Successful Funding Proposals

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Three Phases of Funding Success

1. Capture Planning
2. Proposal Planning
3. Proposal Development
Doing your homework

CAPTURE PLANNING
“Capture Planning is the process of identifying opportunities, assessing the competitive environment, and devising winning strategies oriented towards winning a specific funding opportunity.”

(Shipley Associates Capture Guide v. 3.0, 2014)
Identifying Funding Opportunities

Finding Funding 101 | Finding Funding Module
**Unknown Position:** Finding an opportunity and submitting a proposal

**Known Position:** Aligning your goals with the funders, and connecting with funding agency representatives

**Improved Position:** Understanding likely competitors and devising strategies to enhance their weaknesses and demonstrate your strengths

**Favored Position:** Building long-term relationships with funding agencies by demonstrating successful projects and participating in strategic planning workshops.
Do this first

PROPOSAL PLANNING
Proposal Checklist
Understand EXACTLY what is required

“Shred” the RFP by reading line by line developing a checklist of each requirement

Every question, every request for description, every “shall”, “will”, “must”, ”should” gets its own checklist item.

<table>
<thead>
<tr>
<th>Item/Section</th>
<th>Must Contain</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executive summary-type paragraph</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are the project’s goals/objectives?</td>
<td>Prefer bullet list or identifiable sections</td>
<td></td>
</tr>
<tr>
<td>Which NSF ADVANCE objectives will the project meet?</td>
<td>Refer to &quot;Program Description&quot; section of RFP</td>
<td></td>
</tr>
<tr>
<td>How will progress on these objectives be reported to NSF?</td>
<td>High level, further specify in evaluation section.</td>
<td></td>
</tr>
<tr>
<td>Are the project’s goals tied to any other high level NSF strategic initiatives (i.e. 10 big ideas?)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intellectual Merit</strong></td>
<td>Standard NSF merit review criteria</td>
<td></td>
</tr>
<tr>
<td><strong>Broader Impacts</strong></td>
<td>Standard NSF merit review criteria</td>
<td></td>
</tr>
<tr>
<td><strong>Intersectionality</strong></td>
<td>RFP specific additional merit review criteria</td>
<td></td>
</tr>
<tr>
<td>What are the salient categories of social identity for both underrepresented STEM faculty and majority STEM faculty that will be involved in the project?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How are these categories characterized in data collection and analysis?</td>
<td></td>
<td></td>
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<tr>
<td>How are these categories considered in designing project implementation?</td>
<td></td>
<td></td>
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<tr>
<td>How are these categories considered in project evaluation?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organizational Context, Data, and Problem Analysis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What available data and literature have been analyzed to understand the underlying reasons for the equity problems we are addressing?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present relevant data regarding gender equity/intersectionality in STEM at FSU</td>
<td>[Table/Figure?] Specify that the included data was curated based on the NSF ADVANCE Indicators toolkit</td>
<td></td>
</tr>
<tr>
<td>How (and by whom) was this data collected?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How (and by whom) was the data analyzed?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are the team’s conclusions based on this data?</td>
<td>(setting up proposed interventions)</td>
<td></td>
</tr>
<tr>
<td>What systemic issues does this data suggest are present at FSU?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discuss relevant literature, with aim of specifically justifying each proposed intervention</td>
<td>i.e. structure this roughly analogous to the proposed activities structure</td>
<td></td>
</tr>
</tbody>
</table>
Proposal Schedule

Work backwards from proposal due date to establish a timeline

Developing and sticking to a proposal schedule decreases stress and anxiety, increases your ability to ask for help, and ultimately increases proposal quality.
Features, Benefits and Themes

- **Features**: Separate aspects of your proposed project (e.g., methodology, research direction, etc.)

- **Discriminators**: Features that you have, that no one else has.

- **Benefits**: The ways in which your Feature solves a buyer’s problem.

- **Proposal Themes**: Statements that specifically connect a feature with a benefit.

People buy benefits, not features.
Examples of Theme Statements

“We focus on features associated with writing—rather than exclusively on the phonetics and semantics of specific graphemes—to make the most of limited data. This groundbreaking method allows us to craft a more robust understanding of the emergence of writing, contextualize its developmental processes within the rich visual culture of Mesoamerica, and place these Mesoamerican systems into conversation with larger global theories on the origins of writing in early civilizations.”

