PRINCIPLES OF EFFECTIVE GRANT-SEEKING

From the CSU Office of Foundation Relations
Peter Hartman, Director (peter.hartman@colostate.edu)
Sam Ernst, Associate Director (sam.ernst@colostate.edu)

STEPS TO GRANT FUNDING

Proposal processes and requirements differ dramatically among sponsors and different types of awards, but the same basic principles of effective grant-seeking apply universally:

- Develop a competitive proposal idea
- Focus effort on quality and fit of opportunity over quantity of applications
- Build an understanding of the sponsor and its decision-making
- Write a concise, complete, and compelling narrative

Similar proposal shortcomings also apply universally. According to one NSF official, half of proposals they receive fail to measure up for things that were clearly avoidable, such as misalignment of the topic to the program, not following guidelines, insufficient detail, or simple errors. Review panels and program officers that cycle through stacks of proposals are looking for every reason to cross yours off the list, and avoidable errors provide easy reasons for reviewers to say "no" to your proposal.

Your goal as a grant-seeker is first to avoid these common pitfalls, elevating your proposal above a significant part of the competition right off the bat. Then, with effort focused on developing a complete and well-written proposal, you will stand a better chance of receiving an award.

1. Find Opportunities

Identifying Opportunities: Federal opportunities are listed at grants.gov. Each federal agency also maintains its own grant listings and resources. Private funding opportunities are decentralized. CSU provides access to SPIN, the "world's largest" database of sponsored funding opportunities. The Foundation Center also maintains a database of foundation grants and giving interests.

CSU and a number of its colleges produce proposal opportunity lists for faculty. Campus-wide resources include the following (all are available through the Office of the Vice President for Research's website):

- Internal funding opportunities
- Limited submissions[1]
- Early Career Investigator RFPs
- Foundation RFPs

Evaluating Opportunities: Quality and not quantity is the advisable tactic in finding grant support. When trying to decide upon the best federal funding mechanism, talk to the program officers who oversee the program with the strongest fit with your intended project. They can give you good advice about the suitability of their program and of others within their agency. Some questions to ask when considering fit:

Do I meet all of the eligibility requirements? (particularly important for federal opportunities)

[1] Some opportunities limit the number of applications that can be submitted by CSU. CSU uses an internal submission, review, and selection process to determine nominees.

What are the odds of success? What is the ratio of work to reward?
How strongly does my project align with the funder's mission, both present and future?
How do my funding needs align with the funder's timeline?

Early Career Opportunities: Early Career Investigator (ECI) grants offer important support to build your research and career. With more than 300 public and private application opportunities and thousands of awards made each year, faculty have many options and resources to support their efforts.

Most research grants are awarded for a specific scope of work. With these, the PI's training and career plans are important to the degree that they enable the research outcome. For ECI awards, the PIs and their career *are* the outcome. ECI awards are intended to jumpstart the careers of researchers with innovative, long-term aims. This requires a different proposal orientation where the PI needs to describe their past, present, and future career with the clarity and detail that they would a research plan.

Early career proposals are about you. Talking superlatively about oneself can be uncomfortable, but don't be modest. ECI grant programs are looking for the next stars and you need to make yourself stand out. Spend some time thinking about what makes you unique and work on developing language to describe those aspects.

While most awards focus on specific, shorter term aims, ECI awards often focus on the long-term and big picture.

2. Define the Request

The project idea must be grounded in a defined scope of work that advances a funder's goals in a clear and tangible way. Questions to consider include the following:

Basic Questions:
What do you want to do and what is the proposed work based upon?
Do you have mentoring relationships in place?
Do you have the facilities and equipment available?
What are the benchmarks and when will you achieve them?
What are the measurable outcomes and indicators for success?
How much will it cost and are there other sources of support?
Do you plan on sustaining the work after the grant period?
Is your department and college part of the conversation?
Taking all this into account, is your research project feasible?

Strategic Questions:
Does this make sense for you and your department?
How does this advance the mission of the sponsor?
So what? (Why should the sponsor give *you* a grant?)
What is the novelty or competitiveness of the research?
How would you contrast your work with similar or alternative approaches to the same question?
What are your comparative weaknesses?
What may not work as anticipated and what will you do in response?
What are the lasting benefits to research and humanity?

Getting early feedback is very important and often overlooked. Organize these answers into a project summary or outline and share it with an experienced colleague in your department, your peers, as well as colleagues in other disciplines.

3. Develop a Plan and Timeline

Developing a competitive proposal requires a lot more than sitting down to write. Independent of writing the proposal narrative, there is considerable outreach, planning, and administrative work that will need to be accomplished by you as the PI.

