



11-2012

Through the Eyes of Reviewers: Key Components & Content in External Funding

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Stapleton, Susan; Kohler, Steve; and Ehrhardt, Kristal, "Through the Eyes of Reviewers: Key Components & Content in External Funding" (2012). *Research and Dessert*. Paper 15.

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Through the Eyes of Reviewers: Key Components & Content In External Funding



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Who, What, Where, When and How



- **WHO** funds research and who should I contact to find out what is involved in applying?
- **WHAT** do I need to know about the application process?
- **WHERE** do I find out about what goes into the application?
- **WHEN** do I apply?
- **HOW** do I go about crafting a successful application?

WHO funds research?



General Information at GrantsNet

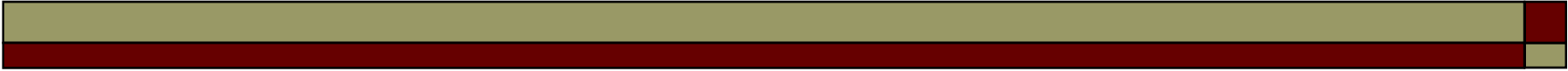
<http://sciencecareers.sciencemag.org/funding>

- Office of Naval Research (ONR)
 - BAAs: <http://www.onr.navy.mil/02/baa/>
 - University and education related programs: <http://www.onr.navy.mil/education/>
- Army Research Office (ARO)
 - Research organizations: <http://www.arl.army.mil/main/main/default.cfm?Action=231&Page=231>
 - Research portfolio: <http://www.arl.army.mil/main/main/default.cfm?Action=18&Page=70>
- Defense Advanced Research Projects Office (DARPA)
 - Organization: http://www.darpa.mil/body/off_programs.html ; <http://www.darpa.mil/body/darpaoff.html>
 - Funding Opportunities: <http://www.darpa.mil/baa/>
- Air Force Office of Scientific Research (AFOSR)
 - Organization: <http://www.afosr.af.mil/orgcha2.pdf>
 - Research Opporutnieis <http://www.afosr.af.mil/oppts/afrfund.htm#Research>
 - General BAA: <http://www.afosr.af.mil/pdfs/BAA2005-1.pdf>
- National Science Foundation (NSF)
 - All announcements: www.nsf.gov
- National Institutes of Health (NIH)
 - All announcements: <http://grants1.nih.gov/grants/guide/index.html>
- US Department of Education (DOE)
 - All announcements: www.ed.gov/fund/grants-apply.html
 - Institute of Education Sciences (IES): www.ies.ed.gov/funding/
 - Office of Special Education & Rehabilitative Services (OSERS): www2.ed.gov/about/offices/list/osers/osep/programs.html

WHO should I contact to find out what is involved in applying?

- University research and sponsored programs office
- Faculty
- Program Officers- Scientists/faculty hired or on loan from an academic institution to the agency to oversee a programmatic area of funding





WHAT do I need to know about the application process?

- Websites for funding agencies will have the Request for Proposals (RFP) – also called the Program Announcement (PA), or Request for Applications (RFA), or Broad Agency Announcement (BAA)
- These websites will also have the solicitation and application material including directions



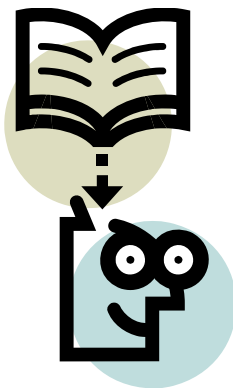
WHERE do I find out about what goes into the application?

- The RFP, PA, RFA or BAA will have the information about what goes into the application, including:
 - criteria for applying (and also to be competitive)
 - format (font, margins, spacing, page limits)
 - organization of information
 - required information (transcripts, letters)
 - review criteria

So....

Read, read, read, read, read and **re-read**

the document so you fully understand what is expected and required.



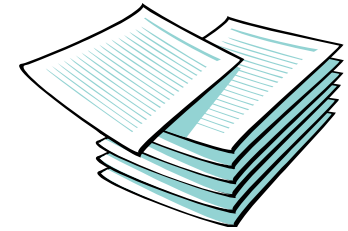
WHEN do I apply?