“This project seeks to pilot a novel pedagogical framework that builds communication and collaboration skills in individual researchers as a means of building more effective teams. Essentially, we aim to build better teams by building better team members, thus enhancing the team’s ability to generate transformative research questions. “

Feature + Benefit = Theme
Proposal Outline and Content

- If an agency (or RFP) specifies or suggests an outline, you **MUST** follow that outline.
- If none is specified, try to find a successful example proposal and follow that outline.
- If all else fails, follow Heilmeier’s Catechism:
  1. What are you trying to do?
  2. How is it done today, and what are the limitations of current practice?
  3. What’s new in your approach, and why do you think it will be successful?
  4. Who cares? What difference will this make?
  5. What are the risks?
  6. What are the mid-term and final checks for success?
Expected Outcomes

Our goal is to enable and support society-relevant and transformative research efforts at FSU. We will accomplish this by training individuals and teams and building capacity by (a) enhancing their science communication and project planning skills, and (b) guiding their project and team development. These outcomes will be evaluated on (a) measured growth in participants’ and teams’ self-assessed efficacy in interdisciplinary science communication and project execution, and (b) assessment of individual and team-level generation of scientific knowledge. With respect to efficacy, participants will be asked at the time of application to self-assess their skills with project development, research collaboration (including mentorship, management, and leadership), publication of empirical findings, scientific communication, and grant writing. They will be asked to rate themselves on these indices as individuals on a semesterly basis. Following formation of their teams, assessments will include a module using the same scale but instead rating the efficacy of the team. Participants will receive semi-annual reports on their individual and team perceived skill growth, to facilitate their development in impactful interdisciplinary germination of science. The evaluation will also measure intermediate and longer-term indicators of research productivity from participants’ annual accomplishments in research dissemination (accomplishments in research dissemination, public communication, and policy briefs), research proposals submitted and funded, and the sustained collaboration of participants on these outputs. As such, we will be assessing the capacity building success of the project on at least two levels: (1) individual researchers and (2) research teams.

Potential for Success, Sustainability and Scaling

The proposed approach is ambitious but achievable, given its leveraging of existing programs and uniquely positioned leadership team. Collaborative Collision is a long-running program that has been ingrained in FSU’s institutional culture, with each event typically attracting 50+ participants. Our approach is built upon this by using a novel combination of education-based strategies to reach an existing audience who has already demonstrated an interest in interdisciplinary work. Though the initial program focuses on climate research at FSU, it is easily replicable in other topic areas, and/or scalable to include researchers at other institutions. In particular, we plan to scale locally with Florida A&M University in the near future, as well as broadly by leveraging FSU’s connections to the National High Magnetic Field Laboratory, the Mayo Clinic, and other Kangaroo Associated Universities, among others.

Project Team

The project team is led by Mike Mitchell (PI, Program Design and Implementation), Strategic Initiatives Manager in the Office of Research Development; Dr. Lara Perez-Folkman (Co-PI, Evaluation), Associate Professor of Higher Education and Sociology; Dr. Kassie Ernst (Co-PI, Climate Education Research), Teaching Faculty at the FAMU-FSU College of Engineering; and Dr. Robert A. Reiser (Co-PI, Instructional Design), Associate Dean for Research, Distinguished Teaching Professor, and Robert M. Morgan Professor of Instructional Systems in the College of Education. This model ensures that the program will be sustained by institutional leadership, with Germination funds serving as the catalyst to develop and implement a more rigorous program than would otherwise be possible. The PI is uniquely positioned to lead this effort having developed Collaborative Collision and built significant partnerships throughout FSU’s leadership and faculty which will be leveraged to scale and sustain the program. Finally, he has prior experience with the State of Florida Office of Energy, included multiple projects funded by the Department of Energy and Department of Agriculture in collaboration with research teams at Florida universities, making him ideally suited to assist teams in understanding and collaborating with end-users.

Bold, italicize, and/or underline key points
Present Your Ideas Simply

The more simply an idea is presented, the more understandable and credible it is to readers. “Big” Words obscure meaning and increase the mental resources necessary for reading comprehension.

Examples of “Big” Words and Phrases:
• “This project will elucidate the theory of science”
• “…activity allows students to experience visual impressions of a working lab”
• “At the present moment in time we would like to call attention to the fact that”
• “More specifically,...”
Avoid Grandiose Language

Grandiose language is hard to support and is often subjectively applied.

Instead, be as specific as possible about expected outcomes.

