characteristics of the training program, the level of trainee experience, and the particular circumstances of the trainees, the reviewers will evaluate the adequacy of the proposed RCR training in relation to the following five required components: 1) **Format** - Does the plan satisfactorily address the format of instruction, e.g. lectures, coursework and/or real-time discussion groups, including face-to-face interaction? (A plan involving only on-line instruction is not acceptable); 2) **Subject Matter** Does the plan include a sufficiently broad selection of subject matter, such as conflict of interest, authorship, data management, human subjects and animal use, laboratory safety, research misconduct, and research ethics? 3) **Faculty Participation** - Does the plan adequately describe how faculty will participate in the instruction? For renewal applications, are all training faculty who served as course directors, speakers, lecturers, and/or discussion leaders during the past project period named in the application? 4) **Duration of Instruction** - Does the plan meet the minimum requirements for RCR, i.e., at least eight contact hours of instruction? 5) **Frequency of Instruction** Does the plan meet the minimum requirements for RCR, i.e., at least once during each career stage (undergraduate, post-baccalaureate, predoctoral, postdoctoral, and faculty levels) and at a frequency of no less than once every four years?

Are the RCR components sufficiently well integrated into the overall curriculum? Are they taught at multiple stages of trainee development and in a variety of formats and contexts? Does the teaching of RCR synergize with elements of the curriculum designed to enhance trainees' abilities to conduct rigorous and reproducible research? Is there evidence that all participating faculty reiterate and augment key elements of responsible conduct when trainees are performing mentored research in their laboratories?

Plans and past record will be rated as ACCEPTABLE or UNACCEPTABLE, and the summary statement will provide the consensus of the review committee.

Protections for Human Subjects

Generally not applicable. Reviewers should bring any concerns to the attention of the Scientific Review Officer.

Inclusion of Women, Minorities, and Individuals Across the Lifespan

Generally not applicable. Reviewers should bring any concerns to the attention of the Scientific Review Officer.

Vertebrate Animals

Generally not applicable. Reviewers should bring any concerns to the attention of the Scientific Review Officer.

Biohazards

Generally not applicable. Reviewers should bring any concerns to the attention of the Scientific Review Officer.

Resubmissions

For Resubmissions, the committee will evaluate the application as now presented, taking into consideration the responses to comments from the previous scientific review group and changes made to the project. Undue weight should not be given for simply responding to previous comments; instead the content of the responses and how the

application project will be improved by any proposed changes should be considered.

Renewals

For Renewals, the committee will consider the progress made in the last funding period, including on the Training in Methods for Enhancing Reproducibility Plan, Recruitment Plan to Enhance Diversity, and Training in the Responsible Conduct of Research Plan.

- Did the training grant team successfully implement the proposed programmatic elements?
- Is the program achieving its training objectives?
- Is there evidence that the training environment is inclusive, safe, and supportive?
- Has the program evaluated the quality and effectiveness of the training experience, and is there evidence that the evaluation outcomes and feedback from trainees have been acted upon?
- Are changes proposed that are likely to improve or strengthen the research training experience during the next project period?
- Does the program continue to evolve to reflect changes in the research area in which the training occurs and current evidence-informed training and mentoring approaches?
- Is the program having a broader impact (e.g., are students beyond the trainees directly supported by the program being positively impacted by the program's presence, are training practices and outcomes being shared with the broader biomedical training community)?

Revisions

Not Applicable

Additional Review Considerations

As applicable for the project proposed, reviewers will consider each of the following items, but will not give scores for these items, and should not consider them in providing an overall impact score.

Select Agent Research

Generally not applicable. Reviewers should bring any concerns to the attention of the Scientific Review Officer.

Budget and Period of Support

Reviewers will consider whether the budget and the requested period of support are fully justified and reasonable in relation to the proposed research.

2. Review and Selection Process

Applications will be evaluated for scientific and technical merit by (an) appropriate Scientific Review Group(s), convened by the NIGMS Scientific Review Branch in accordance with NIH peer review policy and procedures, using the stated review criteria. Assignment to a Scientific Review Group will be shown in the eRA Commons.

