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How to write a postdoc application

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When I applied to my first academic job in 2017, several postdocs offered to read my application and give me feedback. This was extremely helpful and I've since returned the favor to other grad students. Here's a quick summary of key points to keep in mind when you write a postdoc application.

1. **Length.** Each institution has a certain set of rules for their application. Unfortunately, no unified system for postdoc applications exists. Make sure to read the guidelines carefully for each call.
2. **Structure.** It depends on the call, but a good example of a structure can be a 3-4 page research statement including the following: 1) Who are you (e.g. a computational astrophysicist at U. Penn with expertise in hydrodynamical galaxy formation simulations), 2) What have you worked on/what's your expertise, 3) What is your proposed science program (which builds on your current skills and expertise), 4) How does this project fit into the department that you're applying to.
3. **Proposed science.** Start thinking about your proposed research project well in advance of the application season. It can seem intimidating to come up with your own research program at first. But after years in grad school and after gaining expertise in one specific field, it often becomes clear what is missing in our understanding of a subject and which science directions to pursue.

4. **Why now?** If you can make an argument for why your proposed research is particularly timely, this can help your case. Will there be new data available in this subfield? Is there a new telescope launching that we need to prepare for?
5. **Why you?** This can feel a bit annoying, but try to make the case why *you* are *the* person on Earth to carry out exactly this research project. This can be because of your unique combination of skills, expertise and experience with certain topics, data analyses techniques, observations, data reduction etc. Try not to oversell yourself, but don't be too shy either.
6. **Risk assessment.** You want to make it clear that your science is feasible within the timeframe of the postdoc, and that you have thought about several outcomes of your work. If one aspect fails, is there something else you will learn or can do instead? While your work should sound feasible within the timeframe of the job, you also need to make the project sound exciting and innovative (i.e., not solely a direct extension of your PhD papers).
7. **Know your audience.** If you can, get some insight to the committee who will read your application. Are these people in your subfield? Are they professors, postdocs, grads or a mix of all three? This will help you pitch your application at the right level. If you don't know anything about the committee, assume that it's astronomers who are not experts in your specific subfield, but assume that they have extensive research experience in general.
8. **Don't use jargon.** Avoid too many abbreviations and avoid jargon as much as possible. No one ever complained about anything being too easy to understand.
9. **Edit.** The committee is likely reading a ton of applications. The more concise and direct your language is, the more likely it is that they will understand your project. Avoid run-on sentences and passive voice. Avoid clutter, and remove unnecessary words and sentences.
10. **Overlap with department.** If you can make a good case for why your science would fit well into the department, this can be a plus. Do they have access to a specific telescope you want to use? Do they have a specific lab? Do they have professors who are interested

in your specific research? Be careful with that last point, as it shouldn't sound as if you're going to be a certain professor's new grad student. You need to show independence. Sometimes, these paragraphs seem like an afterthought and might work against you (e.g. if you just name drop a few professors). But if you can make a solid case, do it.

- 11. Letter Writers.** Your letters of recommendation are a very important part of your application. Make sure to ask your letter writers several months in advance of the deadline. It's often expected that you have a letter from your PhD advisor. In addition to your advisor, the other letter writers are hopefully people who have worked with you or who know you well. As you write to ask if someone can be: "I completely understand if this semester is too busy for you or if you already committed to writing too many letters this season." It's important that you get letter writers who will write you *strong* letters. Send them reminders as the deadline approaches.
- 12. Ask for feedback.** Ask postdocs, peers and your advisor for feedback on your research statement. Send them a draft well in advance of the deadline.