Proposal Writing, Management, and Budget Planning

June 15, 2017
Agenda

• Welcome:
  – Kristen Yarincik, Consortium for Ocean Leadership
  – Stephanie Schroeder, C-DEBI

• Featured Speakers:
  – Donna Blackman, Scripps Institution of Oceanography
  – Beth Orcutt, Bigelow Laboratory for Ocean Science

• Questions and Discussion
The Consortium for Ocean Leadership (COL) provides professional development programs for faculty through programs such as MGLS with funding from the National Science Foundation.

COL is currently developing future webinars and workshops, and will announce opportunities as they become available.
C-DEBI Webinar Series

• C-DEBI is a NSF-funded Science and Technology Center exploring life beneath the seafloor.

• Our professional development program for early career scientists includes our webinar series focused on targeting skills needed both in and out of academia.

• The current webinar series is held every other month.
Webinar Reminders and Tips

• Please mute your microphone or phone when not speaking.
• You may enter questions into the chat box at any time.
• To reduce feedback, only one person should speak at a time.
• This webinar is being recorded.
Proposal Writing

Leading a (collaborative) research study

Donna Blackman
Scripps Institution of Oceanography
Proposal Writing

Aspects to consider

Define the study
Data requirements
Analysis requirements
Expertise needed
Proposal preparation
Proposal Writing

Aspects to consider

Define the study
Data requirements
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Expertise needed
Proposal preparation

timeline and management of proposal writing will depend on complexity of these aspects
Define the Study

What you will do & why it’s interesting

Aim of the research and expected outcomes
Will your study provide complete answer or address aspect(s)?
Might your results change thinking in a major way?
Will you fill a current gap in knowledge?

Solely curiosity-driven or with an applied outcome?
if w/application, determine who stakeholders would be & understand format of results they could work with
Data Requirements

Justify the need for new data

what key questions only new data can answer?
do the (or some) data already exist?
is special equipment required?

Who owns/operates it? Need to apply to use it?
Is there a wait time? If so, when next available?
Are permits required? Who handles this?

Environmental
International access / data sharing requirements

Any reason now is particularly auspicious?

Feasibility- desired coverage / resolution / suite of analyses?
Analysis Requirements

Specialized handling / laboratory / computing?
Time sensitivity?
  Inherent to the measurement or sample
  Inter-dependent analyses & results handoff within PI team
What suite of parameters will be explored?
  Might this evolve as results come in?
How will uncertainties be assessed
Where will results be archived?
Will new software be developed as part of the work?
  proofing, access
Is this feasible within the project duration?
Expertise Needed

Can you complete all the work yourself or not?
Are there benefits to collaboration? Same or other institution?
Are you looking for intellectual participation (multiple Project Investigators, PIs) or an analysis product (subaward, Senior Personnel)?

Hone definition of problem
key question(s) & how well addressed by study
Adjust details of data/analyses requirements
coverage / parameter tests / handling / processing
Finalize team
Clarify tasks & point person for each
Designate data management & archive duties
Layout & Write Proposal

Lead PI coordinates the collaborative effort
identify sections/writers & set timeframe

Select Program to submit to
check latest call for proposal, (multiple?) program requirements &
Grant Proposal Guide www.nsf.gov/pubs/policydocs/pappg17_1
must consult Program Director if complex/large study; also beneficial to
do so if broader impacts activities are innovative/unusual

Ship time request (usually lead PI;  www.unols.org )
ship & equipment, deep submergence
port options / security limitations (days on site)

Budget
Supplementary Material

Fastlane submissions   fastlane.nsf.gov
each institution must sign off, lead institution completes
reviewer suggestions (Single Copy Documents)
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reviewer suggestions (Single Copy Documents)
Facilities Request

Supplementary Material- fill in form, consult UNOLS or vessel/vehicle operator as needed, weather window, duration, save PDF & upload to fastlane
Timeframe for Proposal

