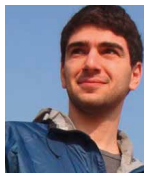


A word of advice



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finds, interesting astrophysical problems that yield to a mixture of back-of-the-envelope analysis and sophisticated statistics.

Where should I apply for grad school? What should I look for when visiting a potential university / research group? What factors do I weigh to reach a decision? And how much of this is still relevant when searching for a postdoc? Ilya Mandel, a LIGO member on the faculty at the University of Birmingham, UK, where he oversees graduate admissions in astrophysics, tries to address some of these questions in this article. In future issues, he will look at selecting a PhD project, and at maximizing what you get out of your PhD experience.

Where Should I Apply for Grad School?

The decision on where to go for grad school is an important one: after all, you will likely be spending 3 to 6 years of your life there, depending on the country, university, and specialization area, and the skills you learn and connections you make during these years will lay the foundations of your future career. The decision is very much an individual one, and I won't pretend to know what's best for you; instead, I will suggest some questions that you may want to ask yourself.

First, what I won't address: the location-specific questions. There are many reasons why these might be important, from the need to be close to family (or a desire for space away from them) to preferences for large vs. small cities, or particular climates. These are all significant, and, depending on your personal circumstances, could be critical. Don't listen to people who tell you that you shouldn't pay attention to such things since your primary focus should be science: if you are miserable because, say, you are on the wrong side of the world from your partner, you won't be able to do good science, either.

At the same time, do beware of going to grad school just because it's an opportunity to live in a nice place for a few years or

because you can't think of anything better to do just now. This applies particularly to staying at your undergraduate university. It's usually not the best idea in general (it reduces your exposure to other ways of doing things), but you should be particularly wary if the reason you are staying is that you already have a nice place to live, your mates are there, you can't be bothered to apply for real jobs, and you are good at academics. You may discover that grad school isn't nearly as much fun as you thought – you could be making a lot more money and getting a good start on a career by doing other things – and after your friends move even though you didn't, you'll wonder why you decided to waste a few years of your life.

So what is a good place to start? Let's begin with the university. Reputation matters. You can have a lousy experience at a world-famous university or get a fantastic mentor at a middling one – but, on average, the quality of fellow students and the research environment will be better at the former. Plus, having that fancy name on your resume can help. However, if you are a sensitive soul, do watch out – faculty at top universities are often very competitive, and some will view graduate students as an investment; that means that until you've proven your worth to them, you may be treated as dispensable, so don't expect to be loved and cherished from the moment you step through the door.

What about the department? Again, reputation is telling – and here, if you can't judge for yourself, don't be shy in asking for opinions of people with more experience – but one of the basic things to look for is the flow of visitors. Check the calendar of seminars in the department; if the leading lights in the field you are considering are regularly passing through, you will

have the advantage of exciting interactions with them while a graduate student (and do take advantage of those interactions once you arrive – more on this in the third article).

Finally, if you already know exactly what you want to do in grad school (and in some countries, you have to apply for a position in a specific research group), how do you evaluate the group quality? Of course, a big-name advisor might sound impressive, perhaps someone whose popular-science articles in *Scientific American* you read when you were younger. But this famous person might be quite busy and not have too much time to spend on you. So talk to the current students in the group. Are they

happy? Are they getting enough attention? Do they find it easy to schedule meetings with their advisor, and if not, are there senior postdocs around who can help?

Don't be shy to check on practical details, such as finances. Are students in the research group getting the resources they need? Do they have enough money to order equipment, or get laptops and necessary software? Do they get to travel to conferences to present their results? Do students have to teach in addition to doing research, and if so, how much time do other obligations take? If the PhD program is funded for a limited duration, are there resources available to extend the stay if you'll need just a few more weeks to get

out that very exciting result from an experiment you have spent several years developing?

And what happens to students when they graduate? If you are possibly interested in an industry job, does your advisor have connections that helped previous students land the jobs they wanted? And if you think you might want to stay in academia, did previous students of your potential advisor go on to prestigious postdocs and eventual faculty jobs? Keep in mind that it's not just about the quality of the research in the group, but also about your advisor's willingness to promote their students and help you forge those key connections.

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