As part of the scientific peer review, all applications will receive a written critique.

Applications may undergo a selection process in which only those applications deemed to have the highest scientific and technical merit (generally the top half of applications under review) will be discussed and assigned an overall impact score.

Applications will be assigned on the basis of established PHS referral guidelines to the appropriate NIH Institute or Center. Applications will compete for available funds with all other recommended applications. Following initial peer review, recommended applications will receive a second level of review by the appropriate national Advisory Council or Board.

The following will be considered in making funding decisions:

- Scientific and technical merit of the proposed project as determined by scientific peer review.
- Availability of funds.
- Relevance of the proposed project to program priorities

Contributions to portfolio breadth and diversity as outlined in the NIGMS Strategic Plan.

3. Anticipated Announcement and Award Dates

After the peer review of the application is completed, the PD/PI will be able to access his or her Summary Statement (written critique) via the eRA Commons. Refer to Part 1 for dates for peer review, advisory council review, and earliest start date.

Information regarding the disposition of applications is available in the NIH Grants Policy Statement.

Section VI. Award Administration Information

1. Award Notices

If the application is under consideration for funding, NIH will request "just-in-time" information from the applicant as described in the *NIH Grants Policy Statement*.

A formal notification in the form of a Notice of Award (NoA) will be provided to the applicant organization for successful applications. The NoA signed by the grants management officer is the authorizing document and will be sent via email to the recipient's business official.

Recipients must comply with any funding restrictions described in Section IV.5. Funding Restrictions. Selection of an application for award is not an authorization to begin performance. Any costs incurred before receipt of the NoA are at the recipient's risk. These costs may be reimbursed only to the extent considered allowable pre-award costs.

Any application awarded in response to this FOA will be subject to terms and conditions found on the Award Conditions and Information for NIH Grants website. This includes any recent legislation and policy applicable to awards that is highlighted on this website.

2. Administrative and National Policy Requirements

All NIH grant and cooperative agreement awards include the NIH Grants Policy Statement as part of the NoA. For these terms of award, see the NIH Grants Policy Statement Part II: Terms and Conditions of NIH Grant Awards, Subpart A: General and Part II: Terms and Conditions of NIH Grant Awards, Subpart B: Terms and Conditions for Specific Types of Grants, Recipients, and Activities, including of note, but not limited to:

- Federalwide Research Terms and Conditions
- Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment
- Acknowledgment of Federal Funding

If a recipient is successful and receives a Notice of Award, in accepting the award, the recipient agrees that any activities under the award are subject to all provisions currently in effect or implemented during the period of the award, other Department regulations and policies in effect at the time of the award, and applicable statutory provisions.

Should the applicant organization successfully compete for an award, recipients of federal financial assistance (FFA) from HHS must administer their programs in compliance with federal civil rights laws that prohibit discrimination on the basis of race, color, national origin, disability, age and, in some circumstances, religion, conscience, and sex (including gender identify, sexual orientation, and pregnancy). This includes ensuring programs are accessible to persons with limited English proficiency and persons with disabilities. The HHS Office for Civil Rights provides guidance on complying with civil rights laws enforced by HHS. Please see https://www.hhs.gov/civil-rights/for-providers/provider-obligations/index.html and https://www.hhs.gov/civil-rights/for-individuals/nondiscrimination/index.html

HHS recognizes that research projects are often limited in scope for many reasons that are nondiscriminatory, such as the principal investigator's scientific interest, funding limitations, recruitment requirements, and other considerations. Thus, criteria in research protocols that target or exclude certain populations are warranted where nondiscriminatory justifications establish that such criteria are appropriate with respect to the health or safety of the subjects, the scientific study design, or the purpose of the research. For additional guidance regarding how the provisions apply to NIH grant programs, please contact the Scientific/Research Contact that is identified in Section VII under Agency Contacts of this FOA.

- Recipients of FFA must ensure that their programs are accessible to persons with limited English proficiency. For guidance on meeting the legal obligation to take reasonable steps to ensure meaningful access to programs or activities by limited English proficient individuals see https://www.hhs.gov/civil-rights/for-individuals/special-

topics/limited-english-proficiency/fact-sheet-guidance/index.html and https://www.lep.gov.

