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HEAD EAST,

FOREIGN SCIENTIST

China is offering cash and prestige to lure expat academics in the sciences, but cultural barriers and fear of the unknown are keeping many away

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When Italian physicist Giulio Chiribella came across a faculty job opening in a newsletter in 2011, he had no idea that Tsinghua University, a school he had hardly heard of, would be where he took his next step into the magical world of quantum mechanics.

Then a senior postdoctoral fellow at a Canadian institute, Chiribella was struggling to find a tenured position in Europe or North America. But when he arrived in Beijing for the job interview, Tsinghua surprised him with a long list of research projects and a class of curious undergraduates keen for his lectures on quantum information theory.

"I was struck by the enthusiasm and the desire to grow," Chiribella said. "It was a feeling that people value you and need you."

Eager to transform the world's factory into a hi-tech economy, China is targeting not only returning Chinese but also foreigners to boost its scientific capabilities.

But despite the money and prestige being offered by Beijing, the journey to the East has yet to become a mainstream choice for global scientists. Cultural barriers and a lack of confidence in the country's academic system are keeping most young scholars away.

Chiribella joined Tsinghua as an associate professor in 2012 through the state-sponsored Thousand Talents programme, which offered a 2 million yuan (HK\$2.3 million) research grant, a 500,000 yuan personal award and medical and housing benefits.

With the support, Chiribella's team at Tsinghua discovered the



It was a feeling that people value you and need you [at Tsinghua University]

PHYSICIST GIULIO CHIRIBELLA (ABOVE)

phenomenon of "quantum super-replication".

And during his time in the capital, he met the woman who would become his wife, a computer scientist from Zhejiang (浙江) province.

However, Chiribella decided to leave for the University of Hong Kong last year after fulfilling the Thousand Talents' requirement of working full-time on the mainland for three years.

The 36-year-old had doubts whether China's evolving tenure system, which was introduced only about a decade ago, would offer him a stable career path.

"There is no previous experi-

ence on how this works, what are the criteria and what are the guarantees that you can get," Chiribella said. "It was not clear to me what was the next stage."

His inability to learn Chinese was another irritant. Under great pressure to deliver scientific breakthroughs, he had to abandon plans to explore the local language, customs and attractions.

The busy scientist called his failure to blend in with Chinese society "the Great Wall effect"—he was so occupied with research work that he never found the time to visit the Great Wall.

He ended up depending on his wife for even simple daily chores such as getting groceries or paying electricity bills, which eventually led to the decision to move to a city where English was more widely spoken. "I needed to reclaim my independence in everyday life," Chiribella said. "It was not a dignified way to live."

Chiribella would have been someone Beijing wanted to stay. The Thousand Talents programme has convinced thousands of Chinese educated abroad to return home, but the government thinks it needs to do more to close the gap with established science powers.

A scheme under the programme was introduced in 2011 with the goal of recruiting 500 to 1,000 top-notch non-Chinese experts in 10 years, promising each recruit a research grant of 3 million to 5 million yuan and a 1 million yuan personal award.

Another scheme targeting academics under the age of 40 also covers foreigners, offering each of them 1 million to 3 million yuan in start-up funding and a 500,000 yuan personal reward.

But the heavy investment has led to only moderate progress.

About 300 top-level foreigners had been recruited by last year, according to official data. And in the young talent scheme, most places were still being filled by mainlanders returning to China.

Only two Western names ap-

peared on the Thousand Talents list of 183 young recruits in 2013, while the list of 558 recruits this year contains 546 Chinese names, 11 Western names and one Japanese one.

Zach Smith, an American scientist specialising in biomedical optics, said the competition for jobs and funding in the United States was "outrageous", but not many researchers were aware of the opportunities in China.

Smith joined the University of Science and Technology of China (USTC) last year with his Chinese-born wife. She is also a scientist, and works in the same field.

It would have been difficult for them to find jobs at the same institution in the US, Smith said, but the research-oriented university in Hefei (合肥), Anhui (安徽) province was more than willing to have them work together in the laboratory, developing next-generation tools for disease diagnosis.

