F31/F30 and F32 Application Ingredients

Successful Application

Mentor & Training Plan
Trainee
Science

Successful Application
NIH = 27 Institutes and Centers (IC)

Each with a different:
– mission & priorities
– budget
– funding strategy
Work with your institution’s office of sponsored research to be sure you are registered and your account is affiliated with your institution BEFORE you apply.

2 weeks lead time – PI registration in Commons
6-8 weeks – All institutional registrations and renewals
Know your PO, SRO, and GS

- **Program Officer (PO)**
  - Works in a particular institute
  - Manages a scientific research portfolio of grants, contracts, and cooperative agreements

- **Scientific Review Officer (SRO)**
  - Helps ensure that the scientific review group (study section) identifies the most meritorious science for potential funding

- **Grants Management Specialist/Officer (GS/GMO)**
  - Works in a particular institute; Evaluates applications for administrative content and compliance with policy
How does a grant get funded?

Great Research Idea!

Investigator
Performs the Research

Institution
Submits Application
Allocates Funds

National Institutes of Health

Center for Scientific Review
Assigns to IC & IRG / Study Section

Study Section
Reviews for Scientific Merit

Institute
Evaluates for Relevance

Advisory Councils & Board
Recommends Action

Institute Director
Makes Funding Decision
Reviewer Assignments

• For each application:
  – The SRO recruits reviewers and assigns applications
  – ≥ Three qualified reviewers are assigned for in-depth assessment = “assigned” reviewers
  – 1°, 2°, and 3° reviewer submit preliminary impact scores and comments
  – Grants ranked according to these scores
  – A reviewer may revise his or her score, but almost always for the worse, not better

  § Assignments are confidential!
At the Review Meeting

- Only the top 50% of grants are discussed
- Best-scoring grants are discussed first
- Reviewer 1 introduces the application and presents critique. Reviewers 2 and 3 highlight additional issues and areas that significantly impact scores, try to achieve consensus.
  - Scores almost always get worse, not better
- All members join the discussion; Summary by Chair
- Assigned reviewers provide final scores, setting range
- All members provide final scores privately. Everyone in the room inputs a score, even if they haven’t read the application.
- Scores averaged & multiplied by 10: 10 = best, 90 = worst
NIH Scoring System

Reviewers give numerical scores
– 1 (exceptional) to 9 (poor)
– Used for criterion scores and final impact score

<table>
<thead>
<tr>
<th>Impact</th>
<th>Score</th>
<th>Descriptor</th>
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<tbody>
<tr>
<td>High Impact</td>
<td>1</td>
<td>Exceptional</td>
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<tr>
<td></td>
<td>2</td>
<td>Outstanding</td>
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<tr>
<td></td>
<td>3</td>
<td>Excellent</td>
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<tr>
<td>Moderate Impact</td>
<td>4</td>
<td>Very Good</td>
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<td></td>
<td>5</td>
<td>Good</td>
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<td></td>
<td>6</td>
<td>Satisfactory</td>
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<td>Low Impact</td>
<td>7</td>
<td>Fair</td>
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<td></td>
<td>8</td>
<td>Marginal</td>
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<tr>
<td></td>
<td>9</td>
<td>Poor</td>
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<table>
<thead>
<tr>
<th>Career Award</th>
<th>Research Award</th>
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<tbody>
<tr>
<td>Candidate</td>
<td>Significance</td>
</tr>
<tr>
<td>Career Dev Plan / Career Goals and Obj</td>
<td>Investigator(s)</td>
</tr>
<tr>
<td>Research Plan</td>
<td>Innovation</td>
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<tr>
<td>Mentors, Collaborators</td>
<td>Approach</td>
</tr>
<tr>
<td>Environment / Institutional Commitment</td>
<td>Environment</td>
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Summary Statement

• First page
  – NIH Program Official (upper left corner)
  – Final Impact Score and Percentile (if applicable)

• The critiques
  – Summary of discussion (if discussed)
  – Critiques from each reviewer with scores
  – Strengths for feeling less depressed
  – Weakness tell you what to fix on resubmission

• A favorable score does not guarantee funding!

• Contact your PO to discuss next steps
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Institute Director
Makes Funding Decision
Not Funded! Now What?
Regroup

• Take a deep breath
• Read summary statement
• Read it again
• Talk with your NIH program official
• Evaluate your options
  – Revise & submit again?
  – Choose a new research direction?
Main Application Components

1. Referees: 3 letters of reference are submitted by the writer on eRA Commons
2. Letters of Support: from collaborators, co-mentors
3. Mentor Statement
5. Specific Aims - 1 page
6. Research Strategy – 6 pages
7. Responsible Conduct of Research – 1 page
8. Goals – 1 page
9. Activities planned – 1 page

Incorporate Training Goals and Mentorship Plan into each part
Review Criteria

Main Review Criteria

1. Overall Impact
   Assessment of the likelihood that the proposed training will enhance the candidate’s potential for a productive, independent scientific career.

