

But she broadened her experience through rotations in neurobiology and stem-cell labs. The programme also includes funding for international travel. "It's good to experience research in different environments," says Alborelli. Making it easy for students to travel also helps them to reach the best labs for their research, adds O'Carroll.

The process of applying for a structured PhD varies with the programme. In the conventional model, trainees found a professor to take them on and joined that lab. In some universities, this still happens, but the principal investigator then encourages the student to join an appropriate programme.

In other cases, applicants approach the programme first, and faculty members jointly decide whether their qualifications merit an interview. During the interview visit, applicants meet several faculty members and look for a good match; if a professor and student want to work together, then the student is admitted. And in some programmes, students do not even decide on a mentor until they have started their degrees and completed their rotations. This 'group application' process helps faculty members too, says O'Carroll. Instead of picking through individual students, they can let the programme select the best candidates.

Structured studies may not be the best fit for everyone, says Sarah Weigelt, a postdoc at the University of Münster in Germany, who will start a job as a junior professor at the University of Bochum in April. "It's quite dependent on the personality," she says. Some trainees thrive in a clearly defined curriculum, but others know exactly what research they want to do, and Weigelt wouldn't want them to be delayed by structured coursework. She would prefer to see universities offer a range of PhD options so that students can choose their ideal path.

Although picking the right sort of programme matters, the key factor in success may still be finding the right research project. "You have to like what you're doing," says Sinnott. "You're going to be married to it." ■

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TURNING POINT

Rui Costa

Rui Costa, a neuroscientist at the Champalimaud Center for the Unknown in Lisbon, accepted his latest accolade last October: a US\$15,000 Young Investigator Award from the Society of Neuroscience in Washington DC, for his innovative approach in detailing the brain circuits involved in learning. Trained as a veterinary surgeon, Costa traces his success to a 1997 New Year's resolution to follow his research muse.

Has animal behaviour always interested you?

Yes; as a kid, I loved watching natural-history television programmes. In my last year of veterinary school, I did a research internship at the Swedish University of Agricultural Sciences in Skara, in which I studied suckling behaviour in cows and dolphins. I wanted to understand the origins of behaviour and realized that I would have to study the brain.

What do you consider the most pivotal moment in your career?

I worked as a dairy-cow vet for one year after getting my doctorate of veterinary medicine at the Technical University of Lisbon. But I knew that I had to follow my passion for research. On New Year's Eve of 1997, I quit. I had no job and no salary, but I wanted so badly to be a researcher that there was no question that I would find a way to make it work. It sounds crazy, but putting yourself in a position of not going back frees you to pursue your passion.

How did you end up in the United States at the University of California, Los Angeles (UCLA)?

I found a government-sponsored programme at the University of Porto in Portugal, in which students took a year of classes and could then do their research at any university that would fund them. I decided to contact memory researcher Alcino Silva, who was moving to UCLA.

Why did you choose Silva?

He had done the first genetic manipulation of the mouse brain. I believed that looking at brain circuits was the best way to study genetics and behaviour, so I e-mailed him. It wasn't my technical skills that convinced him to take me on, so it must have been my passion for the research.

Were the experiments that you wanted to conduct technologically feasible?

Not really. I have always wanted to image brain activity while genetically manipulated animals were learning and behaving, but the technology didn't exist then. Even today, we can still image only the surface of the brain. But I knew



that Miguel Nicolelis, a neurobiologist at Duke University in Durham, North Carolina, was recording many primate neurons at once using hundreds of electrodes. Looking for a postdoc position, I wrote to him and said that I would love to modify this technique to record activity in mouse brains. He immediately replied that he had had the same idea, and called a few minutes later. He used a phrase in Brazilian Portuguese that means, "Let's go ahead, because people are coming from behind".

Did you always intend to return to Portugal?

I married an American and I liked being in the United States. Yet I missed my family in Portugal and I felt that because Portugal had given me this opportunity, I would one day return. However, I didn't want to just go back and not do science. In 2004, António de Sommer Champalimaud, a Portuguese entrepreneur, died and willed roughly one-third of his fortune to launching the Champalimaud Foundation. The foundation decided to start a neuroscience programme at the Champalimaud Center for the Unknown, with two other researchers and me. In 2007, we shook hands to seal the deal.

How has the experience been so far?

Everything has gone smoothly. The building has an excellent view of the sea and a huge open lab space. We were able to recruit great talent from around the world and have grown to 15 labs, with 130 people. When I arrived, I got a big grant from the European Research Council; last year, I received a 5-year International Early Career Scientist award from the Howard Hughes Medical Institute in Chevy Chase, Maryland. The centre has had a lot of press and publicity, so there is a lot of hype about the place — which helped with recruitment. Now we need to start publishing results to show the public what we are doing. ■

INTERVIEW BY VIRGINIA GEWIN