AMERICAN MATHEMATICAL SOCIETY

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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, publish and receive credit for.

Joint publication of dissertation work is uncommon, even when the advisor makes a substantial contribution. Consequently the advisor has fewer publications, which might become a liability in a tenure review.

In an analysis 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 [1]. This overwhelming proportion of tenured faculty among thesis advisors might distinguish mathematics from some other disciplines, in which the expectation is that young researchers will, to demonstrate their research program's vitality, attract large numbers of graduate students.

Thus, there are discipline-specific cultural reasons for mathematics faculty who are facing tenure decisions not to have advised Ph.D. students. While these facts are familiar to mathematicians, they are often less so to scholars coming from other disciplines.

[1] Analysis of Annual Survey data by AMS staff, 2014.

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