

# One-third of PhDs lose interest in academic careers, but not for lack of jobs

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There are growing concerns that the challenges of landing a faculty job are discouraging young science and engineering Ph.D.s from pursuing careers in academia. The assumption is the majority aspire to a faculty career but drop out of the academic pipeline because there just aren't enough tenure-track jobs to go around.

But a new Cornell study suggests that assumption may not be true for many Ph.D.s. The research was published Sept. 18 in *PLOS ONE*.

"They're not being forced out of academia and into less desirable jobs. Instead, many lose interest in the faculty career itself," said the study's co-author, Michael Roach, the J. Thomas and Nancy W. Clark Assistant Professor of Entrepreneurship in the Charles H. Dyson School of Applied Economics and Management.

Roach's co-author, Henry Sauermann of ESMT Berlin, added, "Our key contribution is to dig deeper to understand why students lose interest in the faculty career, and we consider a broad range of factors such as job market expectations, self-perceived ability, or preferences for research and autonomy."

Roach and Sauermann followed a cohort of 854 doctoral students studying science and engineering at 39 U.S. research universities over the course of their graduate training. The doctoral candidates took a survey at the beginning of their graduate studies and again three years later, which asked about their career preferences and explored potential drivers of changes in their preferences.

The study finds that although 80 percent of students started the Ph.D. with an interest in an [academic career](#), by the time they neared graduation one-third of these students had lost interest in an academic career entirely. At the same time, there was no difference across Ph.D.s in their low expectations of getting a faculty job or the difficulty of obtaining grants, suggesting that these factors do not explain why some lose interest while others remain highly interested in an academic career despite these challenges.

Roach and Sauermann were prompted to look into changes in academic career preferences because of concerns over the perceived labor market

imbalance between the growing number of doctorates and the limited number of new faculty positions. One implication of this research is this gap overstates the share of Ph.D.s who intend to pursue an academic career.

When students start their doctoral programs, the majority have done research as an undergraduate and see academia as the default career path, Roach said. "But as they learn more about what that career path is like and the kind of work they want to do, that's where we start to see a divergence, where people start to lose interest in a faculty career."

This suggests the need for programs that provide students with more information on potential [career](#) paths and that prepare them for careers outside of academia.

For example, Cornell's BEST program – Broadening Experiences in Scientific Training – enhances training opportunities for graduate students and postdoctoral scholars to prepare them for careers beyond conventional academic research.

The study also has implications for companies' efforts to recruit recent doctorates. Rather than trying to lure Ph.D.s by emulating the academic environment, firms should recognize that many Ph.D.s who lose interest in academia are less interested in performing basic research and coming up with their own research projects, and more interested in commercializing new technologies, the researchers said.

"This is important as technology firms increasingly look to Ph.D.s to help them innovate," Roach said.

**More information:** Michael Roach et al. The declining interest in an academic career, *PLOS ONE* (2017). [DOI: 10.1371/journal.pone.0184130](https://doi.org/10.1371/journal.pone.0184130)

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