Introduction to NIH

Alan J. Snyder, Ph.D.
VP and Associate Provost for Research & Graduate Studies
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Scale, organization and character
Federal R&D Funding by Agency
(budget authority, millions of dollars)

Fiscal Years
1976 to 2016

Select R&D Character
Basic Research

Constant Dollars
No

Agency
- Recovery Act
- All Other
- DOD
- DOE
- NASA
- NSF
- USDA
- NIH
- NIST
- NOAA
- USGS

Select Agency
All

"All Other" includes the Depts. of Transportation, Veterans Affairs, Homeland Security, and State, the Environmental Protection Agency, and others.

Based on agency budget documents and data, supplemented with NSF survey data. Last updated February 2017.

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What gets funded

potential clinical impact

- major, tangible
- logical, but intangible or remote

Quality of science
- sound
- excellent
- outstanding

Yes

No
How things get funded

Funding and review process are usually separate

- Institutes and Centers (IC’s)
  - Set agendas, offer programs and fund grants

- Center for Scientific Review (CSR)
  - Reviews most grant applications
Your program official

- Works for the Institute or Center (*career position*)
- Interested in having a productive portfolio
- Can be your friend and advisor
- Has limited discretion in funding
  - Can’t fund a poorly scored application
  - Can’t not fund an application that does really well
The review process
Assignment

- New applications are assigned to
  - an Institute or Center (IC) for possible funding, according to the content. Dual assignment is possible
    - a review panel ("study section").
- Amended applications
  - generally go to the same review panel.
- Renewal applications
  - generally go to the same IC.
The percentile system

- At the study section
  - Each application not clearly in the “bottom half” is scored
  - Applications are rank-ordered by score to get percentiles
- At the IC
  - Applications reviewed by different study sections are compared by percentile.

Where you stand among applications in your study section, and funds available in your assigned IC, determines funding.
Some advice
Tips for NSF investigators

- Most NIH grants are meant to be renewable, or gateways to long lines of research
- Proposed work should usually be
  - put in context of a longer-range plan,
  - self-contained as a project.
Tips for NSF investigators

- NIH reviewers expect very specific plans
  - DON’T list mere possibilities without providing a clear sense of your intended approach.
  - DO be convincing regarding the likely success of techniques and methods in your hands.
  - DO describe alternatives to key, less than fully proven techniques.

Goal: Make reviewers fully confident in your ability to complete the work.
Tips for NSF investigators

- NIH reviewers
  - evaluate proposals.
  - do not recommend for or against funding.

- NIH program officials
  - fund proposals based on reviewer evaluations.

NEVER say in a proposal that the program officer liked your idea or suggested that you apply.
Tips for NSF investigators

- NIH expects to cover salary and benefits for all faculty effort, year-round.
- Absence of year-round faculty effort on the budget page can cause reviewers to question your commitment to the project.
- Unless you have good reason to limit your grant budget, request full salary recovery.
- Even if not requesting reimbursement for effort, show your full time commitment clearly.
Things to avoid at all costs

- A plan of unrealistic scope
  - A proposal being called “ambitious” can be a positive, or a big negative.
- “Specific Aim fatigue”
  - Think long and hard about more than three specific aims.
- Hyperbole
  - Never call your own work “innovative.” That’s for reviewers to decide.
Things to avoid at all costs

- Getting mired in technical details
- Skipping over key details
- An application that is, in any way, hard to read
  - Your own system of acronyms means extra cognitive effort for the reviewer.
Use a cover letter to steer your application

- ...to an Institute or Center
  - Check success rate data online.
  - But be certain it’s a good fit.
  - Dual assignment is possible.
  - Speak with program officer(s) about fit.

- ...to a study section
  - Check rosters online.
  - Consider both individuals and disciplines/perspectives.
  - Again, be certain it’s a good fit.
Work within NIH structure/culture

- Address the right audience, separately and one at a time:
  - Review process – SRO, CSR
  - Advice & counsel, interpreting critique – program office
  - Grant application – peer reviewers

NEVER quote or characterize a conversation with your program office in an application
Resources

- Applicant AND reviewer guidelines, study section rosters, and more...
  https://grants.nih.gov/grants/peer-review.htm
- OER home page
  grants.nih.gov/grants/oer.htm
- RePORT success rate data
  report.nih.gov/success_rates/