

Individual Pre-Doctoral Fellowships from the NIH: the basics

1. What are the NIH individual pre-doc awards?

Which type of award should I apply for?

The “F31” and “F30” grants are awards *you* receive as a graduate student for *your own* research proposal in your mentor’s lab. (Under the NIH’s letter-name scheme, “F awards” are grants awarded to specific individual researchers still in training.)

If you are a Ph.D. student, you should apply for an F31. If you are an M.D./Ph.D. student, you may apply for either type of grant, but only the F30 will cover your stipend during your clinical years. The “F31–Diversity” is intended to support students from underrepresented backgrounds.

There are some exceptions to these rules of thumb. NINDS has no F30 award but three different F31s, one earmarked for M.D./Ph.D. students. There is an unusual NHLBI T32 (with NIGMS) that is largely equivalent to an F30. There may be others.

2. Is this the same as an “NRSA”?

The NIH uses the term “NRSA” to refer to numerous different awards. At Sinai, people often use it specifically for F31/F30s, imbuing it with special reverence, but this gets confusing. In particular, “T32” institutional training grants, which fund many of us, are considered NRSA by the NIH, but are not the nationally competitive individual fellowships that people at Sinai usually mean by “NRSA”.

3. Do I have to be a U. S. citizen?

Award *recipients* must be U. S. citizens, nationals, or permanent residents (green card holders). As long

as you expect to become a citizen or get your green card by the time the grant is *awarded*, you may begin and submit your application.

4. Why should I apply?

Simply by applying, you...

- Hone your research question.
- Invite feedback from leaders in your field.
- Learn grantwriting skills.

And if you get the award, you...

- Free your project from your mentor’s grants.
- Genuinely strengthen your CV.
- Get a \$2000/year stipend bonus.

5. When should I apply?

Probably around the time of your thesis proposal – generally end of semester 5 for Ph.D. students, end of semester 7 for M.D./Ph.D. students. Sinai’s thesis proposal is intentionally structured similarly to an F31/F30 application. You can consider applying pre-proposal, especially for the F31–Diversity, and especially if your undergrad record is strong.

If your first application isn’t funded, you can reapply, so don’t delay unnecessarily.

Applications should reach Sinai’s Grants & Contracts Office by mid-March, mid-July, or mid-November – two weeks before the NIH’s deadlines.

6. How are the awards selected?

The awards are assigned to a “study section” and to a specific NIH institute. Each study section evaluates and scores proposals in its field. Then,

they are forwarded to the assigned institute directors, who make awards based on scores, available budget, and (sometimes) their own discretion as to which proposals best match their institute’s mission. *The awards are made by specific institutes, not by the NIH as a whole.* You can and should request a specific institute for assignment, so you can tailor your application to it.

7. How do I get started applying? Which institute should I apply to?

This document has a whole separate page on getting started, including selecting an institute.

8. What can I do early in my Ph.D. to set the stage for a successful application?

One suggestion is, as early as possible, actually perform every experimental procedure you’re going to propose, even if just with controls, and make figures to prove your experimental strategy is technically sound and that it works in your hands on your lab’s equipment. Starting out, you probably don’t know exactly what you’ll propose, but you can start with your lab’s mainstay techniques.

This document is maintained by your Mount Sinai student council’s research funding subcommittee. For 2010-2011, your research funding rep is Jay Pendse. This is the best information we have – let us know if you have questions, or if there’s something we should change or add:

Jay Pendse, jay.pendse@mssm.edu

Sudeh Izadmehr, sudeh.izadmehr@mssm.edu

Individual Pre-Doctoral Fellowships from the NIH: getting started

1. Start early. 3 months has been suggested.

Keep up your lab work, but do a little work on your application each day.

2. Sketch out your research question/proposal, with specific aims. Do this with your PI. You'll need to do it anyway for your thesis proposal.

3. Identify your NIH institute. First, check which institutes support the grant types you are eligible for. Compare their missions, find out which ones support your PI, and see where other students from your department have been considered.

Once you think you know your institute, e-mail one of its Program Officers a summary of what you'd like to propose and your specific aims, and ask if their institute (or another) would be interested.

Occasionally, one institute will actually elect to fund a proposal that was originally designated to another. But your chances are best if you target, and craft your proposal for, the one likeliest one.

4. Make contacts. You can and should remain in touch with your Program Officer at your institute throughout the process of shaping your proposal. Your department will have one person in its administrative office who will be managing your grant, and it also already has a specific Grants Specialist assigned to it at Sinai's Grants & Contracts Office (GCO). Find out who these two people are and begin coordinating with them early on as well. With help from your Grants Specialist, get yourself registered in the NIH "eRA Commons" system.

You'll also need 3–5 recommendation letters from faculty besides your PI. Finally, if your PI is early-stage, has never had an R01 for example, then it's a good idea to try to identify a more established co-mentor who will commit to fully supporting you. Your reviewers will be more confident investing in you if they don't feel that by doing so, they're also gambling on your PI.

5. Get the ball rolling on necessary approvals.

Work with your PI to figure out what IACUC (vertebrate animal) and IRB (human subject material) approval you will need. Approvals don't have to be finalized when you submit your application, but do get the process started early.

