Tips on submitting a competitive F31 NIH pre-doctoral fellowship

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Why are you here?

If you have an interest in writing or sponsoring
a student or post-doctoral NIH fellowship application

Why am I here?

Dean Davies asked me to help promote strong fellowship applications to the NIH from UNMC students

I have served as a reviewer, co-chair and chair of American Heart Association study sections, that include student and postdoctoral fellowship applications

Prior to being nominated as a regular member of an NIH study section panel, I reviewed NIH F-series student and post-doctoral fellowships

Over the past 5 years, students and post-docs in my lab have submitted at least a dozen external fellowship applications (and some were even funded…)

Pre-Doctoral (F31) and post-doctoral (F32) fellowships

Individual Fellowships Available

- Individual Pre-doctoral Kirschstein - NRSA Fellowships (F31)
- Individual Pre-doctoral Kirschstein - National Research Service Awards For M.D./PH.D. Fellowships (F30)
- Individual Post-doctoral Kirschstein - NRSA Fellowships (F32)

Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellows (F31)

Announcement (PA) Number: PA-10-108
Notice Number: NOT-OD-09-004

Application Receipt Date(s): April 8, August 8, December 8
Peer Review Date(s): June-July, October-November, February-March
Earliest Anticipated Start Date(s): December, April, July
http://grants1.nih.gov/grants/guide/notice-files/NOT-OD-07-002.html
Forms: PHS 416-1 (Revised 10/2005)

Participating Organizations

National Institute on Aging (NIA), http://www.nia.nih.gov
National Institute on Alcohol Abuse and Alcoholism (NIAAA), http://www.niaaa.nih.gov
National Institute on Deafness and Other Communication Disorders (NIDCD), http://www.nidcd.nih.gov
National Institute on Drug Abuse (NIDA), http://www.nida.nih.gov
National Institute of Dental and Craniofacial Research (NIDCR) http://www.nidcr.nih.gov/
National Institute of Mental Health (NIMH), http://www.nimh.nih.gov
National Institute of Neurological Disorders and Stroke (NINDS), http://www.ninds.nih.gov
Office of Dietary Supplements (ODS), http://ods.od.nih.gov

OBJECTIVE

The primary objective of this funding opportunity announcement is to help ensure that **highly trained scientists** will be available in adequate numbers and in appropriate research areas to carry out the nation's biomedical, behavioral, and clinical research agenda.

The participating Institutes of the National Institutes of Health (NIH) provide individual pre-doctoral research training fellowship awards to promising doctoral candidates who have the potential to become productive, independent investigators in research fields relevant to the missions of these participating NIH Institutes and Centers.

ELIGIBILITY

- Applicants must identify a sponsor (and co-sponsor). The applicant + sponsor(s) plan, direct and execute the proposed project.
- Applicant must be **citizens or non-citizen nationals of the United States**, or **permanent residents.** Individuals on temporary or student visas are not eligible.
- Applicants must have a baccalaureate degree and must be enrolled in a Ph.D. or equivalent program, a formally combined M.D./Ph.D. program, or another combined professional doctoral/research Ph.D. graduate program in the biomedical, behavioral, health services, or clinical sciences.
- Applicants must be at the dissertation research stage of their doctoral training.
- Applicants must also show evidence of both high academic performance in the sciences and substantial interest in areas of high priority to the participating Institutes.
- Students seeking support for pursuit of a combined degree program may also be eligible to apply for the Kirschstein-NRSA for Individual Pre-doctoral M.D./Ph.D. Fellows (F30) (PA-05-151).

APPLICATION

All applications received for submission dates in January 2010 and thereafter must use only the new forms and instructions. Submission is electronic.

U.S. Department of Health and Human Services
Public Health Service

Table 2.5-1. Components of an NIH Application

DOCUMENT	REQUIRED	OPTIONAL	INSTRUCTIONS
SF424 (R&R) Cover	X		Section 4.2
SF424 (R&R) Project/Performance Site Locations	X		Section 4.3
SF424 (R&R) Other Project Information	X		Section 4.4
SF424 (R&R) Senior / Key Person Profile(s) (Expanded)	X		Section 4.5
PHS Cover Letter	X *		Section 5.2
PHS Fellowship Supplemental Form	X		Section 5.3

SF424 (R&R)
Individual Fellowship Application Guide for NIH and AHRQ

A guide developed and maintained by NIH for preparing and submitting individual fellowship applications via Grants.gov to NIH and AHRQ using the SF424 (R&R)

Adobe Forms Version B (to be used with FOAs specifying use of Adobe-Forms-B application packages)

February 5, 2010

EVALUATION OF YOUR PROPOSAL

The Applicant

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Undergraduate grades, MCAT scores, previous research experience, manuscripts, abstracts, presentations must be documented.

