“Show Me the Money”

Proposal Development:
Learn the Process &
Writing Strategies
to Get the Funding You Need

Prepared for
Entomological Society of America

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July 8, 2015
Today’s “Show Me” Topics

✓ Understanding funding sources
✓ The proposal writing process
✓ External funding & your career path
✓ Learning how to write proposals
Show me... funding sources
2 Broad Funding Streams

Internal Support
Sources: Your institution (and possibly, state system of colleges & universities)

External Support
Sources: Foundations, corporations, state & federal agencies, legislation
2 Broad Funding Streams

Internal Support

- Fellowships
- Scholarships
- International travel
- Mini grants:
  - Preliminary study
  - Design instruments
  - Pilot/seed money
  - Research leave
  - Matching funds

Sources: Your institution (and possibly, state system of colleges & universities)
2 Broad Funding Streams

Internal Support
- Fellowships
- Scholarships
- International travel
- Mini grants:
  - Preliminary study
  - Design instruments
  - Pilot/seed money
  - Research leave
  - Matching funds

External Support
- Fellowships/scholarships
- Dissertation/thesis grants
- Travel/study abroad
- Awards with cash prizes
- Contracts/gifts
- Research grants
- Training grants
- Center grants
- Construction/equipment

Sources: Your institution (and possibly, state system of colleges & universities)

Sources: Foundations, corporations, state & federal agencies, legislation
Show me... the proposal process
“Ideal” Proposal Timeline

12 – 14 months

<table>
<thead>
<tr>
<th>Concept Paper(s)</th>
<th>Seek funding opportunities</th>
<th>Writing, Feedback, Research, Rewriting</th>
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<tbody>
<tr>
<td>14 months</td>
<td>12 months</td>
<td>6 months</td>
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<td>3 months</td>
<td>1+ week</td>
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Submit
Where do you discover research concepts?

14 months       12 months         6 months        3 months          1+ week
I. Needs Statement

II. Research aim, hypotheses

III. Background >> Rationale
   a. literature review
   b. preliminary work

IV. Methods

V. Significance
   a. advance knowledge
   b. benefit to the public

VI. Communicate findings
   a. within/across disciplines
   b. public scientific literacy

14 months       12 months       6 months        3 months          1+ week
Talk with mentors & colleagues
Network at conferences
Monitor agency initiatives
Database searches
Call project officers
Social media???

Seek Funding Opportunities
Writing Phase

Feedback

Rewriting

More Research

Back to Lit

Research

Concept Paper(s)

Seek opportunities

14 months 12 months 6 months 3 months 1+ week

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Research
Concept Paper(s)
Seek opportunities
Writing, Feedback, Research, Rewriting

14 months       12 months         6 months        3 months          1+ week
Heed Institutional Protocol!

Research compliance
Intellectual property
Tech transfer
Funding eligibility
Institutional obligations
Grants management
Mandated reporting

Generally in higher education, the principal investigator forwards the completed grant application packet internally to the office of sponsored programs (or similar title.) That office makes sure that the proposal meets both the institution’s requirements and the funder’s requirements.
Heed Institutional Protocol!

If all requirements are met, the office of sponsored programs (or similar title) submits the application to the funder before the deadline.
If the funder approves the proposal, the principal investigator (PI) is notified. However, the funds are transfer to the office of sponsored programs (or similar title), not the PI.
Heed Institutional Protocol!

Every institution differs, but normally the office of sponsored programs (or similar title) retains a % of the awarded funds for indirect costs. Additional indirect costs may be taken by other administrative units. The balance of the funds are transferred to the PI. The PI is ultimately responsible for tracking the grant dollar expenditures and mandatory reporting to the funder.
Show me... a career path
Promotion and tenure decisions are often linked to grant writing success.

(It’s True)

Problem:

New faculty often end up “chasing after dollars”
“Chasing Dollars”

Too many interests + unclear goals = she has no idea where to start. Thus, she chases after the first source of funding she finds.
Award processes are highly competitive. It is unusual to receive a grant on the first attempt.
When the grant runs out + she still has no idea of where to go next = she has to start all over again.
Because award processes are highly competitive, the success rate tends to be low.
“Chasing Dollars”

Without a strategy, she chases after other funds.
Let’s assume after several attempts, she finally receives another grant award. What happens next?
Her grant eventually runs out. The result = an unpredictable funding pattern that places her research at risk of having to stop until new funds can be obtained.

Funding pattern:

No funding  No funding  No funding
Alternative: Create funding stability

To do this, establish a Strategic Research Agenda*

*Ongoing evaluation: Is my research still relevant?

Shaped by…

- Shifting federal funding priorities
- Evolving national & global needs
- Findings/contradictions/gaps in literature – within/across disciplines
- Emerging technologies
- Creative thinking & collaboration
How to Create funding stability

Set long-range external funding goals.

A strategic research agenda acts as a compass to guide her decisions on which grants to pursue.

She should look for smaller grants or “seed money” that will help her get started. There may be funds within her institution or funds for early-stage investigators from select federal agencies or foundations.
Create funding stability

As her career advances, she is able to pursue increasingly larger grants. She plans ahead and manages her funds so that new grants start before old ones run out.
Create funding stability

As a result, she is able to sustain a long-term stable funding pattern, (ideally) without any gaps.
Best Advice from Leading PI’s

1. Establish a research agenda
2. Have 2-3 concept papers under development
3. Stay focused, start small, & build!
Best Advice from Leading PI’s

1. Establish a guiding research agenda
2. Have 2-3 concept papers under development
3. Stay focused, start small, & build!

