

## **GUIDE FOR REVIEWER'S WRITTEN COMMENTS NIDDK EDUCATION PROGRAM GRANTS (R25)**

### **EXECUTIVE SUMMARY**

This funding opportunity announcement (FOA) encourages Research Education (R25) grant applications from applicant organizations that propose to create educational opportunities for undergraduate students, graduate students, and postdoctoral fellows to careers in areas of biomedical or behavioral research of particular interest to the NIDDK, while fostering the career development of these students and fellows. The structure of the educational opportunity can include an intensive summer research program, a curriculum-based program or a combination of both experiences.

The NIDDK is especially interested in attracting students and postdoctoral fellows from scientific disciplines underrepresented in disease-oriented biomedical research, such as engineering, informatics, computer science, and computational sciences, to encourage them to apply their expertise to research relevant to diabetes and other endocrine and metabolic diseases; digestive and liver diseases; nutrition; obesity research and prevention; and kidney, urologic and hematologic diseases.

Refer to the program announcement for more detail about the award  
<http://grants.nih.gov/grants/guide/pa-files/PA-12-047.html>

### **OVERALL IMPACT**

Reviewers will provide an overall impact/priority score to reflect their assessment of the likelihood for the research education program to exert a sustained, powerful influence on the research fields involved, in consideration of the following five scored review criteria, and additional review criteria (as applicable for the proposed program).

An application does not need to be strong in all categories to have a major impact. Your critique should indicate the most significant strengths and weaknesses.

### **SCORED REVIEW CRITERIA**

Reviewers will consider each of the review criteria below in the determination of scientific merit, and give a separate score for each. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

#### **1. Significance**

- Does the proposed research education program address an important problem or critical question in research education or other critical issues?
- How will implementation of the proposed program advance the objectives of the proposed program?
- If the aims of the program are achieved, will it significantly influence participants' attitude toward pursuit of a career in NIDDK-related research?
- Will a successful program lead to the development of innovative research education?

#### **2. Investigator(s)**

- Are the PD(s)/PI(s), collaborators, and other researchers appropriately trained and well suited to the proposed research education program?
- Is the PD(s)/PI(s) an established investigator in the scientific area in which the application

is targeted and capable of providing both administrative and scientific leadership to the development and implementation of the proposed research education program?

- If Early Stage Investigator or New Investigator, or in the early stages of an independent career, does the PD(s)/PI(s) have appropriate experience to lead the program?
- If the project is collaborative or multi-PD(s)/PI(s), do the investigators have complementary and integrated expertise; are their leadership approach, governance and organizational structure appropriate for the project?
- Is there evidence that an appropriate level of effort will be devoted by the program leadership to ensure the program's objectives?
- Is the makeup of the Advisory Committee suitable?
- Are the members committed to providing oversight and input, and to monitoring and evaluating the overall effectiveness of the program?
- If appropriate, were institutional curriculum committees involved in the plan for integrating the proposed program into the current established curriculum?
- Is there evidence that the participating faculty will provide quality research and mentoring experiences?

### **3. Innovation**

- Is the proposed research education program characterized by innovation and scholarship?
- Does the proposed program challenge and seek to shift current research education paradigms or clinical practice; address an innovative hypothesis or critical barrier to progress in the field?
- Are the proposed concepts, approaches, methodologies, tools, or technologies novel for this area?
- Does this proposed program duplicate, or overlap with, existing research education, training and/or career development activities currently supported at the applicant institution or available elsewhere?
- Adaptations of existing research education programs may be considered innovative under special circumstances, e.g., the addition of unique components and/or a proposal to determine portability of an existing program?
- For summer education experiences, will there be activities dedicated to the program participants, such as career seminars, forums for presenting research plans for the summer and of accomplished work at the end of the summer?
- Are any unique activities proposed to enhance the research experiences of the participants?

### **4. Approach**

- Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the proposed research education program?
- Are potential problems, alternative strategies, and benchmarks for success presented?
- If the program is in the early stages of development, will the strategy establish feasibility and will particularly risky aspects be managed?
- If called for, is the proposed plan for evaluation and/or dissemination of the education program sound and likely to provide data on the effectiveness of the education program?
- Is there evidence that the program is based on sound research concepts and educational principles?

- Is the approach feasible and appropriate to achieve the stated research education goals?
- If the proposed program will recruit participants, are the recruitment, retention, and follow-up activities adequate to ensure a highly qualified and diverse participant pool?
- For summer research programs, is there a plan to ensure that the participants will be incorporated into the existing research community (orientation sessions, participation in lab meetings, attendance at seminars, etc.)?
- Will the participants have ample opportunities to interact with faculty, post-doctoral fellows and graduate students?

**If the program involves clinical research**, are the plans for 1) protection of human subjects from research risks, and 2) inclusion of minorities and members of both sexes/genders, as well as the inclusion of children, justified in terms of the scientific goals and research strategy proposed?

## **5. Environment**

- Will the scientific/educational environment in which the proposed research education program will be conducted contribute to the probability of success?
- Are the institutional commitment and support, equipment and other physical resources available to the investigators adequate for the program proposed?
- Will the program benefit from unique features of the scientific environment, subject populations, or collaborative arrangements?
- Is there evidence of appropriate collaboration among participating programs, departments, and institutions?
- If multiple sites are participating, is this adequately justified in terms of the research education experiences provided?
- Are adequate plans provided for coordination and communication between multiple sites (if appropriate)?

### **Additional Review Criteria**

As applicable for the project proposed, reviewers are asked to consider the following additional items in the determination of scientific and technical merit, but not to give separate scores for these items.

#### **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 Children**

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

#### **Vertebrate Animal**

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.

## Renewals

For Renewals, the committee will consider the progress made in the last funding period, including on the Recruitment and Retention Plan to Enhance Diversity, and Training in the Responsible Conduct of Research. In addition, the committee will consider the following:

- Has the research education program successfully achieved its stated objectives during the prior project period? For existing programs, has the previous award resulted in additional summer research opportunities?
- Has the research education program successfully recruited a diverse pool of participants? Has the PD(s)/PI(s) effectively shaped the recruitment plan in response to recruitment outcomes?
- Has the program been appropriately modified in response to participants and faculty assessments? Does it remain innovative?

## 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/priority score.

### Recruitment and Retention Plan to Enhance Diversity

Peer reviewers will separately evaluate the recruitment and retention plan to enhance diversity after the overall score has been determined. Reviewers will examine the strategies to be used in the recruitment and retention of individuals from underrepresented groups. Plans and past record will be rated as **Acceptable** or **Unacceptable**, and the summary statement will provide the consensus of the review committee.

### Training in the Responsible Conduct of Research

Taking into account the specific characteristics of the research education program, level of participant experience, and the particular circumstances of the participants, the reviewers will address the following questions:

- Does the plan satisfactorily address the format of instruction, e.g. lectures and/or real-time discussion groups?
- Do plans include a sufficiently broad selection of subject matter, such as conflict of interest, authorship, data management, human subjects and animal use, laboratory safety?
- Do the plans adequately describe how faculty will participate in the instruction?
- Do the plans ensure participants will receive instruction (or in the case of more senior level participants, provide instruction) for an appropriate amount of time given the length of the research education experience?

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

### Resource Sharing Plans

Reviewers will comment on whether the following Resource Sharing Plans, or the rationale for not sharing the following types of resources, are reasonable: 1) [Data Sharing Plan](#); 2) [Sharing Model Organisms](#); and 3) [Genome Wide Association Studies \(GWAS\)](#).

### **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.