

NSF

Postdoctoral Mentoring Plan

INTRODUCTION

The following mentoring plan is provided as an example. The mentoring plan should fit the proposed project, Cornell's goals, and the needs of the postdoctoral researcher. You are encouraged to use this template as a guide to create your own plan.

NSF requires a postdoctoral mentoring plan for all proposals requesting funding for postdoctoral researchers' salaries. However, the information included here might be useful for applications to other funding agencies in addition to NSF, particularly if there are mentoring, career development or postdoctoral activities sections required by the sponsor. Examples of activities that might be included in the mentoring plan are listed below, however the plan is not limited to these activities, nor do all of these activities need to be listed in your plan. This format does not need to be strictly adhered to in writing the mentoring plan.

The NSF postdoctoral mentoring plan is limited to ONE PAGE only, therefore only the information RELEVANT to the specific postdoctoral researcher taken from below should be included. **Postdoctoral mentoring plans longer than 1 page will result in the proposal being rejected by NSF.** Please avoid copying and pasting directly from this document, as NSF appreciates mentoring plans specifically tailored for the Postdoctoral researcher, principal investigator and department involved.

Training of postdoctoral researchers in [scientific research](#) should be addressed in the Broader Impacts of the project description. It is always worth tying the postdoctoral mentoring plan back to the project description and its aims, re-emphasizing how this may impact the intellectual merit and broader impacts of the proposed work.

A SAMPLE POSTDOCTORAL MENTORING PLAN

Excellence in postdoctoral researcher training will allow the fellow to adopt an increasingly independent role in their research, including identifying research problems, formulating their own hypotheses, designing and conducting experiments and dissemination of results, both to their peers and to a lay audience. Postdoctoral researchers will be trained/mentored in a variety of areas outside of their day to day research activities.

THESE TRAINING OPPORTUNITIES INCLUDE:

- ORIENTATION

- CAREER COUNSELING

- PUBLICATIONS AND PRESENTATIONS

- EXPERIENCE WITH PREPARATION OF GRANT PROPOSALS

- TEACHING AND MENTORING SKILLS

- INSTRUCTION IN PROFESSIONAL PRACTICES

- TECHNOLOGY TRANSFER

- SUCCESS OF THE MENTORING PLAN

1. **Orientation** will include in-depth conversations between <Dr. xxxx> and the Postdoctoral Researcher to develop an Individual Development Plan. Mutual expectations will be discussed and agreed upon in advance of any research taking place. Orientation topics will include (a) the degree of independence the Postdoctoral Researcher requires, (b) interaction with coworkers, (c) productivity including the importance of scientific publications, (d) work habits and laboratory safety, and (e) documentation of research methodologies and experimental details so that the work can be continued by other researchers in the future. Outside of the PI's lab/department, the postdoctoral researcher will also find a plethora of welcome material. Cornell University is a member of the [National Postdoctoral Association \(NPA\)](#), and as such has access to a variety of resources that are structured to enhance the "quality of the postdoctoral experience for all participants", including free affiliate membership to the NPA, which includes weekly newsletters and online content, among other benefits.

2. **Career Counseling** will be directed at providing the Postdoctoral Researcher with the skills, knowledge, and experience needed to excel in his/her chosen career path. In addition to guidance provided by <Dr. xxxx>, the Postdoctoral Researcher will be encouraged to discuss career options with researchers and managers at Cornell University and with former students and colleagues of < Dr. xxxx>. In addition, the postdoctoral researcher will be encouraged to seek career advice outside of the PI's immediate laboratory/department. Resources to facilitate this at Cornell University include, but are not limited to, the **Office of Postdoctoral Studies**, which has a strong professional development program, offered both in an instructional setting and one-on-one, including CV and resume advice, academic and non-academic job application techniques, tips on start up or salary negotiation, and other leadership and professional development resources hosted by the **Cornell graduate school**. The office also organizes individual career counseling and career fairs bi-annually. **The BEST program**, an NIH-funded initiative to encourage graduate students and postdocs at Cornell University to explore careers outside of traditional tenure track academic positions, is an additional resource the Postdoctoral researcher will be encouraged to access. Cornell University also offers extensive education in the academic job search, and how to best equip a postdoctoral researcher for the task. This can be obtained, both in a one-on-one setting from the **Office for Postdoctoral Studies**, or in a structured setting from several career advising sessions organized through the same office. Help can also be found from the **Office of Inclusion and Student Engagement** housed in the Cornell Graduate School, or by the **Graduate School careers services**.