- The RFP, PA, RFA or BAA will have the information regarding date and time due and mode of submission (web-based, etc.)

(dates/time are not negotiable for submission of application or supporting material; realize also that with electronic submissions through common portals delays can happen)

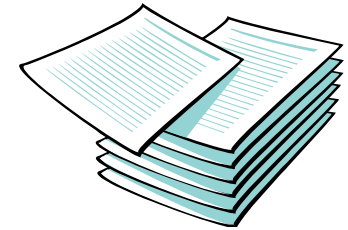


HOW do I go about crafting a successful application?



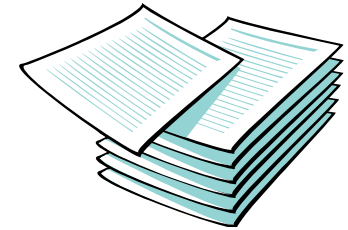
- ❑ Carefully read and understand the proposal solicitation – your project must match the goals & priorities of the RFP
- ❑ Give yourself enough time to not only write the proposal but have others read and critique
- ❑ Give yourself enough time to gather supplemental material (e.g. letters of collaboration or support)
- ❑ When crafting proposal, use *language of agency* and/or *solicitation* (e.g., broader impact; integration of research and education)

HOW do I go about crafting a successful application?



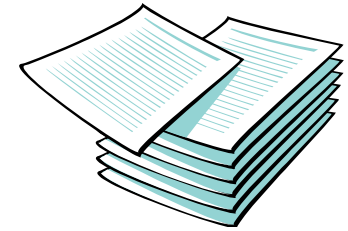
- Grant applications often have several sections, one of which may be the research plan. Organize this section of the application in a logical way such as:
 - Introduction/problem to be addressed/hypothesis
 - Background and Significance
 - Project description- Goals and aims to obtain
 - preliminary data
 - methods- including alternative approaches and controls)
 - anticipated outcomes and relevance/innovation
 - Timeline
 - References
- **Organization & Presentation** are critical! Provide a table of contents.

HOW do I go about crafting a successful application?



- Write the research plan (or project plan) part for a general scientifically literate audience, not necessarily only an expert in the field.
 - Avoid jargon
 - Define potentially unfamiliar terms
 - Spell out acronyms and abbreviations
- Make your important points up front, providing data to substantiate your points.
- Use figures/tables when possible.
- Avoid text dense pages.
- Run a spell-check and proofread the application.

HOW do I go about crafting a successful application?



- Try to be as clear as possible so that the reviewer fully understands what you are proposing.

“We will use the previously designed data collection instrument, described above and the statistical analysis, similar to that which is in the methods section of the article I recently published, to measure the extent to which our approach validates earlier collected data (not shown).”



HOW do I go about crafting a successful application?

Pay attention to review criteria – example NSF

□ Intellectual Merit

- How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields?
- How well qualified is the proposer (individual or team) to conduct the project?
- To what extent does the proposed activity suggest and explore creative and original concepts?
- How well conceived and organized is the proposed activity?
- Is there sufficient access to resources?



HOW do I go about crafting a successful application?

Pay attention to review criteria – example NSF

- Broader Impacts
 - Advance discovery while promoting teaching, training and learning
 - Broaden participation of under-rep. groups
 - Dissemination
 - Societal benefits
 - Improve infrastructure for research
 - Discuss throughout proposal AND in separate section in both Project Summary and Description
- Special Criteria
 - Program specific
 - Listed in solicitation under “Proposal Review Information”



HOW do I go about crafting a successful application?

Pay attention to review criteria – example NIH

- Investigator
 - Education, training, relevant experience
- Environment
 - Suitability of facilities and institution support
- Significance
 - Ability of the project to improve health
- Approach
 - Feasibility of methods and appropriateness of budget
- Innovation
 - Originality of research



HOW do I go about crafting a successful application?

