Demystifying the Grant Review Process

VGN and VT EPSCoR Grant Writing Workshop
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Grant Writing is its Own Genre of Scientific Writing

- What do you need to know about the procedural aspects of grant review?
- Who are your reviewers? AUDIENCE ANALYSIS
- How do you write to meet your reviewers needs?
How is my grant reviewed?

- **Peer review** is the process by which your grant is evaluated by a group of appropriate experts in your field.

- However, the process can **vary significantly** between different funding agencies.

- A full understanding of the review process, including **who** will review your proposal, will help you to write a more effective proposal.
Possible Decision-Making Scenarios

1. Program officials review proposals directly and make funding decisions. (No “peer” reviewers.)

2. External peer reviewers and program officials review proposals together.

3. External peer reviewers discuss proposals and make recommendations on merit, and program officials make subsequent funding decisions.

Multi-level Review = Multiple Audiences
Review Process at NSF

1. **NSF Announces Opportunity**
2. **Research & Education Communities**
   - Submit
3. **NSF Program Officer**
4. **Program Officer Analysis and Recommendations**
   - Ad Hoc
   - Panel
   - Combination
   - Internal
5. **Division Director Concurrence**
6. **Organization**
7. **Proposal Receipt at NSF**
   - 90 Days: Proposal Preparation
   - 6 Months: Proposal Receipt to DD Concurrency of PO Recommendation
   - 30 Days: DGA Review & Processing
8. **Award**
9. **Can be returned without review/withdrawn via Division of Grants and Agreements**
10. **Decline**

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NIH “Dual Review” Process

Center for Scientific Review

Scientific Review Group
Scientific Merit – initial peer review

Programmatic Relevance

IC Advisory Council
Secondary review

IC Director
Funding Decisions

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Composition of Review Panels

- **Peers** who take grant review **very seriously**, and make a **genuine effort** to provide a fair review
- Typically, **recipients of funding** from that agency
- Review panels can include:
  - Peers with relevant expertise in your field
  - Peers with expertise slightly **outside** of your field
  - Patient advocates, Community members, Lay people, Industry colleagues

**Program Officers/Managers**
How Are Review Panels Assembled?

- SRO or PO recruits reviewers
- Some agencies have “chartered” or “standing” review panels, by topic with “permanent” members
- Other panels are assembled for a particular funding opportunity announcement, or based on applications received and vary from cycle to cycle
- Grants may be reviewed only by “ad hoc” review with no meeting
How Are Reviewers Selected?

- Program Officer’s knowledge of research area
- References listed in your proposal
- Recent professional society meetings
- Authors of journal articles related to the proposal
- Former reviewers
- Reviewer recommendations included in proposal
- Research Institutions AND Primarily Undergrad Inst.
- BUT...NO conflict of interest
Assignment of Your Proposal to a Review Panel

Do NOT leave assignment of your proposal to chance!

If you have the option, tell your funding agency:

- the review panel you think is the best fit for your research
- the Institute (IC)/Division you would like the application assigned to
- what types of expertise would be needed on the panel to review your application
- Names of appropriate or inappropriate reviewers
- If you have spoken to a particular Program Official
Peer Review is Confidential

- Review materials and proceedings of meetings are privileged info to be used only by funding agency.
- Reviewers are asked to destroy/return review material.
- Reviewers should not discuss review proceedings with anyone except the Scientific Review Officer (or Program Officer).
- YOU should NOT contact any of the reviewers.
Prior to the Peer Review Meeting

- Assigned reviewers evaluate your proposal using defined review criteria

- Typically, reviewers are assigned roles of “primary,” “secondary,” or “discussant”

- Reviewers confidentially submit preliminary critiques, and preliminary scores for each review criterion

- SRO/PO may use preliminary scores to rank order the proposals prior to the review meeting
How are Review Meetings Conducted?