The 3 million yuan start-up funding Smith received was double the best offer he got in the US. "I think some people in Europe or the US still have this



Illustration: Henry Wong

If you can get these pioneers to come ... they set a beacon for the others

JAY SIEGEL, U.S. CHEMIST

2014, Beijing aims to establish about 20 science or engineering schools run by foreign scholars in the next five years, with Siegel's school one of the models, according to the State Administration of Foreign Experts Affairs.

Several other faculties in the scheme, including a medical science school in Zhengzhou (郑州), Henan (河南) province, and a materials science school in Wuhan (武汉), Hubei (湖北) province, have also hired non-Chinese deans.

Siegel said the foreign-led administrations would play an essential role in boosting young scholars' confidence in pursuing an academic career in China.

"In chemistry, we have the phrase 'like dissolves like'," he said. "If you can get these pioneers to come not just as members, but leaders, then they set a beacon for the others."

"People will say: 'If Jay Siegel can do that, I can do that.'"

But before everything clicks, pioneering foreign academics have to cope with some day-to-day challenges.

Compared to their native countries, China has a complicated bureaucracy with fast-changing rules, as well as hierarchical interpersonal relationships, Western scientists say.

And foreign deans have to learn to work with the Communist Party committees that are set up at every mainland school and institute.

Alberto Macho, a biologist at a Shanghai institute run by the Chinese Academy of Sciences, said purchases of lab chemicals and equipment from overseas were often delayed because of tedious bureaucratic procedures.

While he enjoyed the vibrant atmosphere of Shanghai, the 35-year-old Spaniard said he had needed to adapt to its massive crowds, including some "extremely selfish individuals".

Chiribella remembers having stomach problems during his first trip to Beijing. At the hospital, he saw some "dirty samples" thrown on the floor.

"Then my brain went very fast, imagining myself dying in this hospital," he said.

However, when he later started working in Beijing, he realised that Chinese hospitals might look terrifying but were "actually quite professional".

But there was one thing he could not countenance — having his children exposed to the capital's notorious smog.

He and his wife put parenting plans on hold until they moved to Hong Kong last year. Their son was born at Queen Mary Hospital in May.

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China plans to set up roughly this many science or engineering schools run by foreign academics

the language, maybe I won't like the food, maybe I won't like the people, or the research institutes are not well-known in Europe — because it's China."

The Chinese government now realises it takes more than funding to attract overseas talent. One solution is to have foreigners run research institutes and science schools, hoping they can create expat-friendly environments.

Californian chemist Jay Siegel, who has worked in the US, France and Switzerland, was one of the first non-Chinese to take charge of a science faculty in China.

After becoming the dean of the school of pharmaceutical science and technology at Tianjin University in 2013, Siegel made English the official language for teaching and research.

With the language barrier removed, he brought in about 30 full-time foreign scholars and several guest professors, including 2016 Nobel chemistry laureate Fraser Stoddart.

Siegel's success was soon noticed by the central government. Under a trial scheme launched in

mindset that the good things that are coming out of China may be more the exception than the rule," he said. "In my opinion, at least at USTC, it is much more the rule than the exception."

Fear of culture shock also made some young researchers in the West hesitant about moving to China, Martin Stynes, an Irish mathematician working at the state-run Beijing Computational Science Research Centre, said.

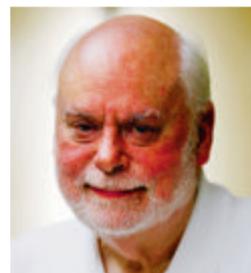
Stynes said China's achievements in mathematics were recognised globally, but he found it difficult to attract young mathematicians from Europe to join his team in Beijing.

"They felt coming to China was somehow taking a big risk," Stynes said. "Maybe I don't speak



[European academics] felt coming to China was somehow taking a big risk

MARTIN STYNES, IRISH MATHEMATICIAN



From left: Zach Smith with some students; Nobel laureate Fraser Stoddart; Californian Jay Siegel.