- For information on an institution's specific legal obligations for serving qualified individuals with disabilities, including reasonable accommodations and making services accessible to them, see http://www.hhs.gov/ocr/civilrights/understanding/disability/index.html.
- HHS funded health and education programs must be administered in an environment free of sexual harassment, see https://www.hhs.gov/civil-rights/for-individuals/sex-discrimination/index.html. For information about NIH's commitment to supporting a safe and respectful work environment, who to contact with questions or concerns, and what NIH's expectations are for institutions and the individuals supported on NIH-funded awards, please see https://grants.nih.gov/grants/policy/harassment.htm.
- For guidance on administering programs in compliance with applicable federal conscience protection and associated anti-discrimination laws see https://www.hhs.gov/conscience/conscience-protections/index.html and https://www.hhs.gov/conscience/religious-freedom/index.html.

Please contact the HHS Office for Civil Rights for more information about obligations and prohibitions under federal civil rights laws at https://www.hhs.gov/ocr/about-us/contact-us/index.html or call 1-800-368-1019 or TDD 1-800-537-7697.

In accordance with the statutory provisions contained in Section 872 of the Duncan Hunter National Defense Authorization Act of Fiscal Year 2009 (Public Law 110-417), NIH awards will be subject to the Federal Awardee Performance and Integrity Information System (FAPIIS) requirements. FAPIIS requires Federal award making officials to review and consider information about an applicant in the designated integrity and performance system (currently FAPIIS) prior to making an award. An applicant, at its option, may review information in the designated integrity and performance systems accessible through FAPIIS and comment on any information about itself that a Federal agency previously entered and is currently in FAPIIS. The Federal awarding agency will consider any comments by the applicant, in addition to other information in FAPIIS, in making a judgement about the applicant's integrity, business ethics, and record of performance under Federal awards when completing the review of risk posed by applicants as described in 45 CFR Part 75.205 and 2 CFR Part 200.206 Federal awarding agency review of risk posed by applicants." This provision will apply to all NIH grants and cooperative agreements except fellowships.

Institutional NRSA training grants must be administered in accordance with the current NRSA section of the *NIH Grants Policy Statement* - Institutional Research Training Grants.

The taxability of stipends is described in the *NIH Grants Policy Statement*. Policies regarding the Ruth L. Kirschstein-NRSA payback obligation are explained in the *NIH Grants Policy Statement*.

Inventions and Copyrights Awards made primarily for educational purposes are exempted from the PHS invention requirements and thus invention reporting is not required, as described in the *NIH Grants Policy Statement*.

Cooperative Agreement Terms and Conditions of Award

Not Applicable

3. Reporting

When multiple years are involved, recipients will be required to submit the Research Performance Progress Report (RPPR) annually. Continuation support will not be provided until the required forms are submitted and accepted.

Failure by the recipient institution to submit required forms in a timely, complete, and accurate manner may result in an expenditure disallowance or a delay in any continuation funding for the award.

The Federal Funding Accountability and Transparency Act of 2006 (Transparency Act), includes a requirement for awardees of Federal grants to report information about first-tier subawards and executive compensation under Federal assistance awards issued in FY2011 or later. All awardees of applicable NIH grants and cooperative agreements are required to report to the Federal Subaward Reporting System (FSRS) available at www.fsrs.gov on all subawards over $25,000. See the *NIH Grants Policy Statement* for additional information on this reporting requirement.

Other Reporting Requirements

The institution must submit a completed Statement of Appointment (PHS Form 2271) for each trainee appointed or reappointed to the training grant for 8 weeks or more. Recipients must submit the PHS 2271 data electronically using the

xTrain system. More information on xTrain is available at xTrain (eRA Commons). An appointment or reappointment may begin any time during the budget period, but not before the budget period start date of the grant year.

A notarized statement verifying possession of permanent residency documentation must be submitted with the Statement of Appointment (PHS Form 2271). Individuals with a Conditional Permanent Resident status must first meet full (non-conditional) Permanent Residency requirements before receiving support.