*Lead PI sets the pace & makes sure of everyone's progress*

- set interim steps

How many co-investigators?
- if just you and lab-based, plan ~2 full weeks in month before submittal
- if 2 or more:
  - are they people you've worked with before? if so ~3-4 weeks
  - if not, plan full month & start 6-8 wks prior to submittal

Is there a complex field or lab component?
- detailed work plan to illustrate that experiment is feasible & you're ready
- chart showing prospective daily (weekly/monthly?) activities
- consider what fallback options might be (whether to show this, too?)
- note dependence of later work on early findings

Is this a relatively new direction for you?
- need plenty of time for thoughts to evolve; start 4-6 months early
Communication with Team

*Lead PI sets the tone, pace, & adjusts as needed*
  
each team member has different strong and less-strong points
You design broad framework
  
ask for feedback on this framework
update framework for study and consider lead for sub-topics
Fill in details

  *experimental plan*
  *analysis methods*
  *coordination of team progress & results sharing*
  *milestones during project*

When someone falls behind

  *provide initial draft of their section & request feedback by specific date*
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Be open to team ideas &
decisive when needed.
Recognize & address problems early; adjust plan if no good solution within project
"Inverted Pyramid" approach to Project Description

what you want to do & why its interesting
expected outcomes
    scientific advance(s) & broader impacts
scientific context
processing and analysis methods
    recap - how your analysis/interpretations will answer questions posed
work plan (pre-cruise, syn-cruise, post-cruise, products)
timing & any interdependence of results
Beth Orcutt

Bigelow Laboratory of Ocean Sciences
Preparing Budgets (focused on NSF proposals)

Beth Orcutt (Bigelow Laboratory for Ocean Sciences)

@DeepMicrobe
Before you begin

• Get in touch with your institution’s **grant manager/sponsored project office** to get:
  • **Templates** for preparing the budget and justification!
  • **Deadline** for submitting your budget for approval (usually at least a week or more before proposal deadline)

• Do your research – **how much should you ask for**:
  • What is the average size of awards and award range? Look this up in the *Program Announcement* or by looking at size of awards recently funded ([nsf.gov/awardsearch](https://www.nsf.gov/awardsearch))
Collaborative Research: A combined boron isotope, pH microelectrode and pH-sensitive dye approach to constraining acid/base chemistry in the calcifying fluids of corals

<table>
<thead>
<tr>
<th>NSF Org:</th>
<th>OCE Division Of Ocean Sciences</th>
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<tbody>
<tr>
<td>Initial Amendment Date:</td>
<td>July 1, 2014</td>
</tr>
<tr>
<td>Latest Amendment Date:</td>
<td>July 1, 2014</td>
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<tr>
<td>Award Number:</td>
<td>1437371</td>
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<tr>
<td>Award Instrument:</td>
<td>Standard Grant</td>
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<tr>
<td>Program Manager:</td>
<td>David L. Garrison</td>
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<td></td>
<td>OCE Division Of Ocean Sciences</td>
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<tr>
<td></td>
<td>GEO Directorate For Geosciences</td>
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<tr>
<td>Start Date:</td>
<td>September 1, 2014</td>
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<tr>
<td>End Date:</td>
<td>August 31, 2017 (Estimated)</td>
</tr>
<tr>
<td>Awarded Amount to Date:</td>
<td>$369,413.00</td>
</tr>
<tr>
<td>Investigator(s):</td>
<td>Justin Ries <a href="mailto:j.ries@neu.edu">j.ries@neu.edu</a> (Principal Investigator)</td>
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  • ~$100-150k TOTAL *(Direct + Indirect)/year/PI* is in the range of typical for a 3 year NSF project, often covers a student or postdoc, some PI salary, and other necessities.
  • *Advice*: do some back of the envelope calculations to figure out what you need, write a one page pitch, then email your program manager to get their advice on feasibility.
What you need to do:

- Figure out what you need to get the proposed work done (see previous)
- Prepare **yearly** and **cumulative BUDGET** according to template and NSF categories
- Include **BUDGET JUSTIFICATION** (3 page max) that explains why you need the funds in the various categories
  - Note: if including **subawards**, each must have own budget justification
NSF budget categories:

- **Salaries and Wages (Lines A & B)**
  - Senior Personnel – for typical faculty, no more than 2/months per year from all NSF sources (often less) [note: can be higher for some research institutions, check with your sponsored program office]
  - Administrative & Clerical – usually treated as an indirect cost, only include if integral, specific, explicit, and with approval of program manager
  - Postdocs – if person is listed as a postdoc, can include full salary. [note: If listed as a co-PI, cannot (see senior personnel as above)]
  - Students – if students are paid a salary (like, for a research assistantship), that goes here. Get cost from your institution.