2. Five Core Review Criteria
   1. Applicant
   2. Mentor(s), sponsors, collaborators
   3. Research Training Plan
   4. Training Potential
   5. Institutional Environment and Commitment to Training

Additional Criteria – Training in the Responsible Conduct of Research
Parts of the Five Core Review Criteria

1. Fellowship Applicant
   - Scholastic performance
   - Productivity commensurate with career stage
   - Aptitude and enthusiasm
   - Clarity of stated career goals
   - Letters of reference
   - Mentoring committee for pre-docs is a plus

2. Sponsors, Collaborators, and Consultants
   - Documented mentoring successes
   - Expertise in the field
   - Present productivity
   - Funds available to cover research expenses
   - Co-mentor to cover weaknesses
   - Clearly defined roles for mentors and collaborators

3. Research Training Plan
   - Significance & impact of the proposed research
   - Logical hypothesis
   - Clarity, feasibility and alternative strategies
   - Stats, vertebrate animals, human subjects
   - Sophisticated technologies and approaches
   - Likelihood training will lead to publications and degree
   - Appropriate for the applicant fellow’s stage of research development

4. Training Potential
   - Is there individualized training that addresses weaknesses and career development needs?
   - Will participants learn new technical skills, new design approaches?
   - Do training activities match career goals?
   - Will training confer an advantage to competitive?
   - Will the applicant fellow receive requisite individualized and supervised experiences?

5. Institutional Environment and Commitment to Training
   - Scientific environment
   - Opportunities for collaborations within and outside institution if needed
   - Resources available

https://grants.nih.gov/grants/peer/critiques/f_D.htm
What Reviewers Look for in Fellowship Applications

- Impact
- Exciting ideas
- Clarity of the research and training plans
- Realistic aims and timelines—Don’t be overly ambitious
- Brevity with things that everybody knows
- Noted limitations of the study
- A clean, well-written application
Training in the Responsible Conduct of Research

Reviewers are asked to state whether the proposed training is “Acceptable” or “Not Acceptable”

- Is there formal and face-to-face training?
- Are all ethical topics clearly depicted?
- Are faculty participating in the training?
- Will the total hours of training be at least 8 contact hours?
- Are future opportunities/refreshers for continued training listed?
- Does retraining occur every 4 years or at every career stage?
Grant Writing Resources

• NIAID Grant Resources
  niaid.nih.gov/grants-contracts/training-career-grant-programs

• Postdoc’s Guide to Gaining Independence
  niaid.nih.gov/grants-contracts/postdoc-guide

• Grants Process Review - grants.nih.gov/grants/grants_process.htm
• Review Criteria at a Glance -
  grants.nih.gov/grants/peer/guidelines_general/Review_Criteria_at_a_glance.pdf

• NIMH Grant Application Process - nimh.nih.gov/funding/grant-writing-and-application-process/index.shtml
• NIH Reporter - projectreporter.nih.gov/reporter.cfm

• WUSTL Mock Study Section
  crtc.wustl.edu/otg/nih-mock-study-section/
  Wednesday, November 14, 2018 from 8:00 am – 1:00 pm, location TBD.
• WUSTL Grants Library - crtc.wustl.edu/otg/grants-library/
All About Grants Podcast

Download Episodes

So You Wanna...
Prepare a Successful Grant Application?

- Telling Your Story
- Composing Your Cover Letter
- Navigating a Funding Opportunity Announcement
- Deciphering Funding Opportunity Alphabet Soup
- Due Dates, Cycles and Award Dates Oh My!
- Getting Ready to Submit (November

Understand How Your Grant is Reviewed?

- Thinking About Resubmitting
- Summary Statement Basics
- Scoring Your Application
- The Ins and Outs of a Study Section Meeting
Panelists

McKenna Feltes – F31, NHLBI
Ph.D. student in Biochemistry, Biophysics, and Structural Biology

Samarth Hedge – F99/K00, NCI
Ph.D. student in Molecular Cell Biology

Rebecca Callahan, PhD – F32, NINDS
Postdoc in Neuroscience

Jeremie Ferey, PhD – F32, NHLBI
Postdoc at the Center for Reproductive Health Sciences