"Funding Resources for Early-Career Scientists": selected panel questions and answers

Nuances of the budget:

1. **How do you build your research proposal based on your expected budget (e.g., given the fixed amounts of the early-career awards)?**
   - Identify: what *exactly* is it that you want to do? How can it be divided into specific tasks for the supported personnel?
   - Be realistic: your proposal should reflect what is possible within your budget (e.g., what one postdoc and one graduate student will be able to do).
   - Spend time on your budget and budget justification. A detailed budget demonstrates a high degree of planning and it is a critical part of the proposal. Make sure you request the resources required for the proposed work and no more or less. Major cost items should be well-justified and costs broken down further, if possible.
2. **How should the availability of workforce or other time-dependent factors be reflected in one's proposal?**
   - You need to figure out your budget together with when you will have the personnel, and be very aware of what is possible with the personnel that you have/will have. Take into account that graduate students need warm-up time, it takes time to hire a postdoc, etc.
   - You can help "patch" things up with other grants, e.g., from the Sloan Foundation, or your startup.
   - You don't get funds right away; it can be many months (~9) before you see the funds.
3. **What are some ways in which one can leverage existing opportunities or resources when writing a proposal/developing an idea?**
   - Use your startup money to get a head start on an idea and be able to show that something already is done/being done.
   - Universities like to invest their own money in equipment (this includes computing nodes!), so use them for that and use grants for personnel.

The narrative (the science part of the proposal):

4. **Early-career scientists are often told that the most important thing is to have a "good idea". What is a "good idea" for a science proposal?**
   - Science must be compelling *and* connected with national priorities (e.g., the Long Range Plan).
   - Beyond just an idea, have a plan: say what happens when (i.e., provide a specific timeline), and who does it.

- Make use of existing resources/capabilities.
- Align your proposal with the solicitation in question: read the solicitation *very* closely.
- The proposed work must be *feasible*. Is the budget adequate? Will you have the required resources? Do you have a track record in this field?

5. **How should you present your idea so that it's compelling? What are common mistakes here?**
   - First impressions are *really* important: pay attention to presentation, formatting, etc.
   - Read the review criteria and respond to them in your proposal. Clearly call out rubric items (if known) for reviewers. Think about what a reviewer would like to read. Do not assume reviewers are experts in your field.
   - Remember that the proposal likely undergoes a panel review where one of the panelists may be asked to summarize your proposal in a few slides. What will make it easier for your reviewer to present your case?
   - Good figures can be a huge help in getting the point across, but they cost a bit of space, so think carefully about what figures make your case best.
   - Text formatting and sectioning can also help you make clear what you're doing. Give your text some "room to breathe": well-defined sections, paragraphs that are not too long, etc. But again, this costs you space.

Infrastructure & process:

6. **Putting together a proposal implicitly assumes significant institutional support. What can one do if one's institution doesn't offer that?**
   - Partner with a bigger institution (as a collaborative proposal or subaward).
   - If possible, talk to someone else at your institution who's gotten a grant and find out what strategies they employed.
   - "Institutional support" can come in many forms, e.g., budget and form preparation, matching funds, graphic design, or proposal editing. You will be okay if you don't have the second to fourth items on this list, but if you don't have the first one you will struggle, since filling out the forms and dealing with the bureaucracy and all details of the solicitation is not meant to be your competency. If you have someone who will do that for you, make sure you use them. You don't need to be omni-competent.

Final thoughts:

7. **What is the most important piece of advice or wisdom that you would give someone about applying for funding?**
   - Start early!
   - Realize that there is no magic formula.

- You should take advice from senior colleagues, including colleagues not at your home institution.
- Have someone else, preferably senior, read your proposal before submission for feedback.
- Contact the program officer with questions and to discuss your proposal before submission. Generally, program officers will be happy to have a 30-minute meeting to discuss a new proposal.
- Make the reviewer's job easy. Write clearly and follow solicitation guidelines. Tell the story of why your work is important and how you will get it done.
- Carefully read the reviewer's comments to previous proposals and address them in your next proposal. Sometimes a reviewer will review both your original submission and resubmissions; it may even be the same reviewer.
- Ask to be put on a review panel to see in practice what reviewers concentrate on.
- Understand the purpose and format for all required documents. Funding agencies will return proposals without review if documents are missing.
- Don't think you have to do everything yourself. Look at what resources are available at your institution and elsewhere.
- Universities will submit the proposal for you and typically need at least a week to review it before submission. Include this time in your planning.
- If at first you don't succeed, remember that success rates for proposals can be very low in some programs. It may take several tries.