Germany will soon face a surplus of postdocs or young scientists — already a problem in countries such as the United States. The number of postdocs alone suggests that many of the young scientists who have been recruited in recent years will not find scientific jobs in Germany, especially once the initiative's funding has run out.

There are efforts under way to support non-academic career paths. Many of the universities that have received initiative money have set up scientific-career training programmes. Young scientists can also get extra guidance in subjects ranging from patent management to business administration, notes Oliver Baron, managing director of the Center for Integrated Protein Science Munich (CIPSM) at the LMU — one of the research clusters selected for extra funding in the initiative's second phase.

Still, it is unclear what will happen after the initiative ends. Universities might suffer, particularly in poorer states such as Berlin and Brandenburg. At risk is the initiative's main goal — creating universities of international repute. And if there is no follow-up funding, scientists at centres such as the CIPSM or the Courant centres, set up at the University of Göttingen to promote independent research, could lose their jobs.

At universities such as Göttingen, administrators are starting to look for options to preserve what the initiative has helped them to build up — whether that is funding for hiring, collaborative projects or graduate programmes. And federal minister of education and research Annette Schavan has proposed that, in the interest of fairness, universities that won funding only in the second phase of the scheme should be granted another round of money.

Schavan also hopes that a planned amendment to Germany's constitutional law will help. The law, soon to be considered by parliament, would allow the federal government to co-finance universities permanently, rather than leaving it to state governments (see *Nature* **483,** 245–246; 2012). The change could pave the way for a federally funded university modelled on the Swiss federal institutes of technology in Zurich and Lausanne.

While administrators and policy-makers ponder the future of funding, Fierlinger is more concerned with truly universal questions. Five years of hard work, he hopes, might turn a fundamental property of neutrons into a gauge of how matter and antimatter are distributed in the cosmos. Administrators and scientists hope that another five years of the Excellence Initiative will be enough to establish lasting change and benefits. ■

Quirin Schiermeier *is* Nature*'s Germany correspondent.*

TURNING POINT
Robert Gregg

Robert Gregg works at the boundary between engineering and medicine. A postdoc at the Center for Bionic Medicine at the Rehabilitation Institute of Chicago in Illinois, Gregg received a 2012 Burroughs Wellcome Fund Career Award at the Scientific Interface in May for his work developing robotic control systems for prostheses. He explains how he will use the funds when he joins the bioengineering and mechanical engineering departments at the University of Texas, Dallas, next year.

A. E. SCHULTZ

Which came first — an interest in robots or in prosthetics?

I did a degree in electrical engineering at the University of California, Berkeley, and had an internship studying control principles of robotic walking. That sparked my interest in robots. I loved the Terminator movies and, at first, I was following the 'cool factor'. I went to graduate school at the University of Illinois at Urbana-Champaign because it had a leading programme on control theory about the intelligence behind machines. I never intended to build killer robots, but I didn't understand until later how this research could help people.

How did you realize the potential for medical applications?

In my last year at graduate school, I was thinking about where I wanted to take my career. Then my father was diagnosed with heart failure. I had to take 2–3 months off while he waited for a transplant. The doctors told me about a surgical robot they were using; that helped me to realize that people could benefit from my research. So I decided to pursue biomedical engineering.

How did you get your postdoc?

I won one of five Engineering into Medicine fellowships at the Northwestern University Clinical and Translational Science Institute (NUCATS) in Chicago. It was a one-time opportunity funded by the American Recovery and Reinvestment Act of 2009, and happened at the right place and time for me. NUCATS was looking for people who could translate engineering principles into medical or biological research. It was the biggest turning point of my career: I was able to apply ideas from robotics and control theory to improve the performance of prosthetic devices. I'm experimenting with a prosthetic-leg controller that moves joints based on measurements of pressure to the sole of the foot. The wars in Iraq and Afghanistan have brought attention to the needs of amputees, but amputations are necessitated most frequently by disease, especially cardiovascular disease and diabetes.

What was most difficult about switching research cultures?

Moving into biomedicine was a leap, because no one in the field knew of my engineering research. I had no reputation in prosthetics and no knowledge of it, really. But the most difficult part was learning how to communicate with clinicians. The same words can mean completely different things. For example, 'control' means the intelligence behind a machine to an engineer, whereas clinicians use it to describe study patients who do not receive the experimental treatment.

Was the search for a job after your postdoc difficult?

This spring was a whirlwind. The market is rough — I applied for 35 faculty positions and it looked like nothing would pan out. Then I was approached by the University of Texas, Dallas. I also learned that I was a finalist for the Burroughs Wellcome award, which comes with US$500,000 to finish a postdoc and start a lab. In a two-day period, I got the award and the offer to start at Dallas in June 2013.

How does the award help your career?

It will let me hire personnel in biomedical and mechanical engineering, and to start off with expensive research. I am eyeing a treadmill that costs more than some houses. It measures the forces that human feet transfer to the ground, to analyse the performances of prostheses. I think of my lab as a start-up company — I have investors; now I have to prove that my vision for robot-assisted walking can be achieved. ■

INTERVIEW BY VIRGINIA GEWIN