

## The Culture of Research and Scholarship in Mathematics: Postdoctoral Positions

In mathematics, as in other sciences, postdoctoral work is an important part of the training of young researchers. It is an essential part of the rich research life of many departments. A “postdoc” is a recent doctoral graduate, in a temporary position, whose main purpose is to engage in research training under the supervision of a faculty mentor. In turn, this mentor is expected to give individual attention to furthering the career of the postdoc. In contrast to most of the natural sciences, in the mathematical sciences, teaching plays a fundamental role both in the training and in the funding of postdocs.

Since postdoctoral appointments in mathematics are not usually tied to either lab work or large projects, and are often supported through teaching rather than external grants, much of the funding for postdocs comes from individual universities. For example, in 2005 the AMS survey reported a total of 890 postdocs in the mathematical sciences (including statistics). However, only 31 of these were supported full-time through the prestigious NSF Postdoctoral Fellows Program. Another 339 received partial NSF support [1]. This aspect of postdoctoral funding partially explains that postdocs in the mathematical sciences both enjoy greater independence and shoulder more responsibilities than in other disciplines. Consequently they are typically paid more than postdocs in other sciences.

In the biological sciences, chemistry, and physics, the vast majority of new PhDs who take academic appointments have a postdoctoral position. By contrast, in the mathematical sciences approximately one-half of new PhDs who take academic appointments have a postdoc [1]. In general, postdoctoral appointments in mathematics carry prestige. At the same time, additional teaching responsibilities may prevent postdocs from devoting 100% of their effort to research.

Postdocs bring a youthful vitality and fresh perspective to mathematical sciences departments, while enhancing the quality of research and teaching. These facts are familiar to mathematicians, but might be less so to scholars from other disciplines.

[1] Survey analysis by AMS staff, 2014.

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