

impartial faculty member who is willing to offer confidential advice.

In some cases, Blackford says, discussing the situation with an objective ally can help disgruntled junior researchers to understand the true source of their discontent. “Some people can’t even put a finger on what’s gone wrong,” she says. “They just don’t feel respected, and then they have a crisis of confidence. It’s helpful to talk with someone who can tease out what you’re saying.”

Postdocs should develop on-campus allies who can serve as sounding boards and counselors. “I tell people to identify their peer support and mentors early,” Kleppner says. “You need someone who can advocate for you if something isn’t working out.” Adding another person to the conversation can be a quick way to find compromise and clarity, she says. “It’s basic ‘Conflict Resolution 101.’”

Not all conflicts can be resolved — some postdocs eventually decide to leave a lab for good. “These are high-powered people who don’t want to admit failure,” Kleppner says. “But it’s OK to admit it.” When it is time to leave, professionalism is more important than ever. She recommends explaining the decision to a PI in clear, dispassionate terms — the same tone that is needed when talking to other PIs about a possible job. Naturally, they will want to know why the last job did not work out, but they don’t want to be dragged into the drama. A postdoc who can clearly communicate why the last lab was not an ideal fit — without making any personal attacks on his or her former PI — will have a good chance of moving on. “You’re not going to ruin your reputation as long as you don’t ruin anyone else’s,” says Kleppner.

Hankel managed to leave academia with his reputation — and his degree — intact. As a career consultant, he now encourages other scientists to stand up for themselves even when the hierarchy is tipped against them. He notes that some scientists end up spending so many years doing their PhD and multiple postdocs that they barely have time to establish their careers before retirement. “Advisers hold the keys to people’s lives,” he says — which means that it is important to resolve disputes as quickly as possible and avoid spending too much time in a lab that will not promote a junior researcher’s progress. When a PI is not being supportive, Hankel says, early-career researchers have to prioritize their professional interests — even if that means hurt feelings, bruised egos and a change of venue. “It’s always appropriate to have self-respect,” he says. ■

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A forced lab move can be a hassle. Find out how to handle it seamlessly in an upcoming issue of *Nature Careers*.

## TURNING POINT

# Martin Jinek

*Structural biologist Martin Jinek helped to launch the genome-modification craze that is upending biological research. Now running his own laboratory at the University of Zurich in Switzerland, Jinek describes how research is changing as CRISPR — a gene-editing tool with the potential to cheaply alter plants, animals and even human embryos — takes hold.*

### Did you set out to work on CRISPR after completing graduate school?

No. When I started as a postdoc in Jennifer Doudna’s group at the University of California, Berkeley, in 2007, we knew practically nothing about CRISPR, which stands for ‘clustered regularly interspersed palindromic repeats.’ The first paper describing it as an adaptive immune system in bacteria came out early that year (R. Barrangou *et al. Science* **315**, 1709–1712; 2007). Although Doudna was one of the first to explore CRISPR, my original project was on the molecular mechanisms of microRNA. But the CRISPR field became more interesting, so I collaborated with some group members and finally began my own project working on Cas9, an enzyme that cuts DNA.

### When did it become clear that CRISPR was a game changer?

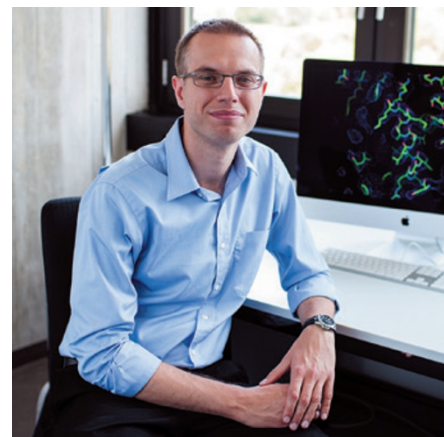
We were interested at first because it looked similar to RNA interference, in which RNA molecules inhibit the expression of genes. But the molecular machinery was intriguingly different. The wider implications — and its potential utility in genome research — came only after we learned that it cuts double-stranded DNA and is programmable, which made it even more interesting to work on.

### What is most surprising about this technology?

How quickly it has developed. Within six months of publishing a paper showing that CRISPR can be programmed (M. Jinek *et al. Science* **337**, 816–821; 2012), three labs — including ours — were using it as a genome-editing tool. Within 12 months, researchers were applying it to many cell types and organisms.

### How is CRISPR shaping your research agenda?

My goal is to understand how the system actually works. My resources are not unlimited, so I focus on what I do well — structural biology. Five of the ten people in my lab, which began in 2013, are aiming to gain a better structural understanding of the DNA-cutting mechanisms in CRISPR systems so that we can engineer the system to be more efficient and versatile. The CRISPR technology is finding



applications in basic-research labs, as well as in biotechnology and molecular-medicine labs, to potentially cure genetic disease or engineer organisms to make biofuels. I’m already using it to address other research questions.

### What did you take from your experience as a graduate student in a new lab?

I was the third PhD student in Elena Conti’s first laboratory, at the European Molecular Biology Laboratory in Heidelberg, Germany. She was a fantastic mentor, and being in her lab at an early phase of her career has shaped my own lab. She was a tough boss, but she taught me how to approach a scientific problem to find the right questions, and how to do good science to answer those questions.

### Has the public reaction to CRISPR had an impact on your work?

On some level, we anticipated it would be big. We just didn’t know how big. The wider societal and potential ethical issues associated with the use of CRISPR, especially those that relate to human-genome modification, have generated a lot of attention. The negative side of working in the CRISPR field is that it is so competitive, it leaves little time for anything else. ■

### INTERVIEW BY VIRGINIA GEWIN

This interview has been edited for length and clarity.

#### CORRECTION

The Careers feature ‘Mind Wide Open’ (*Nature* **525**, 147–148; 2015) stated that BEST had offered career training to about 10,000 graduate students and 600 postdocs since its launch. In fact, at least 4,000 postdocs have benefited.