# Successfully Navigating Peer Review

2018 International Society for Neurovirology/Society on Neuroimmune Pharmacology

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How to Successfully Navigate NIH Peer Review

- Understand the system-know the path of a successful application

- Avoid common pitfalls

- Grantsmanship-concentrate on writing the best possible application

- Direct your application to the best place for review

- Understand who your Reviewers are

- Know what reviewers are looking for

- Benefit from new investigator opportunities

- Ask the right people for help
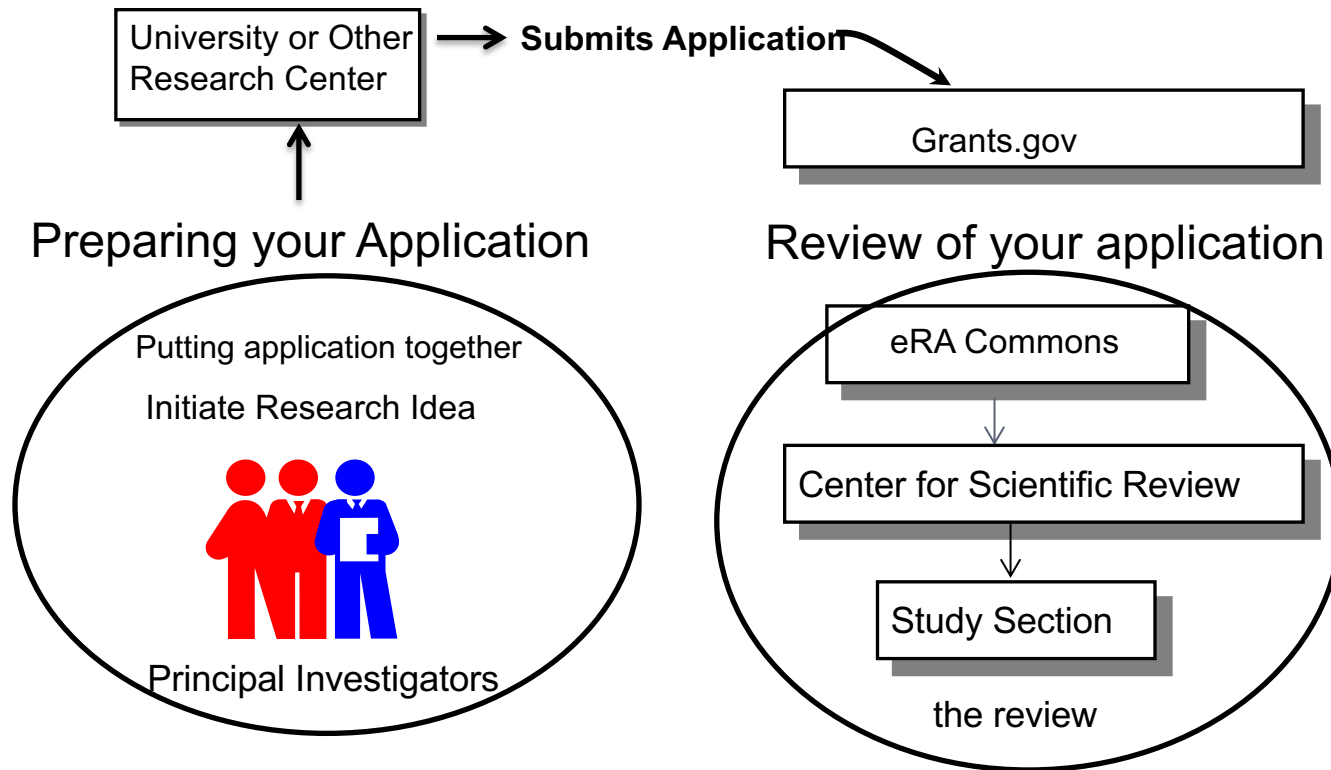
Avoid Common Applicant Pitfalls

Failing to Appreciate Submission Is a Multi-Step Process

- Not Giving the Instructions Enough Attention
- Not Using the Right Application Form

- Producing an Incomplete Application
- Submitting Your Application at the Last Minute

Grant writing – step #1

"It sort of makes you stop and think, doesn't it."

What do I need to write a good application

- Good idea with significance and impact
- Clear thinking
- Realistic aims and timelines

- Careful presentation of all sections of the application
- *Obtain pre-review from colleagues*

- Start with significance
  - Current controversies or issues of importance to the field
  - Bring something new to the table
  - Broad enough to be of interest to general field
- Keep it focused and feasible

- Articulate each aim and how it advances the overall project
- Tell reviewers:
  - What you will do
  - Why it is important
  - How you will do it
  - How each piece contributes to the whole
- Be self-critical and propose alternatives
- Insert summaries to reinforce key points

There is no grantsmanship that will turn a bad idea into a good one, but………

There are many ways to disguise a good one.