Trainees are encouraged to become budding entrepreneurs at Cornell, and are invited to use the services of the **Entrepreneurship Office** to assist them in developing their ideas. They also host an Entrepreneurship conference on the Ithaca campus.

3. **Publications and Presentations** are expected to result from the work supported by the grant. These will be prepared under the direction of < post doc researcher name> and in collaboration with researchers at Cornell University as appropriate. The Postdoctoral Researcher will receive guidance and training in the preparation of manuscripts for scientific journals and presentations at conferences. The postdoctoral researcher will be encouraged to travel to attend scientific meetings and conferences, and to present their research in the form of seminars or poster presentations. Funds for this may be available through various sources at Cornell University. The postdoctoral researcher will also be required to make formal and informal presentations of their research at <insert name of Cornell research forum>, where they will be given feedback from both their research peers, including graduate students, and faculty. The postdoctoral researcher will be encouraged to collaborate with eminent researchers from their field, both within and external to, Cornell University. This will not only improve their chances of increased high-impact publications, but will further increase their feedback on important career development issues.

4. [Experience with Preparation of Grant Proposals](#) will be gained by direct involvement of the Postdoctoral Researcher in proposals prepared by <Dr. xxxx>. The Postdoctoral Researcher will have an opportunity to learn best practices in proposal preparation, including identification of key research questions, definition of objectives, description of approach and rationale, and construction of a work plan, timeline, and budget. In addition, postdoctoral researchers are encouraged to seek advice from faculty colleagues on their proposal preparation, research ideas and grant writing. Cornell University also has specific workshops tailored towards helping young scientists to write grants, such as “Fellowships 101: Writing Competitive Fellowship Applications”, and the [Office of Sponsored Programs](#) has recently begun a series of faculty-led seminars on writing successful federal grant applications, tailored towards postdoctoral researchers and junior faculty.

5. [Teaching and Mentoring Skills](#) will be developed in the context of regular meetings within <PI name> research group during which graduate students and postdoctoral researchers describe their work to colleagues within the group and assist each other with solutions to challenging research problems, often resulting in cross fertilization of ideas. Cornell University is also committed to training the best teachers possible, and to this end, have an office dedicated to this endeavor. The [Center for Teaching Excellence \(CTE\)](#) offers a wide-range of resources available to postdoctoral researchers to improve their teaching skills, from focusing on flipping the classroom, to designing the lecture course, to engaging students to building inclusive classrooms. The [Center for the Integration of Research, Teaching and Learning \(CU-CIRTL\)](#), housed at Cornell University’s Graduate School, provides high quality professional development for graduate students and postdoctoral researchers in the STEM disciplines, particularly in teaching and mentoring. Postdocs will also be able to hone their skills mentoring graduate and undergraduate students in their research.

6. [Instruction in Professional Practices](#) will be provided on a regular basis in the context of the research work and will include fundamentals of the scientific method, laboratory safety, and other standards of professional practice. The postdoctoral researcher will be encouraged to attend [Responsible Conduct in Research \(RCR\)](#) training, which includes training on financial conflict of interest, peer review process, data management, research misconduct, human and animal research regulations, and intellectual property decisions. In addition to the scheduled RCR training, postdoctoral researchers are invited to an annual Winter Symposium on RCR at Cornell University. Postdocs will be encouraged to embrace equality and diversity in their careers, and can be assisted by programs at Cornell such as [CU-ADVANCE](#). Finally, the Postdoctoral Researcher will be encouraged to affiliate with one or more professional societies in his/her chosen field.

7. **Technology Transfer** activities will include regular contact with researchers at Cornell University. The Postdoctoral Researcher will be given an opportunity to become familiar with the university-industry relationship including applicable confidentiality requirements and preparation of invention disclosure applications. The postdoctoral researcher will be introduced to the **Center for Technology Licensing (CTL)**, which is an office at Cornell dedicated to aiding researchers in marketing their research. CTL offers many opportunities for researchers to meet both formally and informally with their staff, including seminars and social hours and their monthly “IP and Pizza” event.

8. **Success of the Mentoring Plan** will be routinely assessed throughout their postdoctoral research career, by monitoring their personal progress through the tracking of their advancement toward his/her career goals identified in their Individual Development Plan, and tracking their career progression after finishing their postdoctoral program. Tracking will take place with regularly scheduled meetings with both the postdoctoral faculty mentor, and as an option with the external resources listed in this mentoring plan, as needed.