Even if you do not yet have time to focus intensively on your proposal narrative, start immediately on understanding the proposal submission process and get the administrative aspects of your proposal in place. You will much rather be spending the final days before the deadline perfecting the narrative and research plan than chasing down budget numbers or getting departmental or Office of Sponsored Programs reviews and approvals.

Sketch out a plan that includes what you'll need from others, a timeline with self-imposed deadlines for both the written components and administrative elements, and a list of potential reviewers/advisors who you can go to for questions and/or reviews of your proposal.

Who to Involve: The list below summarizes many of the participants in the proposal process, but your college may have different procedures for proposal development, approval, and submission.

Colleagues and Peers (within and outside of your discipline) for project development and review.

Department Chair and college Research Associate Dean for proposal approval and as a point of introduction to other CSU units.

Office of Sponsored Programs Research Administrators for support in reviewing, approving, and submitting proposals; negotiating awards, material transfer, and non-disclosure agreements; and the administrative management of awards.

Departmental/College Research Support for research, proposal, and budget development support.

Central CSU Units for strategic proposal feedback, etc., where applicable:
- Corporate Relations (University Advancement)
- Industry Partnerships (Office of the Vice President for Research)
- Foundation Relations (University Advancement)
- Office of Sponsored Programs (Office of the Vice President for Research)
- Research Acceleration Office (Office of the Vice President for Research)

Recruit Reviewers and Determine Roles: There is a tendency to wait for "perfection" before sharing a proposal draft. It is highly recommended that PIs engage reviewers at several stages, such as the consideration of the initial concept, an early draft, and at completion of the "final" proposal. Your internal reviewers should provide multiple perspectives to effectively address the dimensions of successful proposals required for a diversity of external reviewers. For example:

Review Focus	Potential Reviewers
Research feasibility and methodology, project design	Senior researchers, peers, Research Associate Dean
Narrative organization, clarity, and persuasiveness	Colleagues in other disciplines, OVPR, Foundation Relations, Communications
Guidelines, compliance, technical details	College research coordinators, OSP Research Administrators, Foundation Relations

4. Strategize

To strengthen a proposal, applicants should proactively learn as much as they can about the funder, the program officers overseeing their intended program, the competition, and the decision making process.

Talk to a Program Officer: Reach out to your program officer early in the application process. This will give you valuable information to shape your project and proposal or save you a great deal of time if the fit isn't strong. Most public and private funders allow some level of access. Be aware of limitations on what they will discuss. Some program officers will only answer questions about the grant program and will not give feedback about your project idea. Even so, well thought out questions will inform your approach. Consider starting your engagement with a brief email, summarizing your interest in the program and your intended project focus, and then request a phone discussion. At the time of the phone discussion, have a one-page summary of your proposal idea ready to share with the program officer, as well as a list of specific questions that you would like to ask.

Read abstracts of recently awarded grants: Pay careful attention to what is emphasized and how it is presented. What are the outcomes being highlighted and the qualities of grantees? If similar grants have been funded, be sure that your proposal offers something new and clearly articulate these distinctions.

Seek out other information: Look around the sponsor website for press releases, reports, budgets, and other sources that will give you clues about unspoken organizational priorities and direction. Look for speeches or transcripts of panel discussions made by key personnel within the organization. There are quite a few on YouTube.

Look at the sponsor's history at CSU and seek advice from past recipients. Request copies of successful proposals. Ask your department chair, research associate dean, OSP research administrator, or advancement staff for their insights.

Workshops and Online Resources: Take advantage of workshops and online tutorials. Most major federal sponsors have their own tutorials and tip sheets, either specific to the agency or, in some cases, specific to the program to which you may be applying. There are also many good online resources on writing to private foundations.

5. Write and Rewrite…

Proposal writers have the challenging task of needing to be concise, compelling, and jargon-free while also providing necessary detail about complicated hypotheses and research plans. Then, the final product must be complete, compliant to the RFP guidelines, and error-free.

> "Everyone is short on time. Do not be subtle. Deliver your message fast."
>
> Kasturi Haldar, NIH reviewer, Tropical Medicine and Parasitology study section

Leave plenty of time for review and revision. Applicants should circulate proposals for comment at least twice. On a three-month proposal development calendar, share the first draft two months before the deadline, even if it is incomplete. This review will help clarify a good fit with the funder and a strong research plan. Circulate a "final" draft one month before the deadline, which leaves ample time to perfect a strong narrative and take care of administrative details.

Don't be vague in your language. If you are going to do something, don't just say that you will do so, say why, how, who, and what the precise outcomes will be.

But, avoid jargon and write in short, clear sentences: "Science gobbledygook—'*We will study the MLC2 Ser-18-Ala Nyquist B-process at pCas 7.5-5.5 +/-MLCK'*-will not enamor reviewers, even if they do understand what you're talking about." [2]

According to National Cancer Institute program officers, most successful proposals have 2-4 specific aims. Establish these early and keep bringing the narrative back to these unifying outcomes.

