

NIH F31s

From the perspective of a reviewer

NIH Program Announcement (PA-19-195) includes Application Review Information

A research project **integrated** with a training plan that will be evaluated for scientific and technical merit through NIH peer review system

“The review will emphasize the applicant’s **potential** for a productive career, the applicant’s **need** for the proposed training, and the **degree to which the research project and training plan, the sponsor(s), and the environment will satisfy those needs.**”

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LOGISTICS OF THE REVIEW PROCESS

Review Process

before the Review Panel meets

- Each application is assigned to three reviewers
- All three reviewers provide a ***preliminary*** overall impact score and preliminary scores for individual criteria
- All three reviewers write an **overall impact summary**
- R1 and R2 write a full critique including details supporting their scores for each review criteria

Review Process

when the Review Panel meets

Applications sorted by *preliminary* impact score; Panel discusses at least 50% of applications (for each funding mechanism)

- Reviewers announce preliminary scores
- R1 provides introduction and concise review, emphasizing strengths and weaknesses; R2 and R3 discuss areas of concurrence or disagreement
- All panel members encouraged to participate in discussion
- Reviewers announce ***final*** impact scores
- Each member of the panel records a score based on panel discussion (typically within the range set by the reviewers)
- Non-scored review criteria discussed (RCR, sharing plans)
- Applications not discussed will receive written critiques

Overall Impact/Merit Score

...assessment of the likelihood that the fellowship will enhance the applicant's potential for, and commitment to, a productive independent scientific research career in a health-related field, in consideration of the scored and additional review criteria.

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SCORED REVIEW CRITERIA

Scored Review Criteria

- Fellowship Applicant
- Sponsors, Collaborators, and Consultants
- Research Training Plan
- Training Potential
- Institutional Environment and Commitment to Training

Reviewers list strengths and weaknesses and assign individual scores for each category

All criteria can affect overall impact score

Need not be strong in all categories to be judged likely to have major impact

Fellowship Applicant

- academic record
- research experience
- potential for independence and productivity
- demonstrate commitment to research career

Does the applicant have the potential to develop into an independent and productive researcher?

Sponsor(s), Collaborators, and Consultants

- research qualifications/recent publications
- track record of mentoring
- match between applicant and sponsor interests
- understanding of and commitment to address applicant's training needs
- adequate research funds/number of trainees

Does the sponsor recognize the applicant's training goals and demonstrate commitment to help the applicant achieve them?

Research Training Plan

- high scientific quality
- clear and reasoned with discussion of outcomes and possible problems
- appropriate project for PhD candidate
- preliminary data not required, but feasible approach based on existing data

Will the research plan train the applicant to be an excellent scientist?

Training Potential

Research Project and Training Plan should:

- support applicant's strengths, address weaknesses
- provide individualized and mentored experiences to develop knowledge, research skills, professional development skills (seminars, journal clubs, presentations, opportunities to attend conferences, specialized courses (here or elsewhere))
- serve as a sound foundation to allow applicant to develop into a productive researcher

What experiences will the applicant have to help meet their training goals?

Institutional Environment & Commitment to Training

- adequate and appropriate facilities, equipment, graduate program resources and opportunities
- high quality environment for scientific development
- commitment to fostering mentored training toward research career goals

Is the institution committed to helping the applicant achieve their training goals?

Additional Review Criteria

- Protections for Human Subjects
- Inclusion of Women, Minorities, Individuals Across the Lifespan
- Vertebrate Animals
- Biohazards
- Resubmissions

inform overall impact score, but separate scores not given

Features of a strong application

- Well integrated and consistent: sponsor and applicant reinforce overall goals of training experience
- Communicates how the applicant will take advantage of available resources to become a great scientist
- All components of the application make it easy for the reviewer to summarize why award of this fellowship will have a major impact on the likelihood that the applicant will be prepared for a productive, independent, scientific career

Features of a strong sponsor plan

- Individualized: describes the training **this** student needs to become a great scientist
- Addresses multiple aspects of training: experimental design, experimental technique, communication (oral and written), mentoring, teaching, specialized coursework
- Describes how the lab environment, local scientific environment, and institutional resources will contribute to training

Components** of an F31 Application

not all components are listed!

- Applicant Biosketch *include Personal Statement and Scholastic Performance*
- Sponsor Biosketch *include Personal Statement (emphasize training experience) and Research Support*
- Applicant's Background and Training Goals (research experience, training goals and objectives, activities planned under award, consider including a timeline)
- Specific Aims/Research Strategy (1+6 pages)
- Respective Contributions *of sponsor and applicant in preparing the research strategy*
- Selection of Sponsor and Institution
- Training in Responsible Conduct of Research
- Sponsor and Co-Sponsor Information
- Institutional Environment and Commitment to Training (includes graduate program information)
- Three Letters of Reference

****ALL of these sections can help convey to the review panel why *your* application will have impact on *your* training!!**

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ADDITIONAL REVIEW CONSIDERATIONS

Additional Review *Considerations***

- Training in the Responsible Conduct of Research
- Applications from Foreign Organizations
- Select Agent Research
- Resource Sharing Plans
 - Data Sharing Plan
 - Sharing Model Organisms
 - Genomic Data Sharing Plan
- Budget and Period of Support

***evaluate, but scores not given and should **not** consider in providing overall impact score*

Training in Responsible Conduct of Research

Reviewers required to comment on

- Format (Lectures? Case discussions? Readings?)
- Subject matter (List the topics!)
- Faculty participation (role of sponsor and other faculty members in instruction)
- Duration of Instruction (number of contact hours)
- Frequency of Instruction (each career stage, at least once every four years)

HINT:

If you make it easy for the reviewer to assess and comment on this information, you will have a happier reviewer!