- **Fringe Benefits (Line C)**
  - things like employee holiday and sick leave, retirement, etc.
  - Ask your institution what the rate is per employee type.

- These two categories often make up the biggest part of the direct costs/budget.
NSF budget categories, continued

- **Equipment (Line D)**
  - Tangible property having a lifetime >1 year and that costs >$5,000 (including modifications, attachments, accessories needed to make it function)
  - Including a quote from a possible vendor as a supplemental doc. can help

- **Travel (Line E)**
  - Can include field work, meetings & conferences, other travel associated with the project (can also include temporary dependent care (like, daycare at a conference))
  - Typically airfare (average round-trip on US carrier), local transport, lodging, per diem for meals and incidentals, conference fees
    - You can find per diem and allowable lodging rates at US General Services Administration (GSA) website: https://www.gsa.gov/portal/content/104877

NSF Proposal Guidelines (PAPPG chapter 2):
https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp
NSF budget categories, continued:

• **Participant Support (Line F)**
  - Direct costs for non-employees participating in the project, for example: participants in a workshop, summer student interns
  - Can include subsistence allowances and travel allowances, and a few other categories

• **Other direct costs (Lines G1-G6)**
  - Materials and Supplies (Line G1) – expendable items, including computers
  - Publication/disseminations costs (Line G2)
  - Consultant services (Line G3) – professional services by non-employees
  - Computer services (Line G4) (*not typically included, ask SPO*)
  - Subawards to another institution (Line G5)
  - “other” (Line G6) – things like shipping, postage, tuition and fees for students, equipment maintenance, contracted services (for example, sequencing)

NSF budget categories

- **Total direct costs** (Line H) – add up lines A-G

- **Indirect costs** (Line I) – your institution will have a federally negotiated rate that you have to apply per your institution’s rules - get this from your sponsored project office. This will also specify how the “facilities and administrative costs” are charged versus the various line items, and if there are different rates for on-campus versus off-campus. For example, F&A costs typically not applied to equipment, tuition, etc. – GET THE LIST from your grants manager.

- Matching funds – complicated, talk to your director

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**NSF Proposal Guidelines (PAPPG chapter 2):**
https://www.nsf.gov/pubs/policydocs/pappg17_1/pappg_2.jsp
# SUMMARY PROPOSAL BUDGET

**PRINCIPAL INVESTIGATOR/PROJECT DIRECTOR**

**FOR NSF USE ONLY**

<table>
<thead>
<tr>
<th>PROPOSAL NO.</th>
<th>DURATION (MONTHS)</th>
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<tbody>
<tr>
<td></td>
<td>Proposed</td>
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</table>

<table>
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<tr>
<th>NSF-Funded Person-months</th>
<th>Funds Requested by Proposer</th>
<th>Funds Granted by NSF</th>
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<tbody>
<tr>
<td>CAL</td>
<td>ACAD</td>
<td>SUMR</td>
</tr>
</tbody>
</table>

**A. SENIOR PERSONNEL: PI/PI, Co-PIs, Faculty and Other Senior Associates**
List each separately with name and title. (A.7. Show number in brackets)

1. 
2. 
3. 
4. 
5. 
6. ( ) OTHERS (LIST INDIVIDUALLY ON BUDGET EXPLANATION PAGE)
7. ( ) TOTAL SENIOR PERSONNEL (1-6)

