

very uncomfortable. “I worried about any little thing that might go wrong and sway that decision.”

TIRED OF CHASING GRANTS

Jackie Ying became a professor of chemical engineering at Massachusetts Institute of Technology (MIT) in Cambridge at the age of 26. By 35, she was a tenured full professor, a rising star in the field of nanomaterials, and flush with funding. But because her research group was large and diverse, she spent most of her energy simply applying to continue her grants. She spent 75–80 hours per week at work and still struggled to find time to prepare journal manuscripts or to help students to finish dissertations. But she loved academia, and wasn't looking to move — until an unusual opportunity popped up.

In 2002, Philip Yeo, then chairman of Singapore's Agency for Science, Technology and Research (A*STAR), asked her to lead the new Institute of Bioengineering and Nanotechnology (IBN). Ying had lived in Singapore as a child. She knew it was a cosmopolitan city with a population of 5.3 million people, 38% of whom are transplants from other parts of the world.

Yeo took Ying to Singapore and showed her the immense hole that would become Biopolis, a nine-building complex of public and private labs with more than 2,000 staff members including researchers. Singapore's government is ambitious and results-oriented. “When it wants to do something, it will devote the resources to make it happen,” says Ying. At the time of Yeo's offer, she could see the writing on the wall — US funding for individual investigators was dwindling as competition grew. “In the past ten years, it has become even clearer that my decision was correct. The batting average for a grant proposal has become very low.”

As executive director of the IBN, Ying spends more time working on journal articles and conferring with her research group than she did at MIT, despite her administrative work. She directs research projects such as developing paper-based diagnostic test kits that would work like home pregnancy tests to monitor glucose, cholesterol or infections. “The way we structure our research groups is problem-centric, instead of principal-investigator-centric.”

When she left MIT in 2003, people thought Ying was crazy, she recalls. “But I had a long career in front of me.” The assured funding at the IBN has allowed her to pursue interdisciplinary projects with real-world applications — and resulted in more than 120 patents. “I actually thought it was a very important career move that would change the way I do research and live my life.” ■

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RESEARCH COMMUNITY

Expatriate scientists get organized

European researchers form support networks abroad.

BY MICHELE CATANZARO

The Portuguese government had an unexpected critic when it proposed austerity measures including cuts to fellowships that pay for researchers to do PhD studies abroad. In June, the Portuguese Association of Researchers and Students in the United Kingdom (PARSUK) filed a complaint with the Foundation for Science and Technology, Portugal's main public research funding body. PARSUK showed that university and tuition fees for graduate students at some UK institutions cost more than the Portuguese government would provide after austerity measures; the foundation's president told PARSUK that he would consider scaling back the cuts.

Organizations of southern European scientists working abroad have proliferated in the past few years. Expatriates founded the Society of Spanish Researchers in the United Kingdom (SRUK/CERU) in June 2011 and the Society of Spanish Researchers in the Federal Republic of Germany (CERFA) in June 2012; the Association of Italian Scientists in the United Kingdom (AIS-UK) will be registered soon. The groups aim to help expats with language barriers, advise on the best places to apply for PhD and postdoc positions and organize networking events. But they also want to make a difference at home by influencing policy, enhancing the visibility of people working abroad and improving funding and opportunities.

Financial strain has been one motivator: in 2010, total Portuguese science spending declined for the first time in almost a decade. The Spanish government has cut its science budget by 39% from 2009 levels. And this year, Italy approved major cuts to research-institute budgets, with more possibly on the way (see *Nature* <http://doi.org/jrn:2012>). Scientists often leave countries hit hard by recessions: Spain, for example, has seen net emigration since 2011 after years of net immigration, says its National Institute of Statistics. Expat groups can help scientists to find opportunities abroad.

PARSUK was founded in 2008, following Luso 2007, a networking meeting of Portuguese scientists in Cambridge, UK. Since then, the 450-member group has set up annual gatherings at which researchers, politicians and company representatives from Britain and Portugal discuss ways to collaborate and cooperate. “We want to use knowledge



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gathered abroad to implement new approaches to research in Portugal,” says David Tomaz, president of PARSUK and an immunology PhD student at Imperial College London.

Last month, representatives of SRUK/CERU met a delegation from the Spanish National Quality and Accreditation Evaluation Agency in London to discuss how Spain could optimize distribution of shrinking public funds using aspects of Britain's research-evaluation systems (see *Nature* 457, 624–625; 2009). The group has spoken to the media and politicians, says Francisco Hernández, a neuroscience PhD student at the University of Cambridge and one of 94 SRUK/CERU members. This year, one of Hernández's blog posts spawned a petition for Spanish tax forms to include an option to give 0.7% of a taxpayer's contribution to research; it has collected almost 300,000 signatures.

Associations also aim to provide practical help. CERFA offers “logistic and administrative advice to people moving to Germany: from finding a house to understanding a health insurance contract in German”, says Raúl Delgado-Morales, president of the group and a biology postdoc at the Max Planck Institute for Psychiatry in Munich. CERFA, which has 50 members, plans to draw up a list of Spanish researchers in Germany for collaboration opportunities.

The AIS-UK wants to compile a database of collaborations among Italian and British scientists to raise awareness of the “vast pool of highly skilled Italians trained in prestigious UK universities”, says Emanuele Cotroneo, a biology postdoc at Imperial who backs creation of the group. “Some Italian scientists in the United Kingdom may be willing to return to Italy if they are offered positions appropriate to their experience.” But Cotroneo does not advocate UK brain drain, he says: “We think that strengthening links between countries will facilitate both emigrating and going back.” ■