Pay attention to review criteria – example IES

Project Narrative & Budget

□ Significance

- Contribution of your research to education, need for your research, your conceptual framework

□ Research Plan

- Detailed plan describing methodology

□ Personnel

- Qualifications of research team, responsibilities, time commitments

□ Project Resources

- Institutional resources, preK-12 partner resources, clear partnership

□ Budget

- Adequacy of budget to support proposed project, reasonableness of requested items, alignment with RFA

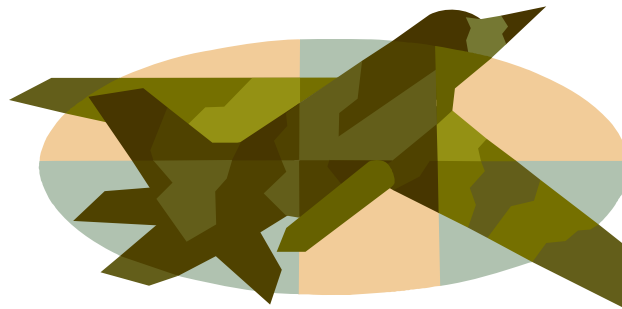


HOW do I go about crafting a successful application?

- Realize that a typical panel can have anywhere between 40-50 (min.) to 80-100 proposals (max.).
- If pre-assigned, each panelist may review up to 15-20 proposals (5-8 as primary, 5-8 as secondary and the rest as tertiary).

HOW do I go about crafting a successful application?

- Realize that the reviewer is probably reading the proposals over the course of several days (some probably on the way to the review panel) or for some panels proposals are read on-site.





HOW do I go about crafting a successful application?

- Realize that most reviewers have written funded proposals. If available, review examples of funded proposals or abstracts and consider key themes or common approaches.
- Know what is “hot” in your field.



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Review Process- NSF

- Several Types
 - Panel
 - Ad hoc mail reviews
 - Combination
- Proposal rated Excellent, Very Good, Good, Fair, Poor
- Recommendation on whether to fund given
- Comments of reviewers included



Review Process and Streamlining-NIH

- Proposal received
- Assigned to an IRG, then to a SS
- The SRA assigns a primary (P), secondary (S) and tertiary (T) reviewer
- Investigator-initiated proposals (R01, R03, R21) are read by the P, S, T reviewers; bottom 50% of proposals are identified about 1 week prior to the SS meeting=trriage or streamlining
- Streamlined applications receive summary statements verbatim from each reviewer, but are not scored
- All 3 reviewers must agree on the streamlined proposals in order for the proposal to be triaged



Review Process- NIH

- SS meets to review applications
- Primary reviewer presents your proposal to the group (reads the abstract)
 - SS members discuss your application, the primary reviewer is able to answer questions about the proposal
- SS members assign a score to the proposal between 1-5 (1=outstanding, 5=forget it)
- After the meeting the SRA calculates the average score for each proposal, multiply by 100 to get a 3 digit score (100-500)
 - SRA calculates a priority score or percentile ranking of the score; based on the past 3 cycles of grant scores within SS
 - SRA prepares a written critique of your proposal based on reviewer's comments



Review Process - DOE

- Several Types depending upon competition
- IES example
 - Screening of applicants for compliance & responsiveness by DOE staff members
 - Assignment of appropriate applications to panels (at least 2 reviewers per application)
 - 6-7 weeks prior to panel meeting, reviewers receive copies of applications along with review criteria
 - Primary reviewers read & score 8 applications



Review Process - DOE

- ❑ Electronically submit reviews
- ❑ Triage of applications by IES staff
- ❑ Full panel review & discussion of top applications
- ❑ Scoring of applications from 1 (Outstanding) to 5 (Poor)
- ❑ Funding Enthusiasm Scores: highly recommend, recommend or do not recommend

HOW do I go about crafting a successful application?

- You can have the most scientifically sound and innovative ideas proposed but still not be awarded a fellowship or grant



HOW do I go about crafting a successful application?

- While the proposal may have been clear to you.... it was not to the reviewers.
- Have others read it before you submit.



What if the proposal is not funded?

- ❑ Don't be discouraged if you are not successful at your first application.
- ❑ The experience of submitting is invaluable and should be noted on your vitae.
- ❑ Use the comments to craft an even better future successful proposal.
- ❑ Consider collaborating with funded researcher
- ❑ Ask to read successful proposals of colleagues.

