

Tenure Track as Alt-Ac
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By
[Scott Jaschik](#)

When the [Survey of Earned Doctorates was released in December](#), much of the analysis focused on the worsening job market for those with new doctorates in humanities fields.

But research presented this weekend at the annual meeting of the American Association for the Advancement of Science -- based on that survey and other federally sponsored data -- suggested that the job market for those in many scientific fields is also taking a beating. And this is so much the case that tenure-track jobs should now be considered "alt-ac" positions (or alternative academic careers) because they are not the norm anymore for new Ph.D.s, in the words of Paula Stephan, a professor of economics at Georgia State University who specializes in the intersection of economics and science.

In several science disciplines, she said, so many young scholars are being forced to go for postdocs rather than tenure-track jobs (even a few years out of doctoral education) that career paths are shifting in ways that will hurt science. "Things weren't really so great before 2008, and since [the start of the economic downturn], they have gotten much worse," Stephan said in an interview about her presentation.

Take the biological sciences, for example. Stephan compared the jobs of people who were 1-5 years out from earning their Ph.D.s, 6-10 years, 11-20 years and more than 20 years -- looking at the job status in these cohorts every year from 1993 through 2008. From 2000 to 2008, the percentage in tenured or tenure-track jobs fell in each of the four groups. In the latter two groups, between 2000 and 2008, tenured or tenure-track professor went from being the most common job status to second (behind non-academic research). In the first category, among those who most recently earned their doctorates, the percentage holding tenure-track jobs fell from just over 10 percent to around 8 percent. The share holding tenure-track jobs is only marginally ahead of those who are unemployed or not in the labor market.

Using data prepared for National Institutes of Health reports, Stephan also pointed to another indicator of dangerous trends in the job market for biological sciences. Those with doctoral degrees in the biological sciences were surveyed on the relationship between their training and their employment, and there was a sharp decline in the percentage reporting a direct relationships.

Employment Related to Training for Biological Sciences Ph.D.s

	1997	2008
Closely related	70.75%	59.29%
Somewhat related	22.79%	31.93%
Not related	6.46%	8.78%

Dramatic changes in the job market aren't just taking place in the biological sciences, Stephan said.

She pointed to data from the American Institute of Physics, which studied trends for physics Ph.D.s one year after graduation. Physics has for years had a strong postdoc tradition. But when surveying those with postdocs who earned Ph.D.s in 2009 and 2010, 13 percent said that they were in the postdoc not because they wanted the training but because they couldn't find any other position (for the two years prior, that percentage was only 7 percent).

In computer science, Stephan presented [data from the Association for Computing Machinery](#) on the rise of postdocs and the fall of tenure-track openings as the top jobs for new Ph.D.s. In 2004 and 2005, more than 225 new Ph.D.s a year were landing tenure-track jobs, while only about 100 were in postdocs. In 2011, there were only about 100 hires of new Ph.D.s as tenure-track faculty members and 250 hired as postdocs.

Taken together, these statistics are going to discourage people from pursuing graduate education and careers in academic science, Stephan said.

She said that research universities need to rethink the way postdocs are used -- and to improve their pay and working conditions -- to create the kinds of career paths that will attract the best people to research careers.

The problem isn't the idea of a postdoc, Stephan said, but the way that position has evolved as so many more people end up in the role. "Ostensibly the postdoctoral scholar is to train someone to be a researcher, and an independent researcher," Stephan said. "Putting people into postdoctoral positions is great training if they are going to go on and use that training," she said.

But increasingly a postdoc doesn't lead (certainly not quickly) to an independent, tenure-track position, Stephan said. And postdocs are being used, not trained, she said. "Postdocs have become cheap staff scientists," she said.

Stephan urged those at the AAAS meeting to push for substantial raises in postdoc salaries. Currently they average around \$39,000 a year, and she said that people who spent the six years a postdoc spent in grad school advancing in other careers could earn far more by the age at which people are in postdoc positions.

Paying postdocs more would probably result in fewer positions, Stephan said, but this could be positive. She said that universities would then use postdocs when there is an agenda that benefits both the postdoc and the senior scientist running the lab, and other positions would be created to support the lab. Meanwhile, postdoc positions wouldn't hold out false hope for tenure-track positions that may not exist, she added.

"We have more postdocs than we can absorb into research positions," she said. "But the incentives are there for faculty to staff their labs with postdocs because they are so cheap."

Read more: <http://www.insidehighered.com/news/2013/02/19/research-aaas-meeting-notes-difficult-job-market-academic-science#ixzz2LMOEwiSH>

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