- **A student without an undergraduate paper or first-author manuscript published IS at a disadvantage in this highly competitive process, so publishing early is important.**

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Particular care must be taken in choosing referees. Typically, 3 referees (aside from the mentor) need to submit confidential reports on the applicant that include a standard evaluation of ranking (top 2% of students, top 10% of students, top 20% of students, top 40% of students, top 50% of students).

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It is recommended the student obtain reference reports from distinct sources. For example, not all 3 referees from the same department/institute, if possible. Committee members and those most familiar with the applicant are best. One report can be from undergraduate teacher/mentor.

The Applicant

Goals for Fellowship Training and Career

The fellowship applicant must describe his/her overall career goals, and explain how the proposed research training will enable the attainment of these goals. Identify the skills, theories, conceptual approaches, etc. to be learned or enhanced during the award.

The Applicant

Respective contributions

• Describe the collaborative process between you and your sponsor/co-sponsor in the development, review, and editing of this research training plan.

• Discuss the respective roles in accomplishing the proposed research.

• Limited to one page.

Activities Planned Under This Award

• Describe **by year** the activities (research, coursework, etc.) he/she will be involved during the proposed award and estimate the percentage of time to be devoted to each activity, based on a normal working day for a full-time fellow as defined by the sponsoring institution. The percentage should total 100 for each year.

• Predoctoral fellowships (F31), including fellowship applicants for the M.D./Ph.D. (F30) program may reflect up to **six years if allowed by the applicable funding opportunity announcement**.

• Limited to one page.

The Sponsor

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A strong sponsor is one who not only has funding, but also a well established track record with students. This includes having students publish first-author papers while in the lab, having students who have previously obtained fellowships, students who have graduated and gone on to post-doctoral positions, and particularly to independent faculty positions.

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The sponsor also submits an individualized "Training Plan" for the trainee. This is a crucial part of the application and it is extremely important for the sponsor to outline precisely how the trainee will be trained in great detail.

TRAINING POTENTIAL and SPONSOR

Sponsor and any Co-Sponsor(s) (if any) Information (Limit to 6 pages)

Create a heading at the top of the first page titled **"Section II--Sponsor and Co-Sponsor Information**."

a. Research Support Available

All current and pending research and research training support specifically available to the applicant for this particular training experience.

b. Sponsor's/Co-Sponsor's Previous Fellows/Trainees

Give the total number of pre-doctoral and post-doctoral individuals previously sponsored. Include a table providing their present employing organizations and position titles or occupations. Include this information for any co-sponsor as well.

c. Training Plan, Environment, Research Facilities

Describe the research training plan developed specifically for the applicant. Include classes, seminars, and interaction with other groups and scientists. Describe research environment, facilities and equipment. Relationship of the proposed research training to the applicant's career goals. Describe the skills and techniques that the applicant will learn.

d. Number of Fellows/Trainees to be Supervised During the Fellowship

Indicate whether pre- or postdoctoral. Include this information for any co-sponsor as well.

e. Applicant's Qualifications and Potential for a Research Career

Describe how the applicant is suited for this research training opportunity based on his/her academic record and research experience level, including how the research training plan, and your own expertise will assist in his/her training.

Comments on:

PEER REVIEW—SPONSOR's/Co-Sponsor's

Sponsor: Regular NIH Biosketch, but with a Personal Statement adapted to the trainee's proposal

FUNDING: Without federal grant funding available to the sponsor, the trainee's proposal *will not be funded*. If the advisor is a new faculty member, it may be worthwhile to include a co-sponsor. This could be someone more senior who shows strong funding record and will be able to support the research in case there is no funding from the sponsor. However, it is important that this person be engaged and related to the research proposed.

For new investigators: the Training Plan must be especially strong and thoughtful, to try to mitigate reviewers' concerns about a lack of experience.

The Sponsor

Publication record: If a sponsor has not published recently and frequently from her/his own laboratory in reputed journals, with students as first-authors, the proposal will likely not even be discussed. Just as important, there must be a sustained track record for publications from previous and/or current students in the laboratory.

RESEARCH TRAINING PLAN (PROJECT)

Significance

- Is the problem important?
- How will your project improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields?
- How will your project advance the field if the proposed aims are achieved?

Approach

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project.
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high risk aspects of the proposed work.
- Point out any procedures, situations, or materials that may be hazardous to personnel and precautions to be exercised. A full discussion on the use of Select Agents should be indicated.
- Include any courses that you plan to take to support the research training experience.

Comments on:

RESEARCH TRAINING PLAN (PROJECT)

Do!

- It has to be an important question (reviewers need to be convinced).
- Feasibility is crucial.
- Success is likely.
- The proposal will allow training of the trainee (explain how).
- Hypothesis-driven research (include rationale, models, diagrams).
- Remember that the review panel often contains a mixture of expertise.
- Make sure that the proposal is polished, edited and easy to read.