Helping Your Application Get to the Right Places

- Suggest Institute/Center assignment
- Suggest Study Section
  - Identify areas of expertise needed to evaluate the application
  - Discuss any special situations
    - Identify individuals in potential conflict and explain why
      - It is NOT appropriate to suggest specific reviewers.

Assignment Request Form (ARF)

The ARF replaces many functions of the cover letter.

Understand who the Reviewers are-
not a horse of a different color

But colleagues and peers

Reviewers:

- Have a broad range of scientific expertise and background
- Are experts in the field, but maybe not in exact area of your application

Check Out Study Section Rosters

www.csr.nih.gov/rosters

What reviewers look like-

Know What Reviewers Are Looking for

Review Criteria

- Overall Impact
  - Assessment of the likelihood for the project to *exert a sustained, powerful influence on the research field(s) involved*

- Core Review Criteria
  - Significance
  - Investigator(s)
  - Innovation
  - Approach
  - Environment

Review criteria each scored from 1-9

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Rigor and Transparency Review Elements
Research Project Grant Applications

Can Affect Your Overall Impact Score!

Rigor and Transparency Element	What's added to the review criteria?	Where in the application?
1. Scientific Premise	Is there a strong scientific foundation for the project?	Research Strategy (Significance)
2. Scientific Rigor	Are there strategies to ensure a robust and unbiased approach?	Research Strategy (Approach)
3. Consideration of Relevant Biological Variables, Such as Sex	Are adequate plans to address relevant biological variables, such as sex, when studies in vertebrate animals or human subjects is involved?	Research Strategy (Approach)

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Projects Involving Key Biological and/or Chemical Resources

Rigor and Transparency Element	Which applications?	Where in the application?	What's added to the review criteria?
Authentication of Key Biological and/or Chemical Resources	Project involving key biological and/or chemical resources	New Attachment	Comment on plans for identifying and ensuring validity of resources.

Won't Affect Your Overall Impact Score

Human Subjects and Clinical Trial

- New clinical trial specific funding opportunity announcements
  - Clinical Trial Not Allowed
  - Clinical Trial Optional
  - Clinical Trial Required
- New PHS Human Subject and Clinical Trial information form that is part of the Form-E application package
  - new application form that consolidates all Human Subjects and Clinical Trial related information into one place, and also expands the information required for studies that meet the NIH definition of a clinical trial.
- Clinical trial specific review criteria-
  - NOT-OD-17-118

PHS Human Subject and Clinical Trial information form

The new form consolidates all human subjects and clinical trial related information into one place in the application, captures human subject information at the study level and expands the information for studies that meet the NIH definition of clinical trial.

Use the following four questions to determine the difference between a clinical study and a clinical trial:

- Does the study involve human participants?
- Are the participants prospectively assigned to an intervention?
- Is the study designed to evaluate the effect of the intervention on the participants?
- Is the effect being evaluated a health-related biomedical or behavioral outcome?

Note that If the answers to the 4 questions are yes, your study meets the NIH definition of a clinical trial

What Reviewers Look for in Applications

- Significance and impact

- Exciting ideas

- Clarity-Ideas they can understand -- Don't assume too much

- Realistic aims and timelines -- Don't be overly ambitious

- Brevity with things that everybody knows

- Noted limitations of the study and alternative approaches

- A clean, well-written application

Common Problems in Applications

- Lack of new or original ideas
- Absence of an acceptable scientific rationale
- Lack of experience in the essential methodology
- Questionable reasoning in experimental approach
- Uncritical approach
- Diffuse, superficial, or unfocused research plan
- Lack of sufficient experimental detail
- Lack of knowledge of published relevant work
- Unrealistically large amount of work
- Uncertainty concerning future directions

Be Persistent

- Revise and resubmit
- Don't panic if you are not funded or discussed
  - Carefully read critiques
  - Seek guidance from program directors

Benefit from New Investigator Opportunities

NIH Will Consider Your Career Status

- If you submit an R01 grant application

- If you are a New Investigator or Early Stage Investigator

http://grants.nih.gov/grants/new_investigators/

Benefit from New Investigator Opportunities

Become an Early Career Reviewer

Apply! Instructions at www.csr.nih.gov/ECR

If you qualify, we will:

Place your name in our ECR database

Invite you to serve if your expertise is needed to review particular applications

Ask the Right NIH Person for Help

Before You Submit Your Application

- A Program Officer at an NIH Institute or Center

After You Submit

- Your Scientific Review Officer

After Your Review

- Your Assigned Program Officer

Key NIH Review and Grants Web Sites

NIH Center for Scientific Review

http://www.csr.nih.gov

NIH Office of Extramural Research

http://grants.nih.gov/