- In-person review meeting
  - Reviewers convene for 1-2 days, up to a week

- Electronic review meeting
  - Online “chat room” review meeting, threaded message board

- “Hybrid” review meeting
  - Some participants meet in person, but others included via phone, video/skype
  - May also include mail-in reviews (w/ or w/o phone participation)

- “Ad hoc” only – no meeting
Review Meeting is Convened

- Reviewers convene for 1-2 days
- One reviewer serves as chair and assists the SRO or PO in running the meeting
Review of Applications

- Assigned reviewers lead discussion - present preliminary overall impact score, strengths/weaknesses
- General discussion from whole panel
  - even the people who didn’t read your whole grant
- Assigned reviewers re-state their overall impact score (possibly changed due to discussion) – this sets the “range” of scores for the other reviewers
- Rest of reviewers privately submit overall impact scores
- Scores sent to Program Officer → Advisory Council
Review Panel Meetings Could Also Look Like This...
Review of Applications

- Assigned reviewers lead discussion – present strengths/weaknesses
- Secondary or scribe reads reviews from ad hoc (not present)
- General discussion from whole panel
  - ...even the people who didn’t read your whole grant
- Preliminary ranking as discussion proceeds
- Scribe writes Panel Summary – consensus from panel
- Reviewers rank proposals
- Program Officer → Division Director
Understanding the “Culture” of a Review Panel

- What are the dynamics like? Frequent critiques?
- Talk to:
  - Grant writing mentor
  - Other successfully funded investigators
  - Unsuccessful applicants to same panel
  - Program Officers or Scientific Review Officers
  - Reviewers (prior)
- Become a reviewer
Procedural Aspects of Review Meetings

- Are different types of applications discussed during the same meeting?

- Are **ALL** applications discussed? *(NSF Panels)*

- Are **only** the **most competitive** applications discussed? *(NIH)*
  - SRO has already ranked applications based on prelim scores
  - Bottom half are “streamlined,” or “triaged” = not discussed
    - Any panel member can object and request discussion
  - Top half are discussed in order from “best” to “worst”

- Are reviews “clustered” in any way?
  - new and early-stage investigator applications are reviewed together
  - clustered by mechanism: R01, R21, etc.
Many (Most?) Funders Provide Applicants with a Score/Ranking and Reviewer Critiques

- Within a few days after the review meeting you will receive your overall impact/priority score and percentile ranking

- Critiques (Summary Statement) are available approx. one month after the review panel meeting
  - New investigator Summary Statements are expedited – usually available within 10 days after the meeting

- Contain reviewer scores and bulleted critiques for each review criterion

- Contain a resume of discussion
Grant Writing is its Own Genre of Scientific Writing

- What do you need to know about the procedural aspects of grant review?
- Who are your reviewers? AUDIENCE ANALYSIS
- How do you write to meet your reviewers needs?
BEFORE You Write: Contact a Program Officer(s)

- Your grant is a part of their programmatic portfolio
- POs want good quality proposals that fit their program, so they are motivated to provide guidance
- HOWEVER, their roles vary considerably at the different funding agencies
- Important to understand the role of the Program Officer/Director/Manager at YOUR funding agency of interest
When to Approach a Program Officer

Under some circumstances it may be REQUIRED

Pre-submission

- To determine the **programmatic** interest in your research
- To help you identify the right funding mechanism
- To clarify ambiguities in a particular funding opportunity announcement, or gain insight into a program
- Relationship building
- **SRO** (NIH) – to determine fit with expertise of a particular review panel
How to Approach a Program Officer

**DO** send a **brief** email:
- requesting phone call
- to discuss **programmatic relevance**
- Attach “pitch” page (Specific Aims, Project Summary, Executive Summary)

**DO** seek out **in-person** meetings when the opportunity presents itself:
- at mutual events, e.g., professional conferences
- when you are nearby for other reasons

**DON’T** ask FAQs

**DON’T** become a “black hole of need”
So...How Do I Write for My Peer Reviewers?

- First, remember that your reviewers are human....

....and very busy (just like you).
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- Why are your reviewers reading your grant? What’s their motivation?
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It was assigned to them. They have to read it.
What NOT to Do: Don’t Annoy Your Reviewer

- Unclear writing – don’t make them reread
- Figures too small, or don’t “stand alone”
- Wall-to-wall text
- Grammatical errors and typos

Grumpy reviewers start mentally “taking points off.”
Your Writing Has to be Engaging

• The first page of your grant is critically important

• It needs to be **engaging**, and tell the reviewer why they should be excited about your work

• Make the reviewer want to keep reading

• What is the gap in knowledge that your work addresses?

