

Roles and Responsibilities of Postdocs and Their Advisers

The Committee on Science, Engineering, and Public Policy (COSEPUP) is a joint committee of the National Academy of Sciences, the National Academy of Engineering and the Institute of Medicine. COSEPUP has long been concerned with the many issues that surround the education and training of scientists and engineers in the United States.

In the course of its work on various reports and guides, “COSEPUP became increasingly aware of the need to also address the experiences of those who undertake additional research training after completing their doctoral degrees—postdoctoral scholars, or postdocs.” The present report **Enhancing the Postdoctoral Experience for Scientists and Engineers – A Guide for Postdoctoral Scholars, Advisers, Institutions, Funding Organizations, and Disciplinary Societies** <<http://www.nap.edu/catalog/9831.html#toc>> is the result of the Committee’s “intensive study of the postdoctoral experience. It is concerned largely with the personal and institutional settings of that experience.

“COSEPUP gathered information in meetings with postdocs and advisers at universities, national laboratories, and private research institutes and industrial firms. In addition, the committee invited more than 100 postdocs, advisers, administrators, and others to a day-long workshop in Washington, DC; conducted an electronic survey of research institutions; met with the National Science Foundation and the National Institutes of Health staff; and consulted regularly with a 12-member External Advisory Group selected from institutions across the country. The informed and generous contributions of these groups are in large part responsible for COSEPUP’s ability to document the characteristics of the postdoctoral experience. Besides reporting the committee’s findings, this report suggests actions that can be taken to enhance the postdoctoral experience.

“Postdocs have become essential in many research settings. It is largely they who carry out the sometimes exhilarating, sometimes tedious day-to-day work. Their efforts account for a great deal of the extraordinary productivity of the United States’ academic science and engineering enterprise. And yet the institutional status of postdocs, especially in academia, is often poorly defined. Consequently, although most postdocs value highly their experiences and the opportunity to engage in rewarding research without competing responsibilities, many of them are dissatisfied with their situations.

“The Guide addresses five primary populations, all of whom participate in the postdoctoral experience: the postdocs themselves, their advisers, their host institutions, the agencies and organizations that support them, and professional disciplinary societies. It is also intended for senior-level graduate students who may be contemplating postdoctoral work.

According to this study the postdoc “has a *quid pro quo* relationship with the research community.” In order to enhance this relationship, we present, below, a “Roles and Responsibilities” document for both Postdocs and their Advisers.

The Postdoc

1. **Postdocs should take responsibility for deciding whether to seek a postdoctoral position and to define their objectives in doing so.** Once this decision is made, the postdoc is responsible for informing themselves about what they can expect – and what is expected of them: the duration of the appointment, the expectations of the adviser, the institutional resources available, potential sources of financial support, institutional policies on authorship and intellectual property, and where to find information about careers in their particular field.
2. **Postdocs should contribute their best efforts to the program in which they work,** and consider themselves full members of that program as long as their appointment lasts.
3. **Postdocs share with their advisers the responsibility for frequent communication** in the interest of common understanding, productive research, and effective mentoring.
4. **Postdocs bear the primary responsibility for the success of their experience,** with the support of their advisers and institutions. Responsibilities include gaining new research skills, contributing to the effort of the lab or department, communicating with the adviser, initiating a network of colleagues, and concluding a research project in as timely a manner as possible.

The Adviser

1. **The advisers of postdocs have the responsibility to provide a postdoctoral experience that is fundamentally educational** in nature and advances the postdoc's career. This educational experience should lead toward research independence and include, depending on the postdoc's career goals, occasional course work, teaching, internships and other experiences that promote professional development.
2. At the outset of a postdoctoral appointment, **advisers should outline, in writing, the initial expectations about the performance of the postdocs,** including the overall research plan and the postdoc's responsibility for ongoing research. These understandings should include laboratory policies on authorship; on ownership of ideas, intellectual property, and data; on determining priority of research projects; and, importantly, on taking projects from the laboratory when the postdoc's term has ended. This should be reviewed on an annual basis in case a mid-course correction is needed due to changes either in the adviser's assessment of the postdoc's abilities, or changes in the postdoc's career goals.
3. In view of the role of the postdoc as a trainee, **the adviser should provide mentoring as needed,** including not only detailed advice and assistance in the

development of a specific research project, but also education in research issues such as ethics and conflicts of interest.

4. **Advisers should discuss goals with the postdoc at the outset so the expectations of both parties are clearly delineated, and provide written evaluations of a postdoc's progress at least once a year,** to be included in the postdoc's institutional file. Such meetings provide an assessment and reality check for the postdoc and postdoc adviser.
5. **Advisers and departments should provide career counseling and job placement assistance.** They should also support the efforts of postdocs to gain experiences, compatible with their research responsibility, that will help prepare them for the job market.
6. **Advisers and departments should consider whether postdocs may benefit from additional mentoring by several members of an institution.** The purpose of such a mentoring committee would be to provide additional guidance and perspective to the postdoc, not to alter the important relation between postdoc and mentor.