Grant Writing Tips & Submitting an NRSA to NIH

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Types of Federal Grants

- Predoctoral (e.g., NIH National Research Service Award [NRSA] F31 Predoctoral Fellowship, NSF Graduate Research Fellowship)

- Postdoctoral (e.g., NIH NRSA F32 Postdoctoral Fellowship)

- Independent Investigator (e.g., NIH R01)

[there are also grants from foundations, etc]
When to Start: 2 months in advance

Step 1: talk to your advisor; make a plan. The deadlines are April 8, August, Dec 8; see http://grants.nih.gov/grants/funding/submissionschedule.htm

Step 2: get your own account at eRA Commons* (you must have PI status); go through USC Contacts & Grants *https://commons.era.nih.gov/commons/

Step 3: read instructions and then write first draft of your research proposal; give to internal reviewers while you work on other required material for grant (see below)

Step 4: revise your proposal based on reviewers’ comments; allow time for at least 3 drafts. Be ready to submit to USC Contracts & Grants by their deadline (which is at least 3-4 days before the NIH deadline)
Inside USC (1-2 months in advance)

Find out from your advisor who the relevant staff are:

1. Your department has a person to help you with university forms such as the “ePAR” (Proposal Approval Record); this needs to be turned in at least 10 days before your grant can be uploaded.

2. Your advisor also has an assigned staff member in Contracts & Grants (C&G) – this person will upload your grant to NIH (once the departmental person has uploaded your proposal to C&G).

Also: ask a colleague who has applied for an NRSA if they are willing to share a copy (remember it is confidential). And alert your committee members of the deadline for Letters of Reference.
NIH: Institutes & Centers (I/C’s)

NIH has >20 Institutes; work with your advisor early on to choose which Institute is best for your proposal. Contact the Program Officer in charge of training at that Institute and get to know them (& vice-versa).

Your proposal will be reviewed by a study section or “IRG” (Initial Review Group), so you also need to choose a study section; see http://www.csr.nih.gov/Roster_proto/Fellowship_section.asp (does not seem to list ALL study sections)

All fellowship applications are now reviewed by fellowship study sections (not by R01 study sections)
After your proposal leaves USC

NIH Center for Scientific Review (CSR)

Assigned to review committee (study section)

Primary reviewer, Secondary reviewer, Reader

Once the study section gives you a score, that information (and the review) will be posted on your eRA Commons account; the proposal then goes to your NIH Institute where Council makes funding decisions.
Read the important instructions; avoid the rest

(Section IV; concentrate on the last part of this section; also take a look at criteria for reviewing)

Also read the “SF424” instructions for individual fellowships: go to http://grants.nih.gov/grants/funding/424/index.htm and download SF424 (R&R) Individual Fellowship Application for NIH and AHRQ
(read relevant parts of pp. I-74 to I-102; ignore the rest)
Components of Research Plan

Specific Aims (1 page)

Research Strategy (6 pages total):

    Significance (& Background)
    Approach (includes Preliminary Studies & Research Design)

Literature Cited (no page limit)

[for resubmission, known as the A1 version, you also include an Introduction (1 page), in which you address reviewer comments]
Components of Research Plan

Level of Importance

Specific Aims: (~5% / 1 page)
Background & Significance: (~10-15%)
Preliminary Studies: (~25%)
Research Design & Methods: (~55-60%)
General Advice

• Only abstract & specific aims are typically read by all reviewers
• **Bold the most important sentence in each section**
• There’s no “I heard you the first time” in grant writing → re-state your hypotheses and preliminary results throughout
• Reviewers have less time to think through your ideas than you do
Specific Aims (one page)

• The most important page
• Ideas must flow in order: Why this matters → crucial observations → your ideas that make the difference → hypothesis → test
• Include a statement on significance to health-related research
• Don’t make any one Specific Aim dependent on the success of another Specific Aim
Background and Significance

• Keep it nontechnical → can put more technical background in Research Design
• Don’t include too many ideas; focus on essential information
• Give a general overview of preliminary results and specific aims
• Describe working model; explain how research is hypothesis-driven
Preliminary Results

• Support rationale and approach
• Show feasibility of proposed techniques
• Interpret results critically
• Lead inexorably from Background to Preliminary Studies to Research Design (by the time they get to your studies they should not be able to think of any more compelling or interesting experiments!)
Research Design and Methods

• The most weight in terms of score (although most reviewers will have already “judged” your proposal by the time they get this far)

• Put in a logical format that’s going to convince your reviewers you should do a particular experiment

• State the expected outcome for each experiment, and why it is interesting & important (in relation to your model); briefly discuss potential pitfalls and alternative approaches

• Emphasize your training potential (throughout)

• Describe methods, analyses, and statistics (less room for these in the new format but including the “right” amount of detail is still important)
List of attachments (other than your proposal)

Cover Letter
Project Narrative (Public Health Relevance; 2-5 sentences)
Project Summary (abstract of grant; 30 lines of text)
BioSketch (use form; follow the format)

Respective Contributions
Selection of Sponsor & Institution
Training in the Responsible Conduct of Research
Goals for Fellowship Training & Career
Activities Planned Under This Award
Doctoral Dissertation and Other Research Experience
Educational Information
Vertebrate Animals or Human Subjects
List of who is writing Letters of Reference

From others:
Letters of Reference
Sponsor Information (Training Plan)
Sponsor BioSketch
Facilities & Equipment (from Sponsor)
Review Process

**Top 50%**
- Reviewed at committee
  - Scored
    - Summary Statement
      - Funded
      - Not funded

**Bottom 50%**
- Not discussed
  - Not scored (streamlined)
    - Summary Statement (very valuable)

Anyone can resubmit 1 time
Know the reviewing criteria

Grants are scored using 1 (high) to 9 (low); integers only. All members of study section vote (score).

Overall Impact/Merit (you do not see this score in the reviews, and your final score is not an average of the scored review criteria)

Scored Review Criteria (given scores of 1-9; you do see these):

   Fellowship Applicant.
   Sponsors, Collaborators, Consultants.
   Research Training Plan.
   Training Potential.
   Institutional Environment and Commitment to Training.
Sarah’s Guidelines for Grant Writing 1

Start with a specific outline – a blueprint for your research plan:

- be as specific and focused as possible (and not overly ambitious)
- have a specific hypothesis or model and an overall theme that links your Specific Aims (and whole grant)
- make sure description is accessible to a reasonably broad audience (be user-friendly – not myopic)
- brutally eliminate excess verbiage
- overall focus throughout the proposal: stay on message
- sell your work
- remember to TELL A STORY – make it interesting & compelling
Sarah’s Guidelines for Grant Writing 2

Remember, you should sell yourself and your “product”. Your job is to convince reviewers that your research proposal is the most important and exciting one they will read – but you have to tell them that. Explicitly. Make clear up front that this proposal tackles a broad question of fundamental significance. Keep the focus (throughout) on specific intellectual questions that relate to the model (and themes) you have outlined at the outset.

Reviewers will have ~8-10 proposals to read, so ones that are hard to wade through go immediately to the bottom. Make it like the best comic book they will ever read, including great graphics.
Other sources of funding

Science

Searchable database GrantsNet
http://sciencecareers.sciencemag.org/funding
http://sciencecareers.sciencemag.org/career_development/tools_resources/how_to_guides/how_to_get_funding

www.cos.com  Click on Search Funding Opportunities: Advanced Search. Then you can drop down 'funding types' and other choices and put in key words etc. You have access to this database for free if you are on campus or using your VPN.

A page from Vice-Provost Randy Hall is at:
http://www.usc.edu/research/for_researchers/funding/databases/