Putting Together Your Strongest F99/K00 Application

The NIH Blueprint Diversity Specialized Predoctoral to Postdoctoral Advancement in Neuroscience (D-SPAN) F99/K00 award opportunity provides late-stage graduate students from diverse backgrounds with strong training in neuroscience with the resources and tools that will help facilitate a transition to a productive postdoctoral research position and will provide career development opportunities relevant to their long-term career goal of becoming independent neuroscience researchers. The award is intended for PhD students from diverse backgrounds with 1-2 years left in a research doctoral degree program who are performing neuroscience research within the BRAIN Initiative or Neuroscience Blueprint missions at a U.S. domestic institution. Individuals may receive up to 6 years combined support for both phases, which includes up to 2 years in the F99 fellowship phase and up to 4 years in the K00 career development phase.

D-SPAN applicants should present a complete, consistent, and compelling story of how the proposed research and training plans over the next 5-6 years will build on past accomplishments to achieve the applicant's career goals. The challenge for this application is articulating your vision of four years of postdoctoral training without knowing where or with whom that training will be conducted. The proposal must be synergistic—all components working together to foster a successful transition to a postdoctoral position and ultimately an independent research position in neuroscience.

Before You Start Your Application

1. **Carefully read the entire FOA.** The FOA requires these *two* specific aims: Aim 1: The dissertation research project and Aim 2: The postdoctoral research direction. Be sure to consider what activities will be completed in each phase of the award.
2. **Define your career goals.** Explicitly define your career goals and area of research interest. Your research interest should be *specific*: proposing to study "mechanisms of normal and pathological aging" does not give reviewers confidence that you have a clear vision for what you want to achieve during the remainder of your time as a trainee. Your proposed postdoctoral research topic can be different from your graduate work but should in some way build on your previous training.
3. **Outline the techniques, skills, knowledge, and relationships necessary to achieve your career goals.** Describe the scientific and professional skills you will need as an independent researcher. By the end of graduate school, what skills will set you up for success as a postdoc? At the end of the postdoctoral period, what techniques and skills will you need to demonstrate to be competitive on the job market? How will you integrate into the community of your field? What publications will be generated?
4. **Perform a skills "gap analysis."** What skills from the above description have you already mastered? What skills need to be developed in each phase? What are the research strengths you have developed so far and how do they provide a foundation for further progress? Exactly how will this F99/K00 award meet your needs and help you become an independent researcher? Both the career plan and research plan should move you towards your goals.
5. **Define your research plan.** How will this research advance the science and your career? How does it build off your existing strengths to provide you with skills, techniques, and knowledge that will facilitate your transition to the postdoc? What are your contingency plans if the research doesn't go as planned? How will the research direction you've identified for your postdoc set you up for success in your next phase of career?
6. **Build a career plan that is tailored to your needs.** What activities will you perform to develop your professional skills? Research specific courses, technical training, seminars, and conferences to attend, keeping in mind that you do not yet know where you will perform your postdoctoral research. What skills will you learn from each activity? Put together a detailed, feasible timeline with milestones that spans both phases of the award.
7. **Assess guidance and mentorship needed.** Take stock of your needs and goals to identify mentors and advisors who can guide you during this time, both at your institution and outside it, if appropriate. Consider what attributes

you will look for in a postdoctoral mentor and develop a plan to identify him or her.

8. **Put together your D-SPAN application. Or choose a different award.** After assessing your career goals and performing a skills gap analysis, you may find that the F99/K00 is not a good fit. You may not be ready to apply, in which case an F31 may be more appropriate. You may also be ready to start a postdoctoral position, in which case an F32 may be more appropriate. Please reach out to NINDS to discuss your options.

The Application

F99/K00 applications are reviewed on five criteria: Fellowship Applicant; Sponsors, Collaborators, and Consultants; Research Training Plan; Training Potential/Development Plan; and Institutional Environment & Commitment to Training. **Visit the FOA to make sure you address the required review criteria for each section** (see "Section V. Application Review Information" of the FOA).

Tips for each section are below:

Fellowship Applicant

- Take pains to make sure your application presents a consistent and compelling case for your potential to develop into an independent neuroscience researcher. Your application, including your biosketch; personal statement; letters of support; mentor statement; and institutional support letter should be harmonious in their presentation of your career goals, commitment to neuroscience, and potential.
- Present a coherent picture of how your current skills and expertise were developed through your research training experiences thus far, and how each research experience shaped your current research interests.
- Demonstrate research productivity. If you don't yet have any first author papers, present a specific plan (topics and timeline) for publishing your graduate work.
- Choose references that have current knowledge of your abilities, activities, and goals and can write you a strong, detailed letter. Also, you can include references who can speak about you in a broader perspective than just your research performance.
- Pay particular attention to the predoctoral biosketch form. In the "Personal Statement" section, you should include a description of your career goals, career trajectory, and research interests. You should list undergraduate courses but should not include undergraduate grades. For the graduate school coursework, include your grades. If you have had challenges in your academic performance, it is important that other achievements or an upward trend in the grades is reflected in the application as a counterbalance. When relevant, you are encouraged to account for factors that affected past productivity (such as family care responsibilities, illness, disability, or military service) in the "Personal Statement" section.
- Manuscripts that are submitted or in preparation may be mentioned as part of your contribution in your biosketch, but you may cite only published papers to support each contribution. Unpublished manuscripts should not be listed on the biosketch of a sponsor, co-sponsor, or any other significant contributor.

