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.
  - Undergrad 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](http://www.geosociety.org/grants/ugrad.htm)
- Sigma Xi
  - Grants in aid of research program
- AEG
  - Multiple award types
  - [https://www.aegfoundation.org:16450/funds/](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

• **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