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Developing a Postdoctoral Mentoring Plan



Postdoctoral mentoring typically includes support for maximizing research skills and productivity as part of professional development as well as assistance in preparing for career success. Today postdocs need to consider all of their career options (academia, industry, nonprofit, governmental), and so effective mentoring becomes even more essential to their success.

Postdoctoral mentoring plans can provide a blueprint for the critical professional guidance that has been shown to be a key indicator for a successful postdoctoral outcome (Sigma Xi Postdoc Survey, 2004-05). Effective mentoring can lead to more independent, productive and satisfied postdocs. Mentoring plans also can be used to satisfy recent requirements by the National Science Foundation (NSF) on proposals that include support for postdocs.

This toolkit is a document-in-progress and will be continually improved and expanded. Your feedback and input is desired and needed. Just e-mail the [Executive Director](#). Thank you!

Please note: The recommendations and suggestions for a mentoring plan made herein have not been endorsed by the NIH, the NSF, or any other government organization. The National Postdoctoral Association (NPA) is providing this toolkit of best practices as a service to its members.

Mentoring Plan "How To"

Developing a mentoring plan does not have to be complicated or time-consuming. The four essential elements of an effective mentoring plan are:

- **Begin with self-assessment by postdoctoral scholar**
 - Consider standardizing this self-assessment with an Individual Development Plan (IDP), which is a written plan that identifies professional goals and milestones and includes a plan for achieving them. There are a number of available templates for postdoc IDPs, such as [this template](#) developed by the Federation of American Societies for Experimental Biology (FASEB).
 - Using the NPA [Competency Checklist](#) may be a worthwhile exercise.
 - Read the current draft of the [Core Competencies](#) document.
- **Develop/find/offer relevant activities (several are suggested in this toolkit)**
- **Schedule regular meetings**
 - Frequency will depend on the individual situation; some postdocs may need more frequent meetings than others
 - Take care not to let the research work take over the conversation; stay focused on the development of the person
- **Conduct a final evaluation.**

It is recommended that mentors avoid using "boilerplate" or a "laundry list" of activities and instead tailor any mentoring plan to the postdocs, the postdoc supervisors, the project and the institution. In practice mentoring is very individualized; therefore a mentoring plan should allow for flexibility to accommodate an individual's needs as well as style of interaction (especially in the case where the postdoc has not yet been identified).

Structure for Every Mentoring Plan

The two primary features of any mentoring plan should be (1) **professional development**, including research development, and (2) **career development**. The former involves helping the postdoc become a productive and independent researcher, and the latter involves providing guidance and resources for identifying and achieving the next career milestone. Within professional development, core competencies should be considered.

1. PROFESSIONAL DEVELOPMENT

- Don't try to do it all; use the [Competency Checklist](#) to identify strengths and challenges and focus on the challenges.
- Describe how you will provide initial orientation to the lab or research group, including topics such as group meeting schedule, working hours, notebooks, standard operating procedures for techniques, ordering supplies. Consider including general expectations as part of this orientation as well. Ideally there will be a written document that covers these topics, but a face to face meeting would be satisfactory. Will new postdocs receive a copy of grant proposals (funded or not funded) to familiarize them with the scientific approach of the PI?
- Meet regularly with your postdocs to discuss progress on their research including: review of original data; data collection issues; additional experiments to be performed or data to be collected; data analysis and interpretation; and dissemination of results. Describe the frequency and format, whether these meetings are individual, in small groups, with the whole research group, or some combination thereof.
- Provide regular feedback, whether through informal interactions, like manuscript review and presentation style critique, or through more formal venues, like written performance evaluations. Detail the frequency and format of this feedback. Consult the NPA's Postdoc Office Toolkit article on "[Evaluating Postdocs](#)" for additional guidance at <http://www.nationalpostdoc.org/pdo-toolkit> (NPA membership required).
- Facilitate conference and meeting attendance where postdocs can present their work and expand their networks. Where possible, describe these opportunities by name. Consider including travel funds within the grant to support such activities.
- Encourage attendance at departmental seminars, journal clubs, and other opportunities where postdocs can expand their breadth of knowledge. **Providing explicit encouragement and approval of such activities can significantly influence whether or not a postdoc will feel that it is appropriate to participate.**

2. CAREER DEVELOPMENT

- Discuss career goals with your postdocs and describe how you can help them to reach these goals. The postdoc self-assessment will help to identify potential career options.
- Become knowledgeable about the current job market for your postdocs so that you can provide meaningful input. For career avenues outside your experience, identify other sources of information on this such as: books on career paths and outcomes; a career center or counselor; colleagues; or your professional society. Articulate your intention to provide this input as well as any other sources you think might be helpful.

