



HIGHER EDUCATION

Biologist unveils China's first private research university

Venture aims to fill gap in higher education landscape

By **Dennis Normile**, in Hangzhou, China

Shi Yigong has never shied away from risky career moves. In 2008, the structural biologist turned down a \$10 million grant from the Howard Hughes Medical Institute in Chevy Chase, Maryland, for his work on programmed cell death and relinquished an endowed chair at Princeton University to relocate to Beijing, because, he says, he felt he could “play a much more important role in a rapidly transforming country.” His latest move may be even more audacious: Shi, 50, has resigned as a vice president of one of China's premier institutions, Tsinghua University in Beijing, to launch a small university here in southeastern China, near Hangzhou's scenic West Lake.

“It's time for China to experiment with something new and exciting in higher education,” Shi says. Westlake University, which Shi is pitching as the nation's first private research university, will focus on natural sciences, medical sciences, and engineering. By the end of the month, formal approval from China's education ministry is expected, Shi says, and construction will begin in March.

Observers say Westlake could become a beacon on China's higher education landscape. In contrast to public universities, which answer to government bureaucrats and are struggling to educate burgeoning ranks of undergraduates, Westlake is intended to be nimble, and focused on research.



Shi Yigong thinks private research universities can drive innovation.

“Westlake University has a golden opportunity,” providing it can attract top-shelf faculty and maintain its autonomy, says Gerard Postiglione, a higher education specialist at the University of Hong Kong (HKU) in China. “China needs to develop a viable model for a private research university that can drive economic restructuring,” he says, as the nation looks to ease the economy's reliance on low-end manufacturing.

In 1995, China had just over 1000 universities and colleges and fewer than 6 million students. By 2016, the numbers had swelled to nearly 2600 institutions with close to 30 million students, and enrollment is expected to climb higher as a growing percentage of high school graduates pursues higher education. So far, the expansion has not undercut China's top universities, Postiglione says. Government programs that concentrated resources on top-tier schools “really led China's universities to world-class status.”

But Shi believes Westlake will show that private research universities could be a valuable source of innovation. China has 400 or so private universities focusing on undergraduate education, but “their contribution to society and to science and technology is way below what they could be doing,” he says.

In March 2015, he and six colleagues outlined their vision for Westlake in a letter to Chinese President Xi Jinping. After a nod of approval from “top Chinese leadership,” Shi says, the group lined up support from

An artist's rendition of Westlake University. Campus construction is due to begin next month.

Hangzhou and Zhejiang province, which provided land and promised to build the campus and contribute to research expenses for the first 5 years. Philanthropists have pledged \$400 million to the Westlake Education Foundation, an endowment that will cover the university's operating expenses.

Unlike public universities in China, which have government officials as their overlords, Westlake will be governed by a board of directors. That will give it more flexibility than China's public universities have in selecting top officers, staffing departments, and setting strategic directions, Postiglione says. “Private universities tend to be more nimble.”

Shi, who wouldn't say whether he will maintain a lab at Tsinghua while serving as Westlake's first president, aims to make the new university small and elite. He anticipates that in about 10 years, Westlake will have a student body of 5000, including graduate students—the size of Princeton—and a faculty of 300, similar to that of the California Institute of Technology in Pasadena. The goal, Shi says, is “to educate the next generation of the brightest students to serve the nation and the world.”

Theoretical physicist Li Jian, Shi's first recruit, says he shares that “bigger purpose.” Joining Westlake's faculty is a “once in a lifetime” opportunity, says Li, who earned his Ph.D. at HKU and did postdocs in Switzerland and at Princeton. Shi (who did his own graduate work in the lab of Jeremy Berg, *Science's* editor-in-chief) says Westlake is hiring without regard to nationality and will match salaries, benefits, and support packages offered elsewhere. So far, however, all of the 30-plus faculty members are Chinese.

One gap in Westlake's plan is an absence of nonscience courses. Emphasizing science and engineering “can produce people who know formulas, but innovation comes from scientists who have some background in the humanities and social sciences,” Postiglione says. Shi says Westlake will add those departments “perhaps in 5 to 10 years.”

Another concern is whether Westlake can maintain its autonomy. The Communist Party might insist that Westlake follow a “socialist orientation” and require the courses on Marxism and Communist Party thought that all university students in China are obliged to take, says Huang Futao, a higher education expert at Hiroshima University in Japan. Shi says he is prepared for that. Westlake “must be principally guided by the central government and the Communist Party,” he says. If anyone presumes that will be an impediment to making Westlake a world class university, he says, “we will prove them wrong.” ■

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