✔ Build relationships with agency personnel
✔ Match a funder’s mission, goals & funding priorities
✔ Seek others to review draft proposals (collaborate)
✔ Serve as a reviewer (panelist) for an agency

Benefits: understand how panels work & how panelists think; visibility with agency; learn who gets funded & what gets funded; see what’s trending and expand professional networks.
Show me where to find $$$
How to start:
What kind of funding do you need now?

What will help me move toward my longer range research goals?

Field research?
Conference travel?
Dissertation completion?
Preliminary study?
Launch early career?
Student development?
Educational outreach?
Then seek logical funding sources (one that matches your research interests)

- Disciplinary organizations
- Professional societies
- Nonprofits & NGO’s
- Named foundations (Buffet-Gates, etc.)
- STEM-specific foundations (Lockheed Martin)
- Corporate partnerships & foundations
- Applicable state & federal agencies
Use **searchable** databases *first*

- **COS Pivot** (subscription-based service) - government, foundations & nonprofits
- **Grants.gov** - primarily federal funders
- **Foundation Center** - corporations, nonprofits, foundations
- **Collegiate databases or fellowship offices’ lists**
- **Professional organizations** – think interdisciplinary!
- **Search engines*** e.g., Google - keyword search (*least efficient*)

Tip: Keep track of your search terms so you don’t repeat search efforts.
Pivot
http://pivot.cos.com
(check: subscription service)

- Comprehensive searchable funding database
- Sign up for funding alerts & news service
- Search US & internationally for collaborators
- Enter your resume into the expertise data base
Funding Alert Services

My steps:
1. Logged into database.
2. Conducted search with select keywords.
3. Reviewed results.
4. Saved search.
5. Tagged search for ongoing alerts.

Example: Pivot/COS
US Government pages

National Science Foundation
http://www.nsf.gov/funding/

Grants.gov
http://www.grants.gov/

USDA/NIFA
http://nifa.usda.gov/grants

<<Tutorial available>>
Tip: Check out pages of other institutions

Grad students, try Cornell or Berkeley Fellowships databases!

Entomology Students Organization
University of California, Berkeley  http://nature.berkeley.edu/eso

Look for External Funding Sources

If $ is external to them = external funding to you, too!

Funding

Always check the funding source website for the most up-to-date information.

Fellowships
American Association for the Advancement of Science – fellowships
California Sea Grant Fellowships – NOAA sponsored fellowships in population ecology and policy
EPA STAR Fellowship
Ford Fellowship – (priority to) minorities working on research-based graduate degree
George Melone Wright Fellowship – work in National Parks
Graduate Women in Science Fellowship – $10,000 for female researchers in the natural
Options for exploring foundations

Foundation Center: http://foundationcenter.org/

Pearson Higher Education Grant Help
Show me how to gain experience
Premise: During graduate studies, you acquired the skills necessary for proposal writing.

Can you: Follow instructions
Conduct a literature review
Frame a problem precisely
Write professionally
Meet deadlines
Collaborate on teams
Be creative & resourceful
Develop and follow a budget
Seek feedback on draft work
Obtain expert advice
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Seek feedback on draft work  
Obtain expert advice
Read model proposals across disciplines – analyze reviewers’ comments if provided

Complete a RCR, CITI and/or IRB certification (e.g., ethical research practices, protecting human subjects, animal welfare)

Study funders’ priorities – awards; news; strategic plans

Check out proposal writing & budgeting handbooks

Attend campus workshops

Take open courses (free) (try MIT, Pitt)

Free tutorials (try NIH, EPA, Foundation Center)
“Job Shadow”

Attend. Assist. Observe.

1. Ask to **attend** faculty grant planning meetings

2. Offer to **assist** a faculty member
   - conduct a literature review
   - write small sections of narrative
   - seek estimates for the budget
   - proof read the proposal
   - complete forms

3. Ask to **observe** the PI, fiscal assistant or grant writer complete e-submission
Practice writing (& rewriting…)

- Concept papers
- Abstracts
- Fellowship applications
- Award nominations
- Dissertation completion grants
- Journal articles

Diagram:
- Writing
- Feedback
- Rewriting
- Research
- Rewriting
Practice Analyzing Announcements

Q: What should you look for?

- Purpose
- Focus and/or priorities
- Eligibility
- Award range
  (match your needs?)
- Deadlines
  (letter of intent and/or proposal)
- Cost sharing/match
- Limitations
- Obligations & reporting requirements
- Where to find instructions & scoring criteria

Tip: identify keywords – like when applying for a job
5 Effective Career Habits of PI’s

1. **Network** – join diverse professional groups, nurture connections with mentors & alumni; make connections beyond the academy; social networks

2. **Monitor** agency initiatives, plans, announcements, news & awards (federal agencies, corporate foundations, professional organizations)

3. **Subscribe** to several notification (alert) services.

4. **Be visible** at national meetings & conferences. Attend funders’ updates. Introduce yourself to other investigators, foundation/agency personnel

5. **Call project officer/liaison** about research concept and funding needs - seek advice on “fit” with specific program or other possible funding mechanisms
✓ Understand various funding sources
✓ Set goals - don’t chase dollars
✓ Prepare several concept papers
✓ Use funding alert services
✓ Follow institutional submission protocol
✓ Model the habits of successful PI’s
Now, let’s get to your questions!

Thank you.

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