

## **Definitions of Criteria and Considerations for T35 Critiques**

NIDDK short-term training grants (T35s) provide institutions with funds to support medical students for 2-3 months while they perform a research project, typically between their first and second years of school. Institutional short-term training grants provide stipends and training-related expenses for multiple students to pursue research projects under the guidance of experienced investigators. Selection of students is at the discretion of the Program Director or a committee at the institution.

### **Overall Impact**

Reviewers will provide an overall impact/priority score to reflect their assessment of the likelihood that the proposed training program will prepare individuals for successful, productive scientific research careers and thereby exert a sustained influence on the research field(s) involved, in consideration of the following review criteria and additional review criteria (as applicable for the project proposed).

### **SCORED REVIEW CRITERIA**

Reviewers will consider each of the review criteria below in the determination of training program merit, and give a separate score for each. When applicable, the reviewers will consider each question 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.

#### **1. Training Program and Environment**

- Are the objectives, design, direction, and quality of the proposed short-term research training program appropriate and likely to ensure effective training?
- Does the proposed program provide suitable training for the level of trainees being proposed and the area(s) of science to be supported by the program? Are the quality of proposed courses, if applicable, and training experiences appropriate for the trainees to be included in the program?
- If appropriate, does the program provide training in inter- or multi-disciplinary research and/or provide training in state-of-the-art or novel methodologies and techniques?
- Is the proposed program of training likely to ensure that trainees will acquire knowledge and skills necessary to prepare them for a research career? Does the program include features likely to encourage short-term trainees to consider careers in health-related research?
- Are the research facilities and research environment conducive to preparing trainees for successful careers as biomedical research scientists?
- Is the level of institutional commitment to the training program, including administrative and research training support, sufficient to ensure the success of the program?

#### **2. Training Program Director(s)/Principal Investigator(s) (PDs/Pis)**

- Does the Training PD/PI have the scientific background, expertise, and administrative and training experience to provide strong leadership, direction, management, and administration of the proposed research training program?
- Does the Training PD/PI plan to commit sufficient effort to ensure the program's success?

#### **For applications designating multiple Training PDs/Pis:**

- Is a strong justification provided that the multiple Training PD/PI leadership approach will benefit the training program and the trainees?

- Is a strong and compelling leadership approach evident, including the designated roles and responsibilities, governance, and organizational structure consistent with and justified by the aims of the training program and the complementary expertise of the PDs/PIs?

### **3. Preceptors/Mentors**

- Are sufficient numbers of experienced preceptors/mentors with appropriate expertise and funding available to support the number and level of trainees proposed in the application?
- Do the preceptors/mentors have strong records as researchers, including recent publications and successful competition for research support in areas directly related to the proposed research training program?
- Do the preceptors/mentors have strong records of training individuals at the level of trainees proposed in the program? Are appropriate plans in place to ensure that preceptors lacking sufficient research training experience are likely to provide strong and successful mentoring?

### **4. Trainees**

- Is a recruitment plan proposed with strategies likely to attract high-quality candidates for the short-term training program?
- Does the program have access to and the ability to recruit high quality, short-term trainees from the applicant institution or another health-professional school?
- Are the size and quality of the applicant pool adequate to support the program?
- Are the recruiting procedures and trainee selection criteria appropriate and well defined?

### **5. Training Record**

- How successful are the trainees (or for new applications, other past students/fellows in similar training) in completing the program? Do trainees subsequently enter careers in health-related research?
- How productive are trainees (or for new applications, other past students/fellows in similar training) in terms of research accomplishments, publications, subsequent training appointments, fellowships, and individual research support?
- Does the program have a rigorous evaluation plan to assess the quality and effectiveness of the training? Are effective mechanisms in place for obtaining feedback from current and former trainees and monitoring trainees' subsequent career development?
- Are appropriate plans presented to follow the careers of short-term trainees and to assess the effect of the training program on subsequent career choices?
- Is the program successful in attracting trainees back for multiple appointments, when possible and appropriate?

### **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/priority score, but will not 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.

### **Resubmission Applications**

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.

### **Renewal Applications**

For Renewals, the committee also will consider the progress made in the last funding period, including progress on the **Recruitment and Retention Plan to Enhance Diversity**.

- **For renewal applications:**
  - Does the application describe the program's accomplishments over the past funding period(s)?
  - Is the program achieving its training objectives?
  - 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 would improve or strengthen the research training experience?
  - Has the program been successful in attracting trainees back for multiple appointments and to continue subsequently in health-related research positions?

### **Revision**

For Revisions, the committee will consider the appropriateness of the proposed expansion of the scope of the project. If the Revision application relates to a specific line of investigation presented in the original application that was not recommended for approval by the committee, then the committee will consider whether the responses to comments from the previous scientific review group are adequate and whether substantial changes are clearly evident

## **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. 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, 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?

### For renewal applications,

- Does the progress report document acceptable RCR instruction in the five components described above?
- Does the plan describe how participation in RCR instruction is being monitored?
- Are appropriate changes in the plan for RCR instruction proposed in response to feedback and in response to evolving issues related to responsible conduct of research?

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

## Select Agent Research

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

## Budget and Period Support

Reviewers will consider whether the budget, **including the requested number of training positions**, and the requested period of support are fully justified and reasonable in relation to the proposed research training program.

## Additional Comments to the Applicant

Reviewers may provide guidance to the applicant or recommend against resubmission without fundamental revision.