



Writing Proposals and Getting Funded at a Primarily Undergraduate Institution

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with contributions from

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Think – Pair - Share

- **Based on your experience reviewing proposals...**
 - What commonalities do you observe about great proposals?

Critical Pieces of a Proposal

- **A clearly articulated, doable project**
 - State hypothesis or research questions clearly
- **A well-formulated argument for why this is important, how this fits into previous work, and why you are the one to do it**
- **A definite plan for implementation**
 - What will success look like?
- **A track record**
 - Preliminary data/previous publications/pilot projects
 - Partnerships with recognized experts

Funding Opportunities

- **NSF-RUI: Research in Undergraduate Institutions**
 - support PUI faculty in research
 - builds capacity for research at their home institution
 - supports the integration of research and undergraduate education
 -
- **NSF-ROA: Research Opportunity Award**
 - support PUI faculty research
 - allow faculty to work as visiting scientists at research-intensive organizations where they collaborate with other NSF-supported investigators.
 - May be a new collaboration between PUI and another institution, a supplement to an existing award at research institution, or a re-budget of an existing award to support PUI faculty

http://www.nsf.gov/crssprgm/rui_roa/contacts.jsp

Funding Opportunities

NSF-REU: Research Experience for Undergraduates

- ***REU Sites*** projects that engage a number of students in research. They may be based in a single discipline or offer multi-department research opportunities.
- ***REU Supplements*** may be a component of new proposals or requested for ongoing NSF-funded projects. Investigators should contact that program officer before submitting the request.

<http://www.nsf.gov/crssprgm/reu/faculty.jsp>

Funding Opportunities

American Chemical Society Petroleum Research Fund

UNI: Undergraduate New Investigator Grants

- \$55,000 over 2 years
- PI in department without doctoral program
- Seed money to demonstrate proof of principle
- Related to research in the petroleum field

UR: Undergraduate Research

- \$70,000 over 3 years
- PI in department without doctoral program
- Related to research in the petroleum field

<https://www.acs.org/content/acs/en/funding-and-awards/grants/prf/programs.html>

Funding Opportunities

EDMAP

- Education component of National Cooperative Geological Mapping Program.
- Faculty request funds to support students in one year mentored mapping project on specific geographic area.
- Every Federal dollar that is awarded is matched with university funds.
 - Urgrad projects limited to \$7500 (plus match)

<http://ncgmp.usgs.gov/about/edmap.html>

Funding Opportunities

- **Student-driven proposals**
- Geological Society of America
 - Northeastern, South-Central, and Southeastern Sections
 - <http://www.geosociety.org/grants/ugrad.htm>
- Sigma Xi
 - Grants in aid of research program
 - <https://www.sigmaxi.org/programs/grants-in-aid>
- AEG
 - Multiple award types
 - <https://www.aegfoundation.org:16450/funds/>

Proposal Review

- **What are the criteria?**
 - NSF
 - Criterion 1: Intellectual Merit
 - Criterion 2: Broader Impacts
 - Program Guidelines
 - Your institution
 - American Chemical Society, NASA, NOAA, Dept of Education, Dept of Energy, Dept of Transportation, ONR, EPA, US Geological Survey EDMAP, ...
- **Who are the reviewers?**



Reviewing Successful Proposals

Writing a Strong Proposal

- **Grant writing as a persuasive essay**
 - What do you want to do?
 - Why is it important?
 - How will you do it?
 - Why are you the best person to do this?
 - What do you need to succeed?
- **Clear, concise, compelling**
- **Follow the rules**

Words of Wisdom

- Know what you want and why you want it
- Avoid upsetting reviewers - take care to cite relevant sources, give credit where due
- Approach it as a 'hypothesis testing' proposal rather than 'voyage of discovery' proposal.
- Contact relevant program officer – questions about ideas, mechanics – before submission

Read successful proposals

- On-site proposal collection
- Proposal collection on the Cutting Edge website

<http://serc.carleton.edu/NAGTWorkshops/earlycareer/research/funding.html>