Title: The title is often overlooked, but is quite important. It should provide a one-phrase summary of the work and set the tone for the entire document. Too often titles don't give the reviewer a clue about the work or outcome, just the subject. Be sure that your title is a one-phrase summary of the project and contains a verb, preferably one that suggests innovation. Here is an example of three titles for the same work:

Insufficient	Population Dynamics and Prairie Dogs	No statement of problem, solution, or outcome.
Sufficient	Developing New Population Growth And Decay Models for Prairie Dog Colonies	Uses a verb, but does not suggest a strong need or innovation
Compelling	Predicting Human Population Boom/ Bust Cycles Using Novel Prairie Dog Models	Conveys relevance, innovation, and impact

Abstract: Most guidelines call for an abstract and even if they do not, be sure that your narrative has a summary/overview early in the document that will help reviewers understand all pertinent aspects of a project on page one. Some decision makers will only read the abstract or first page of your narrative, so it is critically important that this is clear and complete.

Send your abstract to someone who is not familiar with the specifics of your work and ask if it explains the problem you are addressing, your hypothesis and the evidence to support it, your research plan, how this work is distinctive or novel, your unique qualifications, how the outcomes will benefit science and humanity, and how it serves the grant program's goals.

The novelty or distinctiveness of your project should be clearly explained. Compare it to other work or approaches, especially those supported by the sponsor.

Don't assume that your proposal's relevance to the grant program's goals is self-evident. Describe relevance early and often.

Background, Research Plan, and Outcomes: You should always keep in mind that you are writing *for* the reader; even reviewers in your field might not know the specifics of your research. Provide basic information and walk readers through your thought process and research plan. But, keep it concise.

A clear, compelling research plan that leaves no lingering questions is essential to all proposals. The underlying logic is just as important as the work you plan to do. Whether describing preliminary work or plans, after the description of each activity, ask yourself "why?" or "so what?". If your draft doesn't answer those questions, add further explanation. The plan should be realistic in its ambition and describe what may not work and what you will do in response.

[2] Mohan-Ram, "So What?: How Not to Kill a Grant Application, Part Three," *Science*, Feb. 11, 2000

Describe your training and mentorship relationships as this is evidence of your pedigree and continuing development.

Understand your audience: Even if reviewers are peers, they might not understand the technical detail. A layperson board at a foundation will require a different proposal than an NIH review panel. Be sure you understand who will be reviewing your proposal and tailor your tone and level of technical detail accordingly.

Understand the reviewer's challenge: Reviewers are working on a high volume assembly line, often tackling dozens of proposals at a time, but are simultaneously charged with providing the ultimate decision makers with a detailed analysis. Don't risk them missing key points or necessary elements. Understand the review criteria and make it easy for reviewers to find what they are seeking.

Institutional context should be described. Describe how your work fits within the context of your department and college. This can be especially important if the application includes education or outreach components. What else is happening in your unit and does what you propose seek to enhance or synergize with those activities?

Don't neglect additional required parts of the application, like an education component or program assessment/evaluation. Reviewers can detect vague and incomplete explanations. These components are often just as important as the technical piece of what you are proposing.

Letters of Support: Determine what letters of support are required, allowed, and prohibited, and develop a plan for requesting and securing these letters early on in the process. Be prepared to draft these letters on behalf of the letter writer, or, at a minimum, provide some key bullet points that you would like to have highlighted in the letter. Letters of support may have separate submission processes and deadlines.

Budgeting: Work with your college/departmental proposal support staff in developing a budget that is appropriate to the scope of work proposed, in line with sponsor requirements, and that is in congruence with CSU's budgeting practices. Keep in mind, foundations often pay little if any overhead. However, they generally allow more latitude in direct cost budgeting, so departments and colleges can often recover some administrative costs by including these as line items in the budget.

Attachments: Proposals require a great many supporting documents. These will be articulated in the RFP, and your college/departmental proposal support staff can also help you identify these. Don't underestimate the amount of time and effort that will be needed to ensure that you have provided all required attachments and supplementary documents. Build these into your overall proposal development timeline. The good news is that many of these can be gathered early in the process, which will allow you to focus on the meat of the proposal itself as deadlines approach.

IN CONCLUSION

Grant-seeking is challenging and competitive. But, you can improve your chances considerably by going about it in the right way. In sum, this entails:

1. Ensuring that the project is competitive and a good fit with the sponsor;
2. Starting early and reaching out for assistance;
3. Writing a concise, compelling narrative that helps the reviewer to do their job; and
4. Rigorously adhering to all guidelines.

Good luck!