

NSF Application

First and second years, this one's for you. The NSF fellowship is a competitive (but attainable!) award for students just beginning their graduate careers. Start applying early in the fall and put a lot of effort into the application, and you could end up with an important accomplishment and a \$4,000 stipend boost. Read on for handy tips, and then start working on that application!

10 Tips for the NSF Application

1. Apply
2. Apply
3. Attend an NSF workshop. The graduate school and sometimes other departments will host workshops. Not only will you get additional advice from faculty and previous winners, but it will also give you an opportunity to...
4. Look at previously successful applications. They will give you an idea about the diversity of styles that constitute a good application
5. Get started early. Good writing is central to a good application
6. Plan on going through numerous drafts – possibly more than you've gone through on anything ever before
7. Get feedback from as many faculty members and fellow students as you can. Try to have at least 3 faculty members read it and give you feedback – this could be the most useful way to really improve your application
8. Find a non-scientist and/or a good writer to read your application and give you honest feedback. These people can tell you whether you're writing clearly, which is central to making a review committee happy, and catch any errors in spelling or grammar that others may have missed
9. Use the graduate school's writing service. To one successful applicant, this was the "secret weapon" in helping him tweak one of the essays to get it juuusst right. The advice that he received likely made the difference between a good essay and an outstanding essay. Translation: using the service likely helped win him the award
10. Apply. (It's important—and 10 tips sound better than 9)

Should I apply?

If this wasn't clear from Tips 1, 2, and 10, this is a resounding YES. (Actually, the exceptions to this are the international students, unfortunately). Many underestimate their ability to win the award. The fellowship committee looks for a lot of the same things grad school admissions committees look for – and you got into Yale. It also doesn't even matter if you aren't sure what lab you want to join or what project you want to work on. This is one of the biggest misconceptions. The NSF Fellowship reviewers (as with other fellowships) are grading the applicant's ability to think through science and they do not necessarily expect you to complete the project you propose. Since many applicants are from the pre-grad school and first-year pool, it's not often that applicants have a defined thesis project anyway. If nothing else, the experience of

writing an application will help you next year. When you apply, you will get feedback from your raters, which will only help you next time, whether it's another crack at the NSF or a different fellowship. As an added bonus, the more grant-writing experience you can get in grad school, the better you'll be at it as a scientist.

When are the deadlines?

In the fall of your first (and second) year of grad school. You may have also applied the year before you started grad school. Applications are due in October or November and notifications are made in late March or early April.

When should I start?

EARLY! The application is due in early November or late October, and the best thing you can do for yourself is to start as early as you can – preferably before the end of September. Leave yourself lots of time to go through lots of drafts and have lots of people read them to give feedback.

What's included in the application?

- + 3 essays (see next section), 3 letters of recommendation, a college transcript, and some basic info filled in online
- + Order your transcript early to make sure it arrives on time!
- + The online info doesn't take long to fill out, but it's worth doing ahead of time, because the system will be bogged down a lot on the day it's due
- + Recommendations usually aren't due until the end of the calendar year. Recommenders can include your rotation adviser, an undergrad professor or research adviser, or other people with some knowledge of your scientific or general abilities.

What essays do I need?

The 2006 application included three essays: a research proposal, previous research experience, and a "broad impacts" essay.

- + Research proposal: Talk to your adviser about this. It's generally good to set this up like a grant proposal: having distinct sections, with bolded headers, will break it up and make it easier for the reviewer to understand even if they're just skimming through, which can only help you. Include just a bit of background, fairly specific information on your proposed project (not the nitty-gritty like centrifuge speed, but a plan that shows you've thought through your proposed experiments), predicted results, and your plan for potential pitfalls (i.e. alternative techniques or directions) of a project. Think in terms of if-then statements. (If experiment 1 shows these results, then I would conclude that hypothesis A is correct, and I will follow up by . . . or if my hypothesis is wrong, it could mean that . . . and I will follow up with . . .) Many successful proposals have these elements

in their content, but the design of the proposal can vary. You can look at the previously successful applications to gain inspiration and come up with a style that is comfortable for you

- + Previous research experience: If you had a lot of research experience pre-grad school, this could look very similar to the essay that you submit for grad school applications. Don't be afraid to cut and paste, at least when you're starting out, but be ready to modify as well! You should include the work of the rotation that you will be writing your research proposal about if applicable. If you don't have a lot of research experience, don't worry. Be creative, use projects that were done for an undergrad class if you need to. If your rotation is going well and related to your proposal, you could spend a lot of time talking about your rotation research – this is also a handy place to sneak in background for your proposal!
- + Broader Impacts: This will be different for everyone. We all have unique experiences and one should highlight those things to make themselves stand out—one may be talented in science writing and another in community service. If you did community service as an undergrad, you could bring that in to the essay and talk about how that will translate into a desire to use your scientific career to help others, etc. Any situation in which you talked about science to a non-science audience (other than your mom) could be used here. Some elements of your graduate school personal statement may also be applicable here

What's included in the award?

NSF fellowships cover your stipend and part of tuition. The main immediate difference for you is that the BBS will make sure you earn \$4000 more than whatever the current stipend is (so, for the 07-08 school year, you'll be making \$32,000). Perhaps more importantly, being an NSF fellow is an impressive and widely-recognized achievement, which will help your CV as you apply for post-docs and future jobs