The NSF CAREER program

VP of Research and Graduate and Professional Education

Pazzani @ rutgers.edu

Make Your Ideas Stand Out

- Proposal Summary is extremely important
- Reviewer forms an initial impression that is seldom changed
- The proposal summary should be the ideal review of your proposal
  - Problem
  - Importance
  - Impact

Finding out what works

- Ask in department, college, or others in field (advisor).

- Freedom of Information Act: Get copy of any funded proposal and reviews (redacted).

- Volunteer to be a reviewer. (Great for seeing what doesn't work also).

Common problems of noncompetitive proposals

- Problem not clearly articulated.
- Many unrelated subtasks.
- Failure to differentiate the current work from others. i.e., seem to be completely unaware of relevant literature.
- Do not say WHY the research should be done
- Errors in the plan of attack
- Build or exploring where the PI's fail to identify the research issues or hypotheses
- Poor page space planning & Incremental work. Rule of thumb: Proposed new effort should be AT LEAST 60% of the project description

Common Problems of "near misses"

- Failure to differentiate from own work.
- Solid, Incremental work without a truly fresh perspective. "The natural next step"
- Not very innovative, e.g., similar topics and approaches have been funded in the past or your most recent publication contains the same problem and approach.
- Great problem without a reasonable chance that they can accomplish it. Missing evaluation plan.
- Missing Expertise
- Important within subfield, but doesn't make the case that its important to larger field. (Decrease word error rate in small vocabulary speech interface)
- No discussion of education plan, diversity, etc. (at a minimum, participate in school and university programs)
- Missing Timeline.

Increase acceptance rate by visiting funding agency before submitting proposal

- Learn more about what types of projects agency is looking for (e.g., balance between theory and observation)

- Explain your ideas and accomplishments

- Find additional solicitations or agencies for support

What are the broader impacts of the proposed activity?

Potential Considerations:

- How well does the activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)?

- How well does the activity advance discovery and understanding while promoting teaching, training and learning?

- To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks and partnerships?

- Will the results be disseminated broadly to enhance scientific and technological understanding?

- What may be the benefits of the proposed activity to society?

What is the intellectual merit of the proposed activity?

Potential Considerations:

- 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? (If appropriate, reviewers will comment on the quality of prior work)

- How creative and original are the concepts?

- How well conceived and organized is the proposed activity?

- Is there sufficient access to resources?

Novel, innovative, bold, transformative vs. incremental