**B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)**

1. ( ) POSTDOCTORAL ASSOCIATES
2. ( ) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)
3. ( ) GRADUATE STUDENTS
4. ( ) UNDERGRADUATE STUDENTS
5. ( ) SECRETARIAL • CLERICAL (IF CHARGED DIRECTLY)
6. ( ) OTHER

**C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)**

**D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING $5,000.**

**TOTAL EQUIPMENT**

**E. TRAVEL**

1. DOMESTIC (INCL. CANADA, MEXICO AND U.S. POSSESSIONS)
2. FOREIGN

**F. PARTICIPANT SUPPORT**

1. STIPENDS $ 
2. TRAVEL 
3. SUBSISTENCE 
4. OTHER

( ) TOTAL PARTICIPANT COSTS

**G. OTHER DIRECT COSTS**

1. MATERIALS AND SUPPLIES
2. PUBLICATION/DOCUMENTATION/DISSEMINATION
3. CONSULTANT SERVICES
4. COMPUTER SERVICES
5. SUBAWARDS
6. OTHER

TOTAL OTHER DIRECT COSTS

**H. TOTAL DIRECT COSTS (A THROUGH G)**
Example Budget Justification blurbs:

**Salaries and Wages – Senior Personnel (Line A):** PI BLAH requests 1 month of summer support per year to organize the project, do XYZ lab experiments, participate in field work...

**Salaries and Wages – Other Personnel (Line B):** Three months per year are requested to support Research Technician BLAH, who will be involved in ... Twelve months of salary are requested in years 1 and 2 for a postdoctoral researcher who will...

**Fringe Benefits (Line C):** Benefits are calculated at a rate of ###% for XYZ categories... (get language from your sponsored project office)

**Equipment:** $20,000 is requested in the first year to purchase Equipment XXX with BLAH BLAH features which is critical to the project because BLAH. This price is based on a quote from Company as an example (see supplemental documentation), but the most competitive vendor price will be solicited from multiple vendors.
Example Budget Justification blurbs:

**Travel:** $$ in domestic travel funds are requested to support the participation of PI BLAH, Research Technician BLAH, and student BLAH in the cruise during the first year of the project. $$ per person is estimated for round trip tickets from XYZ to XYZ, in port lodging, local transportation, and per diem meals for XX days, and per diem. $$ in foreign travel funds are also requested to support the participation of PI BLAH in one international scientific conference in year 2 to present the results of the project.

**Participant Support:**

$$ are requested to support the participation of 10 people in the workshop proposed as part of this project. This covers BLAH BLAH.
Example Budget Justification blurbs:

Other Direct Costs:

G1 - Materials and Supplies: $$$ is requested in year 1 to cover the cost of XYZ consumables, reagents, and supplies. In years 2 and 3, $$$ is requested. Analytical costs...Computer drives...

G2 - Publication Costs: $$$ is requested in year 3 to cover the open-access publication of XX papers in XYZ journals

G3 - Consultant services (see grant proposal guide)

G4 - Computer services (not typically included)

G5 - Subaward: (get language from your sponsored project office)

G6 - Other – Contracted services BLAH BLAH

G6 - Other – Graduate student tuition BLAH BLAH

G6 - Other – Shipping BLAH BLAH

G6 - Other – Shiptime (if you are chartering a vessel, include the cost here. If you are using a UNOLS ship, DO NOT, but include the UNOLS shiptime request as supplemental)

G6 - Other – ETC.
What about non-NSF proposals?

- **Other federal/government agencies:** Often looking for similar categories, but will have different templates
  - Note about personnel time in months versus FTE: Some agencies ask for salaries in months, others ask for “full time equivalent” (FTE) which is months/year or hours per week/full-time hours (so, 2.5 months/year = 0.21 FTE, or, one day/week = 8 hours/40 hours = 0.2 FTE)
- **Private foundations:** Most have restrictions on the percent that can be charged for overhead (10-15% of direct costs), which is often much lower than your institution’s federally negotiated rate. Thus, you will need to get permission from your institution to submit, so talk to your director/sponsored project office early to get permission.
Questions and Discussion