RESEARCH TRAINING PLAN (PROJECT)

Don't!

- Avoid typos, grammatical errors, sloppiness. This shows the applicant is not serious and also that the training received is poor.
- Don't use lots of acronyms.
- Don't wait until the last minute. Discuss ideas and work with the sponsor; this is a collaborative effort.
- Don't copy from a sponsor's RO1. This is easily noticed by reviewers.

Environment & Institutional Commitment to Training

This is a tricky section and particularly important for UNMC applicants

Need to provide **OVERWHELMING** documentation of the vibrant nature of the UNMC research community

List outstanding facilities, opportunities for support both conceptually and technically

Seminars, meetings, collaborations, journal clubs

Letters of support from Centers and Programs

Letter of Support from Graduate Studies

Letters of support from external scientists in praise of UNMC

Selection of Sponsor and Institution

Describe the rationale/justification for the selection of the sponsor and institution.

1. Explain why the sponsor, co-sponsor (if any), and institution were selected to accomplish the research training goals. If the proposed research training is to take place at a site other than the sponsoring organization, provide an explanation here.

2. Foreign Institution. The foreign institution and sponsor offer special opportunities for training that are not currently available in the United States. Key factors in the selection of a foreign institution should be described. If applicable, the need for and level of proficiency in reading, speaking, and comprehending the foreign language should be addressed.

SCORES

10-25: The committee was impressed by you, the sponsor and the proposal. The range is potentially fundable.

25-35: Not likely to be funded, but if this is a first submission, there is an opportunity to resubmit and improve the score by responding to the critiques.

35-50: There are some modest-to-major concerns that need to be addressed. If not well written, this can be improved, but if there are concerns with applicant/sponsor, this can be problematic.

50-90: Usually ranked as “Not Discussed.” Poorly written and presented proposal, or major scientific flaws. This is a warning sign: you might want to see if your proposed research is actually feasible or if you and/or your sponsor are ranked highly enough to make resubmission worthwhile.

Evaluating a strong proposal

Sponsor
Strong publication record, including student-published papers from the lab
Federal research support available (> 1 year). If not, look for co-sponsor.
Documented previous experience in training (a high percentage of students succeeding in independent academic positions is optimal). If not, look for co-sponsor.

Training Program
Detailed and individualized training plan (graduate program description, meetings with sponsor, lab meetings, national meetings, seminars, other activities that show training).

Proposal
Polished and well-edited proposal written by the student with significant sponsor feedback.

Applicant
Excellent academic records: grades, GRE, MCAT. If not, justify.
Research experience, papers, seminars, abstracts, meetings attended
Statement
Strong reference letters

Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellowships (F31) to Promote Diversity in Health-Related Research

- Announcement (PA) Number: PA-10-109
- Key Dates

  Release Date: February 16, 2010

  Application Receipt Date(s): April 13, August 13, December 13

  Peer Review Date(s): June-July, October-November, February-March

  Earliest Anticipated Start Date(s): December, April, July

  Expiration Date: January 8, 2011/will be re-issued

http://grants.nih.gov/grants/guide/pa-files/PA-10-109.html

INSTITUTES PARTICIPATING

National Cancer Institute (NCI), (http://www.nci.nih.gov/)
National Center for Research Resources (NCRR), (http://www.ncrr.nih.gov/)
National Eye Institute (NEI), (http://www.nei.nih.gov/)
National Heart, Lung, and Blood Institute (NHLBI), (http://www.nhlbi.nih.gov)
National Human Genome Research Institute (NHGRI), (http://www.nhgri.nih.gov/)
National Institute on Aging (NIA), (http://www.nia.nih.gov/)
National Institute on Alcohol Abuse and Alcoholism (NIAAA), (http://www.niaaa.nih.gov /)
National Institute of Allergy and Infectious Diseases (NIAID), (http://www.niaid.nih.gov/)
National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), (http://www.niams.nih.gov/)
National Institute of Biomedical Imaging and Bioengineering (NIBIB), (http://www.nibib.nih.gov/)
Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), (http://www.nichd.nih.gov/)
National Institute on Deafness and Other Communication Disorders (NIDCD), (http://www.nidcd.nih.gov/)
National Institute of Dental and Craniofacial Research (NIDCR), (http://www.nidcr.nih.gov/)
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), (http://www.niddk.nih.gov/)
National Institute on Drug Abuse (NIDA), (http://www.nida.nih.gov/)
National Institute of Environmental Health Sciences (NIEHS), (http://www.niehs.nih.gov)
National Institute of General Medical Sciences (NIGMS), (http://www.nigms.nih.gov)
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National Center for Complementary and Alternative Medicine (NCCAM), (http://www.nccam.nih.gov/)
National Center for Research Resources (NCRR), (http://www.ncrr.nih.gov/)