A final RPPR, the expenditure data portion of the Federal Financial Report, and Termination Notices for all Trainees, are required for closeout of an award as described in the NIH Grants Policy Statement. NIH FOAs outline intended research goals and objectives. Post award, NIH will review and measure performance based on the details and outcomes that are shared within the RPPR, as described at 45 CFR Part 75.301 and 2 CFR Part 200.301.

In accordance with the regulatory requirements provided at 45 CFR 75.113 and 2 CFR Part 200.113 and Appendix XII to 45 CFR Part 75 and 2 CFR Part 200, recipients that have currently active Federal grants, cooperative agreements, and procurement contracts from all Federal awarding agencies with a cumulative total value greater than $10,000,000 for any period of time during the period of performance of a Federal award, must report and maintain the currency of information reported in the System for Award Management (SAM) about civil, criminal, and administrative proceedings in connection with the award or performance of a Federal award that reached final disposition within the most recent five-year period. The recipient must also make semiannual disclosures regarding such proceedings. Proceedings information will be made publicly available in the designated integrity and performance system (currently FAPIIS). This is a statutory requirement under section 872 of Public Law 110-417, as amended (41 U.S.C. 2313). As required by section 3010 of Public Law 111-212, all information posted in the designated integrity and performance system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available. Full reporting requirements and procedures are found in Appendix XII to 45 CFR Part 75 and 2 CFR Part 200 Award Term and Condition for Recipient Integrity and Performance Matters.

4. Evaluation

In carrying out its stewardship of human resource-related programs, the NIH may request information essential to an assessment of the effectiveness of this program from databases and from participants themselves. Participants may be contacted after the completion of this award for periodic updates on various aspects of their employment history, publications, support from research grants or contracts, honors and awards, professional activities, and other information helpful in evaluating the impact of the program.

Within 10 years of making awards under this program, NIGMS will assess the program's overall outcomes.

The overall evaluation of the program will be based on metrics that will include, but are not limited to, the following:

- Institution types represented
- Geographical distribution of programs
- Demographics of trainees
- Trainee transfer and baccalaureate degree completion rates
- The average time to transfer and time-to-baccalaureate degree
- Scientific accomplishments of trainees
- Trainee career outcomes

Section VII. Agency Contacts

We encourage inquiries concerning this funding opportunity and welcome the opportunity to answer questions from potential applicants.

Application Submission Contacts

eRA Service Desk (Questions regarding ASSIST, eRA Commons, application errors and warnings, documenting system problems that threaten on-time submission, and post-submission issues)

Finding Help Online: http://grants.nih.gov/support/ (preferred method of contact)
Telephone: 301-402-7469 or 866-504-9552 (Toll Free)

General Grants Information (Questions regarding application processes and NIH grant resources)
Email: GrantsInfo@nih.gov (preferred method of contact)
Telephone: 301-480-7075

Grants.gov Customer Support (Questions regarding Grants.gov registration and Workspace)
Contact Center Telephone: 800-518-4726
Email: support@grants.gov

Scientific/Research Contacts

Shakira Nelson, Ph.D.
National Institute of General Medical Sciences (NIGMS)
Email: shakira.nelson@nih.gov

Laurie Stepanek, Ph.D.
National Institute of General Medical Sciences (NIGMS)
Email: laurie.stepanek@nih.gov

Peer Review Contact(s)

National Institute of General Medical Sciences
Email: NIGMSReview@mail.nih.govv

Financial/Grants Management Contacts

Justin Rosenzweig
National Institute of General Medical Sciences (NIGMS)
Email: rosenzwj@nigms.nih.gov

Section VIII. Other Information

Authority and Regulations

Awards are made under the authorization of Section 487 of the Public Health Service Act as amended (42 USC 288) and under Federal Regulations 42 CFR 66.

Weekly TOC for this Announcement
NIH Funding Opportunities and Notices

Note: For help accessing PDF, RTF, MS Word, Excel, PowerPoint, Audio or Video files, see Help Downloading

Files.