Examples of Grandiose Language:
- “The proposed project will revolutionize the field of science”
- “The proposed research represents a total paradigm shift”
- “This research will solve climate change and end world hunger”
- “With this single $100k grant, I will…(lists tasks that would require $1M)”
Be Specific

**Bad**

1. “Based on this prior research, the next step is obvious.”
2. “Once Process A has been completed, we will then begin work on Process C.”
3. “The results of Process A are shown in Table 1.”
4. “We expect our work to yield important results.”
5. “We will work with our partners to complete the project.”

**Good**

1. “Based on this prior research the next step is (state the next step)”
2. “Once Process A is complete, we will begin Process B, which leads to Process C.”
3. “The results of Process A are shown in Table 1. These results mean…”
4. “We expect our work to yield (specific results), important because (importance)”
5. “We will conduct process A, while our partners will conduct process B.”
Use Graphics Appropriately

- Charts show relationships/flow between ideas
- Graphs show data correlations, trends, comparisons, etc.
- Photos show realism, or tangibility
- Illustrations convey specific features/details while removing confusing details
- Maps/drawings show relationships and scale
- Tables emphasize the absolute value of numbers.

Figure 1. Schematic of interactive pathways of abiotic and biotic factors of fish in the Gulf of Mexico

Graphics draw readers attention, and increase their understanding and retention of content
Captions Not Labels

Captions interpret the visual and provide the connection between the features and benefits

Label: Figure 1. The proposed co-curing lay-up procedure

Caption: Figure 1. The co-curing lay-up procedure bonds a ceramic composite layer to the outside surface of CFRP composites. This results in stronger, yet lighter, structural components for use in advanced aeronautical applications.
Label: Figure 1. Coefficient of thermal expansion (CTE) for CFRP Composites (left) vs SiC composites (right).

Caption: Figure 1. Coefficient of thermal expansion (CTE) for CFRP Composites (left) vs SiC composites (right). Our CFRP composite demonstrates a lower CTE, resulting in less expansion at high temperatures. Materials with low CTE are necessary to enable next-generation supersonic aircraft.
Don’t Use Graphics Inappropriately

Figure 1. The Gulf of Mexico

Figure 1. Advanced Aeronautical Applications
Proposal Structure

Science was first studied by the Ancient Greeks, and since then has evolved to........

(long explanation of the field of science with many citations)

The proposed project will add to the field of science by....

The proposed project will add to the field of science by....

This is an important advancement in the field of science because...

Science was first studied by the Ancient Greeks, and since then has evolved to........

(Concise* explanation of the field of science with most important and relevant citations)

(*enough to let them know that you know what you are talking about, and that what you are proposing to do is supported by prior research)

People tend to best remember the FIRST and LAST things they read.
The proposal should state within the first paragraph exactly what you are proposing to do.
Write Specifically to Review Criteria

Always read and understand the proposal review criteria before you start writing.
Project/Issue and Goals

Reviewer Criteria:
“Is the project/issue the project will address important/significant in the PI’s area of research?”

Your Proposal:
“(Insert topic) is an important area of research in (PI’s field) because….”

Research Methods/Activities

Reviewer Criteria:
Are the research methods and/or creative activities appropriate in light of the goals/objectives of the project?

Your Proposal:
“The proposed methodology was selected because…”

“These methods are appropriate to address the project goals because…”
Broader Impacts

Reviewer Criteria:
“Is the project clearly related to the PI’s long-term research goals?

Your Proposal:
“The PI’s long-term research goals are……This proposed project helps to fulfill those goals by…."

Differentiation from Dissertation

Reviewer Criteria:
Is the proposed project a substantive departure from or modification of the PI’s dissertation work?

Your Proposal:
“This proposal represents a substantive departure from my dissertation by…."

My dissertation (title of dissertation) focused on X. The proposed project focuses on Y (or X+1).”
Budget

• Ask for EXACTLY what you need
  – If you “pad” the budget with extra expenses, reviewers will call you on it
  – If you ask for too little, reviewers will question if you can accomplish your tasks

• Make sure to budget for all tasks
  – “How are they going to do it if they don’t have any money?”

• Work with your department/college financial staff to complete the budget according to the funding opportunity’s instructions.
Supporting Documents

- Proposals also require additional documentation beyond the project narrative, including:
  - Biosketches/CV’s,
  - letters of support,
  - equipment and facilities descriptions,
  - data management plans,
  - post-doc mentoring plans, etc.

- These will take longer than you think to collect and format.
Questions?

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