  How will your work move the field forward?
Make Their Job Easy

- Understand the review criteria and give them the words they need to defend your proposal to the rest of the panel
- Make their job easy
- **Explicit** statements
# What Are They Looking For?

## Review Criteria

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<thead>
<tr>
<th>NIH</th>
<th>USDA</th>
<th>NSF</th>
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<tbody>
<tr>
<td>• Significance</td>
<td>• Relevance</td>
<td>• Intellectual Merit</td>
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<td>• Investigators</td>
<td>• Investigators</td>
<td>• Broader Impacts</td>
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<td>• Approach</td>
<td>• Scientific merit</td>
<td>• Advance knowledge</td>
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<td>• Environment</td>
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Make Your Proposal “Reviewer Friendly”

**DO:** Engage the reviewer quickly – on the first page
**DON’T:** Start with “throat clearing” statements

**DO:** Bring the reviewer “up to speed”
**DON’T:** Ramp up technical detail too quickly

**DO:** Provide sufficient context
**DON’T:** Assume your reviewer knows how your work fits within the field
Guide the Reviewer Through Your Proposal

- Follow expected structure (example proposals)
- Headings, subheadings tell the reviewer the main point
  - Example: **Unhealthy Personal Behaviors Undermine U.S. Individual and Population Health**
- Tell reviewers how preliminary data relates to the new proposal
  - Led to a new question, new hypothesis
  - Shows feasibility
- Use figures to improve understanding
Write in Plain Language

- Use common, everyday words where possible.
- Define necessary technical terms.
- Use the active voice.
- Use logical organization.
- Use design features such as figures, bulleted lists, and tables.

“Write for a scientist in another field. Don't underestimate your readers' intelligence, but don't overestimate their knowledge of a particular field. When writing about science, don't simplify the science; simplify the writing.” - Julie Ann Miller, Editor, Science News
Don’t Forget Your Program Official (2nd Level of Review)

- Within your text, tell the Program Official(s) how the research/scholarship **aligns with priorities** of the funding agency
- Give them reasons to advocate funding your proposal to the Advisory Council/Division Director
- Other factors can *potentially* come into play besides merit:
  - Portfolio balance
  - Budget
  - geographic distribution
  - IDEA / EPSCoR co-funding
Don’t Take Negative Reviews Personally

- Distinguishing between excellent science/scholarship and slightly less excellent science/scholarship is exceedingly difficult
Responding to Critiques

- Read the critique thoroughly and dispassionately
- Respect the reviewers’ opinions and assume their comments are intended to be helpful
- Discuss with:
  - Collaborators
  - Grant writing mentor
  - Other colleagues
  - Program Officer
- Determine strategy to revise and resubmit or complete rewrite
Responding to Critiques

• “the reviewer is always right” (even if you disagree with them!)
  • Errors in clarity and grantsmanship

• Be appreciative, not defensive

• Respond to all critiques if possible, but **FOCUS** on the Panel Summary / Resume of Discussion
  • Reflects the discussion of the review panel
The Best Way to Gain Insight: Volunteer to be a Reviewer

- Contact the relevant Program Official or Scientific Review Officer
  - Brief description of expertise
  - Biographical sketch
  - Stay in touch if you don’t hear back immediately

- NIH has an Early Career Reviewer Program - apply online

- NIH is interested in recruiting reviewers from PUIs
  - “To volunteer to serve as a reviewer at CSR, send your biosketch to CSRvolunteer@mail.nih.gov with “R15” in the email subject.”
Videos of Mock Review Panels

NIH Peer Review Revealed (four videos)

http://public.csr.nih.gov/ApplicantResources/Pages/default.asp

American Heart Association

https://vimeo.com/70070994

Conquer Cancer Foundation (Q&A, not actual mock review)

https://www.youtube.com/watch?v=MCH_YpdSfTY
Thank you!

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