The Emerging Postdoc Culture in China

Recent years have witnessed tremendous growth in investment toward building a strong scientific research base in China. Though the postdoctoral system in China was started 30 years ago, efforts to foster research there in the past few years have spurred on a new crop of scientists to pursue postdoctoral work in China.

Shortly after finishing up his Ph.D in biophysics at Boston University School of Medicine, Lorenzo Finci packed his bags for what many would consider an unconventional move. With scores of Chinese scientists going to the US and Europe to do their postdoctoral work, Finci instead made the reverse migration and relocated to Beijing. Though he had never been to China before and did not speak the language, his interest in the molecular mechanisms of signal transduction drew him to the work Jia-huai Wang was doing to elucidate the structures of neuroreceptors at Harvard Medical School. When the opportunity arose to help Wang set up his new lab at Peking University, Finci seized it. “I saw this as an opportunity to pivot my research interests to structural neuroscience and try to understand how the brain gets connected from a biophysical perspective,” he says. “The advantage of being an international postdoctoral scientist is having the opportunity to be exposed to how scientists from other countries approach problems and conduct experiments in their native setting.”

In fact, Finci is just one among a small but growing number of US and European scientists to pursue a research path in China. After getting his Ph.D from the University of Autonoma de Madrid and finishing his postdoc at Imperial College London, Miguel Esteban was wavering between applying for a lecturer position in the UK and doing a second postdoc in the US. His career trajectory took an unexpected turn when he was selected by the British Council to join a delegation of UK-based scientists at a Sino-British conference for young scientists in Guangzhou. Though he had no initial interest in even visiting China, much less moving there, he was impressed by the fast pace of development in China and found himself immediately hooked by its energy. “I think that if you try to be creative and are energetic and determined, then you are very well received in China. That is how I felt during my first visit and how I still feel most of the time now,” says Esteban, now a principal investigator at The Guangzhou Institutes of Biomedicine and Health (GIBH), Chinese Academy of Sciences (CAS).

While the flow of foreign scientists to China may still be a trickle, perhaps a more noticeable trend is the cadre of foreign-trained Chinese scientists who are returning to China, as well as doctoral students who are staying in China to continue their postdoctoral work. Although China’s postdoctoral system was founded only 30 years ago, in response to physics Nobel laureate Tsung-Dao Lee’s proposal to strengthen China’s research base, more than 110,000 postdocs have been trained since then. In part, this is due to China’s concerted recruitment efforts through such initiatives as the Thousand Talents Program, which was launched in 2008 at the urging of Peking University neuroscientist Yi Rao and Tsinghua University structural biologist Yigong Shi, both of whom left prominent positions in the US to set up their labs in China. In 2011, the related Thousand Young Talents Program was started in order to bring younger overseas talent to China. Both projects provide generous salaries and space for returnees to pursue their goals in China, creating a pool of researchers that has attracted doctoral students to return or stay for their postdoc research.

Indeed, with China’s booming economy, the government is investing more and more money in science and technology. R&D spending has grown steadily in China, with basic research funding increasing from $43.6 million in 2009 to $89.5 million in 2013. Although these figures are still dwarfed by spending levels in the US or Europe, the rate of growth is remarkable compared to the relatively stagnant funding situations in the west. This influx of cash is being felt by those considering a postdoc in China. For example, the CAS just started its President’s International Fellowship program this year, which includes generous support for young international scientists to do postdoctoral work at CAS-affiliated institutions for 1–2 years.

“One normally doesn’t need to worry about funding. Postdocs can apply for scholarships if they want, but it’s not essential. One can thus concentrate on research,” says Yang Yang, who did her Ph.D in the US but returned to China for a postdoc in Mu-Ming Poo’s lab at the Institute of Neuroscience (ION) in Shanghai. And as more and more returning scientists are bringing back cutting-edge ideas and approaches to China, the need to go overseas to do exciting science may be waning. Indeed, some postdocs view staying in China as an advantage in terms of building...
relationships with high-profile scientists who can help them with their careers. “I visited potential candidate labs and thus knew my postdoctoral advisor very well before I decided to join his group; it is relatively difficult to do so if I chose an overseas lab,” says Xin Xu, a postdoc at The Institute of Microbiology of the Chinese Academy of Sciences (IMCAS). “Another advantage is that I keep in close touch with my former research group, which means I could get some help from my doctoral advisor in case of need.”

Familiarity with the grants system and culture are also important factors. According to Yang Yang, “One gets to know how everything (by that I mean funding) works: it’s quite different from the US. And also adjusting to the scientific environment would take much less time.” Other practical concerns may come into play in the decision to stay in China. Due to the “one child” policy implemented in the late 1970s, most graduating Ph.Ds are only children and therefore have no siblings to stay behind and care for their parents. “When my parents could not go abroad, I would rather choose staying in China to take better care of them,” says Yang Yang. Moreover, when postdocs complete their training, they are eligible for a Residence Permit in desirable large cities like Beijing.

However, it seems that most Chinese researchers looking for postdoctoral training are still choosing to do it outside of China. “The main trend is that a large part of Chinese Ph.Ds are flowing to developed countries like the US, and China is more attractive to students from less-developed countries,” says Jingyu Lang, a Thousand Young Talents program investigator at Shanghai Institute for Biological Science. Unlike in the US or Europe, a postdoc in China is considered a degree and is tightly regulated by the National Postdoctoral Regulatory Commission. As CAS member Qilin Zhou points out, postdocs are important forces for science and technology innovation in developed countries, but in China, they are generally expected to complete their research in only two years, which may not be enough time to get exciting work off the ground. Thus, despite the growing postdoctoral force, many PIs are looking instead to grad students as the main engine of their research. While being one of only a handful of postdocs in a lab mostly populated by students and technicians may offer the opportunity to develop valuable team leader skills, concerns about being able to compete on the job market with returning scientists who have an overseas postdoc on their resume still dominate for many. For instance, although Xin Xu chose to pursue a postdoc at IMCAS, he plans to go abroad for a second postdoc to enhance his competitiveness.

Nonetheless, many are optimistic about the future. According to Yang Yang, “I could only say that it’s a great time to be working in China as a young scientist, with all the support and opportunities, and that I never regretted coming back.” Lorenzo Finci is applying for another postdoctoral fellowship in China and is eager to see what opportunities are ahead of him. Miguel Esteban notes that the national funding bodies of China are currently being reshaped and that programs tailored to foreign scientists will be created soon. In his view, focusing more on attracting promising foreign researchers at the postdoc or young faculty level, when they have the energy and determination to innovate and establish their careers, may be a better strategy for China’s future scientific development than attracting well-established professors, provided that these young researchers are properly supported after they achieve success in their first few years in China.

Ling Wang
Beijing, China
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