Sponsors, Collaborators, and Consultants

- Your graduate mentor(s) should demonstrate a strong track record in training and transitioning graduate students to postdoctoral positions. If they have not graduated many students, consider including an experienced co-mentor. Mentor(s) should demonstrate productivity, quality of publications, and adequate funding. Your mentor's research qualifications and experience should be appropriate for your specific career development needs. The sponsor and any co-sponsors should include a statement describing their mentoring and training philosophy in their biosketch.
- Many applicants form a mentoring team with complementary and relevant expertise. Articulate what each member of the team will contribute and provide detailed plans for regular interaction with your mentor(s). Letters of support from mentor(s) should be strong and explicitly address the review criteria on which you will be evaluated, including your potential as well as your strengths and areas needing improvement.
- Your mentor(s) should include a comprehensive plan to support your career development and research plans and your efforts to transition to a postdoctoral position. This should not be a generic description of what any graduate student would do. Include specific training and, most importantly, *why* this training is appropriate for you (e.g. attendence at a named short course will advance your mastery of skills necessary to complete your research project).
- Your mentor(s) should include in their biosketch their training and mentoring philosophy, including commitment to diversity and inclusion in their training environments.

Research Training Plan

- Be clear how the research plan enhances your existing research skills and sets you up for a strong postdoctoral experience in 1-2 years. Provide a timeline and clear milestones for transition and how the milestones will be evaluated.
- The strongest research plans include a clear rationale with hypothesis-driven aims that are independent of each other. Clearly articulate the significance of the research in a way that is understandable to non-experts. Reviewers come from all neuroscience backgrounds represented in the NIH Neuroscience Blueprint and BRAIN Initiative.
- Fully describe your methods and include a detailed analysis plan including power analyses. Be clear about your role in designing the experiments and collecting preliminary data. Include contingency plans if the research doesn't go as planned. What are the potential pitfalls and alternate approaches?
- Your proposed postdoctoral research focus should be well-described and clearly build on your graduate work. Make sure your research during graduate school and the proposed research focus in the postdoc are both relevant to your stated career objectives.
- The process of finding a postdoctoral mentor is a key aspect of this application. You should clearly articulate what attributes you will look for in a postdoctoral mentor and a plan to identify him or her. What techniques would you like to master and why? Be careful not to make your requirements so specific that it will be hard to identify a mentor, or so broad as to be meaningless. For example, developing expertise in circuit manipulation could encompass learning optogenetics, lesion techniques, pharmacological inactivation, or DREADDs.

Training Potential/Development Plan

- Present a specific plan that spans both graduate school and postdoc that clearly builds on *your* existing strengths and weaknesses and explains how each proposed activity is in service of your career goals. You should demonstrate how, once training is complete, you will be competitive for an independent research position.
- Include both formal activities and research components to build scientific expertise and professional skills. Examples include: technical training, coursework, career development workshops, research seminars, teaching activities, grant opportunities, and scientific conference attendance. Include names of courses (if proposed) and describe percent effort or hours dedicated to each aspect of training. Keep in mind that you do not yet know where you will perform your postdoctoral research, but the existence of career development resources can be a criterion for choosing a specific postdoctoral institution. Provide a timeline for the planned activities.
- Provide information on the frequency of meetings with mentors (and how frequently the mentors will meet with each other) and advisory committee, if included. Describe how (and how often) your mentors will evaluate your progress.
- It should be clear why the F99/K00 and not an F31 or F32 is the appropriate mechanism.

Institutional Environment & Commitment to Training

- Make sure to include all necessary information in the description of institutional environment, including the date you passed all requirements, as set by your institution, for advancement to the dissertation research stage of training. If you have not yet advanced to candidacy, include expected date of advancement, which must be before time of award. You must also include your anticipated graduation date.
- The institutional certification letter should certify that you are an eligible applicant to this program and may also address how your participation would further the goals of D-SPAN.
- Describe research facilities and educational or professional development opportunities available at the graduate institution.
- Describe any unique features of the scientific environment that benefit the proposed research; e.g., useful collaborative arrangements or subject populations.

Other Suggestions

- Be *specific* in all aspects of your application. Name courses to be taken, fully describe methods and analyses, provide detailed timelines, etc. Don't leave anything vague and don't assume reviewers will connect the dots on their own.
- Make sure all aspects of the application are consistent in terms of your career goals, strengths and weaknesses.

Make sure all aspects of the application are consistent in terms of your career goals, strengths and weaknesses, and the research and training plan (e.g., if you are proposing to learn a certain technique, then you must explain how that technique is necessary to achieve your career goals).
- Avoid typos and grammatical errors. Have a colleague read the entire application for errors.
- Ask a third party to evaluate whether you have addressed all of the required review criteria (see "Section V. Application Review Information" of the FOA).

Relationship to the F31 Ruth L. Kirschstein NRSA and Other Fellowships

- F31 applicants and current awardees are eligible for the F99.
- Neither the F99 phase nor the K00 phase may be held concurrently with another federally sponsored fellowship or similar federal award that provides a stipend or salary, or otherwise duplicates the provisions of this award. Therefore, F31 awardees or NSF GRFP awardees will need to terminate the fellowship prior to accepting the F99/K00.
- An individual may not have two or more competing NIH individual fellowship applications under review concurrently. A candidate for a D-SPAN F99/K00 Award may not simultaneously submit or have an application pending for any other PHS fellowship award (e.g. F31) or any PHS award that duplicates any of the provisions of the F99/K00 award. “Under review” covers the time an application has been submitted until the release of its summary statement.
- The F99/K00 is not an NRSA fellowship. Having prior NRSA support does not impact the years of support that may be requested for the F99/K00. Similarly, having an F99/K00 award does not impact any eligibility for future NRSA support.

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