Budget and Period of Support

- Is requested period of support fully justified and reasonable in relation to the proposed training

HINT:

If you will be starting your fourth year of graduate school and require training in a new area to complete your thesis work, explain why you are transitioning to this area and ask for a reasonable period of support (i.e., don't ask for three years!)

Summary of Criteria

- Quality and potential of the applicant
- Quality and track record of the sponsor and other mentors included in the application
- Quality of the research plan and its integration with the training plan for the applicant
- Potential that the project and training plan will provide the applicant with knowledge and skills to transition to next career stage and develop as an independent scientist
- Quality of the institution as a training environment

Applicant: ask yourself

- Why do I need this training experience?
- What gaps in my training exist?
- Why did I pick this lab at Rutgers University to carry out my training?
- How will my PI help me achieve my training goals?
- How will I take advantage of the resources at Rutgers to become a research scientist?

Sponsor: ask yourself

- Why does my student need this training experience?
- What gaps exist in my student's training?
- Why is my lab ideal to provide the needed training and fill those gaps?
- How can I help my student achieve his/her training goals?
- What resources at Rutgers will help my student become a research scientist?

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EVALUATION OF SCORED REVIEW CRITERIA (MORE DETAILS)

Fellowship Applicant

- Are the applicant's academic record and research experience of high quality?
- Does the applicant have the potential to develop into an independent and productive researcher?
- Does the applicant demonstrate commitment to a research career in the future?

Sponsor(s)

Collaborators, Consultants

- Are the sponsor(s)' **research qualifications** (including recent publications) and **track record of mentoring individuals at a similar stage** appropriate for the needs of the applicant?
- Is there evidence of a **match between the research interests** of the applicant and the sponsor(s)?
- Do the sponsor(s) demonstrate an **understanding of the applicant's training needs** as well as the ability and commitment to assist in meeting these needs?
- Is there evidence of **adequate research funds** to support the applicant's research project and training for the duration of the fellowship?

Sponsor(s)

Collaborators, Consultants (continued)

- If a team of sponsors is proposed, is the **team structure well justified** for the mentored training plan, and are the **roles** of the individual members **appropriate and clearly defined**?
- Are the qualifications of any collaborator(s) and/or consultant(s), including their **complementary expertise and previous experience in fostering the training of fellows, appropriate** for the proposed research project?

Research Training Plan

- Is the proposed research plan of high scientific quality, and is it well integrated with the applicant's training plan?
- Is the research project consistent with the applicant's stage of research development?
- Is the proposed time frame feasible to accomplish the proposed research training?
- Based on the sponsor's description of his/her active research program, is the applicant's proposed research project sufficiently distinct from the sponsor's funded research for the applicant's career stage?

Training Potential

- Are the proposed research project and training plan likely to provide the applicant with the requisite individualized and mentored experiences in order to obtain appropriate skills for a research career?
- Does the training plan take advantage of the applicant's strengths and address gaps in needed skills? Does the training plan document a clear need for, and value of, the proposed training?
- Does the proposed research training have the potential to serve as a sound foundation that will clearly enhance the applicant's ability to develop into a productive researcher?

Institutional Environment & Commitment to Training

- Are the **research facilities, resources** (e.g., equipment, laboratory space, computer time, subject populations), and **training opportunities** (e.g. seminars, workshops, professional development opportunities) **adequate and appropriate**?
- Is the **institutional environment** for the applicant's scientific development **of high quality**?
- Is there appropriate **institutional commitment** to fostering the applicant's **mentored training** toward his/her research career goals?

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Sponsor Information

- Research Support Available
 - *table form: source, title, PI, dates, total amount*
- Sponsor's Previous Fellows
 - *indicate number of previous trainees at same stage and outcomes for five (recent if possible)*
- Training Plan, Environment, Research Facilities
 - Training: *experimental design, oral and written communication, mentoring, teaching, necessary coursework*
 - Environment: *how it supports your area of science (department/institute, school, university); how it contributes to training (e.g. iJOBS, TAProject, GradFund, Biolinks)*
 - Research Facilities: *relevant equipment and core facilities*
- Number of Fellows/Trainees to be Supervised During the Fellowship
 - *can be helpful to say something about other trainees: what stage of training? A note about their projects*
- Applicant's Qualifications and Potential for a Research Career
 - *sponsor's opportunity to provide a letter of reference, emphasize strengths, if weaknesses, be sure the training plan addresses how they will be addressed*