The dream of moving gracefully from the end of one's postdoc into a cushy academic position is one more and more young researchers are starting to wake up from. The harsh reality is that for some time now, academic jobs have become increasingly scarce — a problem further compounded by the relative dearth of training that prepares postdocs for a future beyond the bench. However, as awareness of the problem grows, program are starting up to teach postdocs about industry and government life.

The Keck Graduate Institute of Applied Life Sciences in Claremont, Calif., launched a nine-month professional master's degree program in the fall of 2009 that is specifically geared toward preparing life science postdocs for careers in industry or government. Keck's Postdoctoral Professional Science Master's in Bioscience Management is an accredited program that provides students with a curriculum centered on accounting, finance, and organizational behavior, as well as courses in entrepreneurship. The program culminates in a team master's project, in which small groups of students work on an industry-sponsored project to receive real-world, hands-on experience. "No one has ever done anything quite like this before and we're finding it to be very exciting. The postdocs are enjoying it. They're learning a great deal," says Keck's president, Sheldon Schuster. "I think they're really seeing a whole different side of science that they may not have been aware of before."

The impetus for starting the program originated from a survey Keck conducted through the National Postdoctoral Association, a group founded in 2002 that aims to address what they call the "postdoctoral situation in the US." According to Schuster, there are roughly 200,000 postdocs in the United States, of whom about 98,000 were educated in the US; the rest come from international institutions. Keck found that there were very few academic jobs available; some estimates say that only one out of every 10 postdocs will nab an academic appointment. And yet, most postdocs are resigned to compete for one of those rare slots. What is really standing in the postdocs' way is not so much the lack of academic jobs, but a lack of awareness about what the rest of the job market landscape really looks like. "The major thing they think about when it comes to industry is research. They have no idea that you can use science very effectively in operations, clinical trials, regulatory affairs, intellectual property management, project management, business development, or strategic marketing — none of those things register with them," Schuster says. "They're really shocked when you tell them that really very few jobs in industry are going to be research for PhDs, so that's why we began the program."

Entrepreneurship
Another effort to assist postdocs in obtaining a foothold in the world outside of the academic lab comes in the form of a fellowship aimed at encouraging entrepreneurship. Last year, the Ewing Marion Kauffman Foundation in Kansas City, Mo., announced the first 12 Kauffman Entrepreneur Postdoctoral Fellows, chosen from a group of roughly 100 applicants. Two-thirds of the fellows selected this year are focused on life sciences. The fellowship program is intended to enable postdocs to learn how to prepare their research for commercialization. For 20 hours each week, fellows pair off with a business mentor, take entrepreneurship workshops at the Kauffman Foundation, and undertake a business internship. "If you look at the data, postdocs are first authors on some 40-plus percent of science articles; they are known to be primary authors of writing grants; and they're really at the forefront of all the coolest research," says Sandy Miller, a director in Advancing Innovation at the Kauffman Foundation. "However, there are some aspects of the postdoctoral experience that make it perhaps even more challenging for a postdoc to be involved in commercializing a technology based on his or her research than it might be for a grad student."

While this might seem counter-intuitive, Miller says that even if postdocs are on an entrepreneurial campus where there are networking events and student entrepreneurship clubs, much of that passes postdocs by because of their responsibilities to the lab. "They often do not get to take advantage of some of these really good opportunities that have been growing on campuses across the country, so we said, 'This is a bit of quandary. Let's reach in and tap some enormous potential,'" Miller says. "We designed this fellowship program to really address the fundamental issue of trying to provide the postdocs with some time away from the bench to work on the commercialization of their research."

Even in most cases of commercializing research where the advisor or the PI is a co-inventor with the postdocs, it usually the postdoc who is best suited to champion the research. "When it comes to the person who is really going to leave the lab and go into a company or form one, the postdoc is at the point in their career where they can — the faculty person, in most cases, is not going to leave their job," Miller says. "We see that there is an important role that these postdocs can play when you start an early stage company. The scientific founder can play a critical role early on, and in a lot of cases you may be a postdoc and the starting CEO of this fledging company as you continue to prove your concepts."