

## **2005 Statement**

### **The Culture of Research and Scholarship in Mathematics: Directing Ph.D. Theses**

In some disciplines, directing dissertations is an integral part of a research program for every scholar, both young and old. In mathematics, however, this is not the case; it is unusual for a young (untenured) mathematician to direct Ph.D. students.

As in other disciplines, a pre-tenured mathematician must focus on establishing a research program, including the publication of his or her research. Helping an advisee mature into an original researcher is labor-intensive and, unlike in the laboratory sciences, does not necessarily further the advisor's own research program. In addition, the advisor provides students with problems which, in many instances, he or she would otherwise solve and publish.

There is no tradition of joint publication of dissertation work, even when the advisor makes a substantial contribution, and this means fewer publications for the advisor -- something that may be a liability when facing a tenure review.

In a recent review of new mathematics Ph.D.'s from mid-2003 to mid-2004, at most 3% of the advisors were untenured even though the untenured (but tenure-eligible) faculty account for 16% of the total tenure-eligible faculty in doctoral mathematics departments. The overwhelming proportion of tenured faculty among thesis advisors is not the case in some other disciplines, where young researchers are expected to attract large numbers of graduate students to demonstrate the vitality of their research program.

Thus, there are subject-specific cultural reasons for mathematics faculty who are facing tenure decisions not to have advised any thesis students. While these facts are well-known to mathematicians, they are often misunderstood by other scholars who carry out research in a different culture.