6. Look over application materials. Find the application materials for the specific subtype of grant you're interested in your specific institute. You will also want to look at successful applications from the past – the grad school maintains a file – ask Lily Recanati and Rhaisili Rosario – although the guidelines have recently changed significantly, so don't rely too much on old applications. Also, talk to previous award recipients about your application, ideally at least one from the institute you're applying to, so you can learn about the institute's specific procedures and preferences.

7. Find out your institute's award selection policy. Proposals considered competitive are identified for full review and scoring. Scores of 1–9 are then given for 5 categories: Fellowship Applicant; Sponsors, Collaborators, and Consultants;

Research Training Plan; Training Potential (of your proposal for you); and Institutional Environment and Commitment to Training. An Impact/Priority score, not directly dependent on the other scores, is also given on a scale of 10–90. Some institutes make awards strictly based on scores, but others give their directors discretion to make awards based on scores plus concordance with institute mission.

8. Write your application. This document has a separate page with some strategy and writing tips.

9. Tally your budget proposal. Talk to the GCO, your department, and the grad school to make sure you don't overlook anything. You'll be requesting money for things like your stipend and supplies, but also overhead and institutional expenses.

10. Get feedback. Obviously, you'll want feedback from your PI. Show it to other trusted faculty too, in particular, at least one professor in your field who is not your mentor, to get perspective from outside your lab. Professors who have sat on F award study sections will have invaluable insight into the process. In addition, PIs whose students have received these awards can help you figure out what should go in the section about your mentor.

11. Submit your application online. Try not to submit at the last minute as the system gets busy then. Also, try not to submit right before a vacation or a crazy-busy time in lab, since you get two days after your submission to look over (and correct) the version of it that the NIH actually received.

Individual Pre-Doctoral Fellowships from the NIH: some strategy and writing tips

Regarding formatting:

- Keep an eye on little things like margin and font rules. Try not to leave too much of the formatting clean-up until the very end.
- Know, and heed, your page limits. Since these have been shortened, old applications you look at are likely to be too long. The strategy of writing too much, and then paring things back, works well for most people, but don't get carried away.

As for content, remember that you're writing to persuade:

- *Who* is being persuaded is your study section and then your institute's directors, so your writing must be technical and precise, but it should also be compelling and aligned with the institute's mission. Keep it focused; don't say more than you need to just to fill space. It's OK to come in under the page limit. At the same time, do repeat yourself often enough that it flows and they can follow your logic.
- *What* you're persuading them of is not just that your project is interesting and original, but also *that it will definitely get done* and give meaningful results, by you, at your stage of training. A big part of this is the soundness of your Research Training Plan, but students often overlook the other scoring criteria (mentioned in page 2, #6). Reviewers are particularly looking for a winning combination regarding your institutional support, your mentor, and you. So don't put off any section until the end – start all of them early on.

Here are some tips pertinent to specific sections:

- For Specific Aims, show that you have an interesting hypothesis that you can test. You want to be really clear. Ideally, for each aim, in one short sentence you can convey what you're going to do and also make it seem obviously interesting. There's always a balancing act in making your aims fit together so that they form one project, yet not so interdependent that every single part has to succeed for the project to make any progress.
- For Research Strategy, show that your experiments are well constructed, with good controls and adequate statistical power, such that positive, negative, and "funny" results will be picked up and interpretable. Include backup plans and alternative approaches to show that even if certain things don't work, you'll be able to make progress. Resist the urge to include extremely ambitious or high-risk experiments. Your reviewers will not be impressed by cool but crazy ideas; they want to fund projects that they feel will *definitely get done*.

On a related note – the official advice is often that F31/F30 applications don't require preliminary data. Ignore that advice. *Include preliminary data*. The good news is that you don't need much. One suggestion is that you include a figure on each experimental technique you propose to carry out in the application, simply to prove that you already have the equipment and technical skill to do the experiments – thus raising the reviewers' confidence that the work will get done. Beyond that, you need relatively little data that actually

answers new questions – it's been suggested that one figure's sub-panel's worth would be sufficient. Of course, more's great.

- In your own biosketch, you want to convince the reviewers that you are competent and enthusiastic to tackle your research question and advance in your training for your scientific career. Explain why you chose your lab, and how your lab and this project will further your professional goals.
- Your PI's biosketch should convince the reviewers that your PI knows how to mentor you effectively through the project from start to finish. It's good to point to a track record of success with previous students and trainees if your PI has had them. You also want them to be confident that your PI is relatively stable in their career and funding security. If any of these items are lacking (as they are inevitably for early-stage PIs), consider also finding a more established co-mentor to reassure the reviewers that you are in good hands.
- For the section on Sinai, you want to convince them that Sinai's facilities and curriculum give you all the tools you need to carry out your project. The graduate school has helpful samples of what you can include in this section, but you also want it to be very individualized to you specifically. Be sure to highlight specific coursework and journal club opportunities that are particularly salient. Also, one benefit of being in New York is the chance to take a course at another institution and to attend regional meetings and seminars around the city. These are fair game to list if they are relevant.