- Encourage your postdocs to attend professional and career development programming at their institution or professional society meetings. Describe these activities within the plan. **Providing explicit encouragement and approval of such activities can significantly influence whether or not a postdoc will feel that it is appropriate to participate.** Potential sources for such programs are included in the next section.

Mentoring Activities

In addition to the core mentoring activities above, the following are suggestions for other types of activities that could also be included in a mentoring plan.

Opportunities within the Research Group
<p>PROFESSIONAL DEVELOPMENT</p> <ul style="list-style-type: none"> • Help your postdocs with core skill development. A useful guide to the core competencies postdocs should master at this stage of their career is the NPA's Postdoctoral Core Competencies. • Offer training and hands-on experience in grant writing by collaborating with your postdocs on future proposals. • Provide opportunities for your postdocs to mentor students in the research group, which can provide them with useful supervisory and teaching experience. Couple this with guidance on effective mentoring and management skills. • Provide guidance and training in successful presentation skills through presentations at group meetings, journal clubs, and/or department colloquia. • Review with your postdocs the Compact between Postdoctoral Appointees and Their Mentors, a mentoring tool developed by the Association of American Medical Colleges (AAMC). Jointly agree to honor the commitments described therein. <p>CAREER DEVELOPMENT</p> <ul style="list-style-type: none"> • As possible, provide input and feedback on your postdocs' job search preparation, such as curriculum vitae (CV) development, drafting a research statement and teaching philosophy, practicing presentations, or rehearsing interviews.

Opportunities at the Institution
<p>PROFESSIONAL DEVELOPMENT</p> <ul style="list-style-type: none"> • Help integrate your postdocs into your local institutional community. For example, introduce them to departmental colleagues; make sure they are included on e-mail lists for announcements, seminars and events; and encourage their invitation to meetings with visitors and speakers. • Help identify opportunities for postdocs to acquire teaching experience, such as guest lecturing, community college courses, graduate student seminars, and undergraduate lab courses. Consider having your postdocs play a role in any educational outreach or other broader-impacts activities. • Encourage your postdocs to participate in programs and services offered by an office of postdoctoral affairs or similar office that oversees postdocs. A postdoc office (PDO) is an excellent source of training and guidance for postdocs and can be a fruitful partner for postdoc supervisors in providing mentorship. • Seek out faculty development programs that are open to postdocs, such as workshops on grant writing, first-time investigator procedures, or teaching techniques. If postdocs are not typically invited, find out if these programs can be expanded for postdocs in the future. • Describe training programs in the responsible conduct of research (RCR) that are available for postdocs and enable your postdocs' attendance. <i>Such training is required for trainees on NIH National Research Service Award (NRSA) training grants and, starting October 1, 2009, for all students and postdocs supported by NSF grants.</i> • Support your postdocs' involvement with your institution's postdoc association (PDA) or postdoc office (PDO). This involvement will provide excellent experience in leadership, teamwork, event planning, and project management. If your institution does not have such opportunities available, encourage your postdocs to get involved with the National Postdoctoral Association, which always needs engaged volunteers in its advocacy and support work. • Identify other professional development programs at your institution that might be useful for postdocs, such as from employee professional development programs, university extension programs, an international scholars office, or the Graduate School. These programs might include workshops on work-life balance for academics, English language courses for international scholars, or scientific writing courses. <p>CAREER DEVELOPMENT</p> <ul style="list-style-type: none"> • Identify colleagues at the institution that have complementary research interests and could provide additional mentoring or guidance for your postdocs. Where possible, include their names and expertise. • Find out if your institution's career center offers career counseling or workshops that are open to postdocs. If so, promote your postdocs' participation in these activities.

Opportunities Outside the Institution
<p>PROFESSIONAL DEVELOPMENT</p> <ul style="list-style-type: none"> • Find ways to expose your postdocs to your professional networks, such as introducing them to your collaborators and involving them in community planning or working groups. • Provide opportunities for your postdocs to expand their technical skill sets and broaden their networks by sending them to other facilities or labs to learn new techniques. • Encourage your postdocs to participate in professional development programs sponsored by your professional societies, such as grant-writing workshops at disciplinary society meetings.

- Recommend your postdocs as speakers or session chairs at regional, national and international conferences. Such opportunities can both broaden their networks as well as improve their presentation skills.
- Recommend your postdocs as manuscript reviewers to the journal editors with which you work.
- Encourage postdocs to attend [the National Postdoctoral Association's Annual Meetings](#), which offer professional development workshops for the individual postdoc as well as opportunities to network within the broader postdoctoral community.
- Help your postdocs identify other resources for professional growth, such as personal coaching.

CAREER DEVELOPMENT

- Encourage your postdocs to participate in career development programs sponsored by your professional societies, such as resume workshops at disciplinary society meetings.

Appendices

[NSF Mentoring Requirements](#)

[Mentoring Resources](#)

[Mentoring Resources: International Postdocs](#)

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