

## **Definitions of Criteria and Considerations for T32 Critiques**

### **Overall Impact**

Reviewers will provide an overall impact/priority score to reflect their assessment of the likelihood for the program to exert a sustained, powerful 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 five (5) scored review criteria and associated questions below in the determination of scientific merit, provide the basis for your assessment, 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. Training Program and Environment.**

- Are the research facilities and research environment conducive to preparing trainees for successful careers as biomedical research scientists?
- Are the objectives, design and direction of the proposed research training program likely to ensure effective training?
- Do the courses, where relevant, and research experiences provide opportunities for trainees to acquire state-of-the-art scientific knowledge, methods, and tools that are relevant to the goals of the training program?
- Does the program provide appropriate inter- or multidisciplinary research training opportunities?
- Is the proposed training program likely to ensure trainees will be well prepared for research-intensive and research-related careers?
- Is the level of institutional commitment to the training program, including administrative and research training support, sufficient to ensure the success of the program?
- Is it clear how the proposed training program is distinguished from other externally funded training programs at the institution?
- **For applications that request short-term research training positions:**
  - Is this aspect of the program well designed and, where appropriate, integrated with other aspects of the training program;
  - Are the numbers of short-term positions appropriate;
  - Does the program include features to encourage short-term trainees to consider careers in health-related research?

#### **2. Training Program Director/Principal Investigator.**

- Does the Training PD/PI have the scientific background, expertise, and experience to provide strong leadership, direction, management, and administration to the proposed research training program?
- Does the Training PD/PI plan to commit sufficient time to the program to ensure its success?
- Is sufficient administrative and research training support provided for the program?
- **For applications designating multiple PD/PIs:**
  - Is a strong justification provided that the multiple 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 with the complementary expertise of each of the PD/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 (including short-term trainees, if applicable) 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 (including short-term trainees, if applicable) 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 contains strategies likely to attract well-qualified candidates for the training program?
- Is there a competitive applicant pool of sufficient size and quality, at each of the proposed levels (predoctoral, postdoctoral and/or short-term), to ensure a successful training program?
- Are there well-defined and justified selection and re-appointment criteria as well as retention strategies?
- **For applications that request short-term research training positions,**
  - Does the program have the ability to recruit high quality, short-term trainees?

### 5. Training Record.

- How successful are the trainees (or, for new applications, other past students/postdoctorates in similar training) in completing the program?
- Has the training program ensured that trainees are productive (or, for new applications, other past students/postdoctorates in similar training) in terms of research accomplishments, publication of research conducted during the training period, and subsequent training appointments and fellowship or career development awards?
- How successful are the trainees (or, for new applications, other past students/postdoctorates in similar training) in achieving productive scientific careers as evidenced by successful competition for research science positions in industry, academia, government, or other research venues; grants; receipt of honors, awards, or patents; high-impact publications; promotion to scientific leadership positions; and/or other such measures of success?
- To what extent do trainees' subsequent positions in industrial, academic, government, non-profit, or other sectors benefit from their NRSA-supported research training and directly benefit the broader biomedical research enterprise?
- Does the program propose 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?
- **For programs that provide research training to health-professional doctorates:**

- Is there a record of retaining health professional trainees in research training or other research activities for at least two years?
- **For applications that request short-term research training positions:**
  - Are plans presented to follow the careers of short-term trainees and to assess the effect of the training program on subsequent career choices?
  - What is the success in attracting students back for multiple appointments?
  - What is the effect of the short-term component on the overall training program?

### **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**

When reviewing a Resubmission application 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 when applicable, short-term 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 (may not be applicable to short-term training)?

- Does the program continue to evolve and reflect changes in the research area in which the training occurs?

## 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 (predoctoral, postdoctoral, short-term), 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.