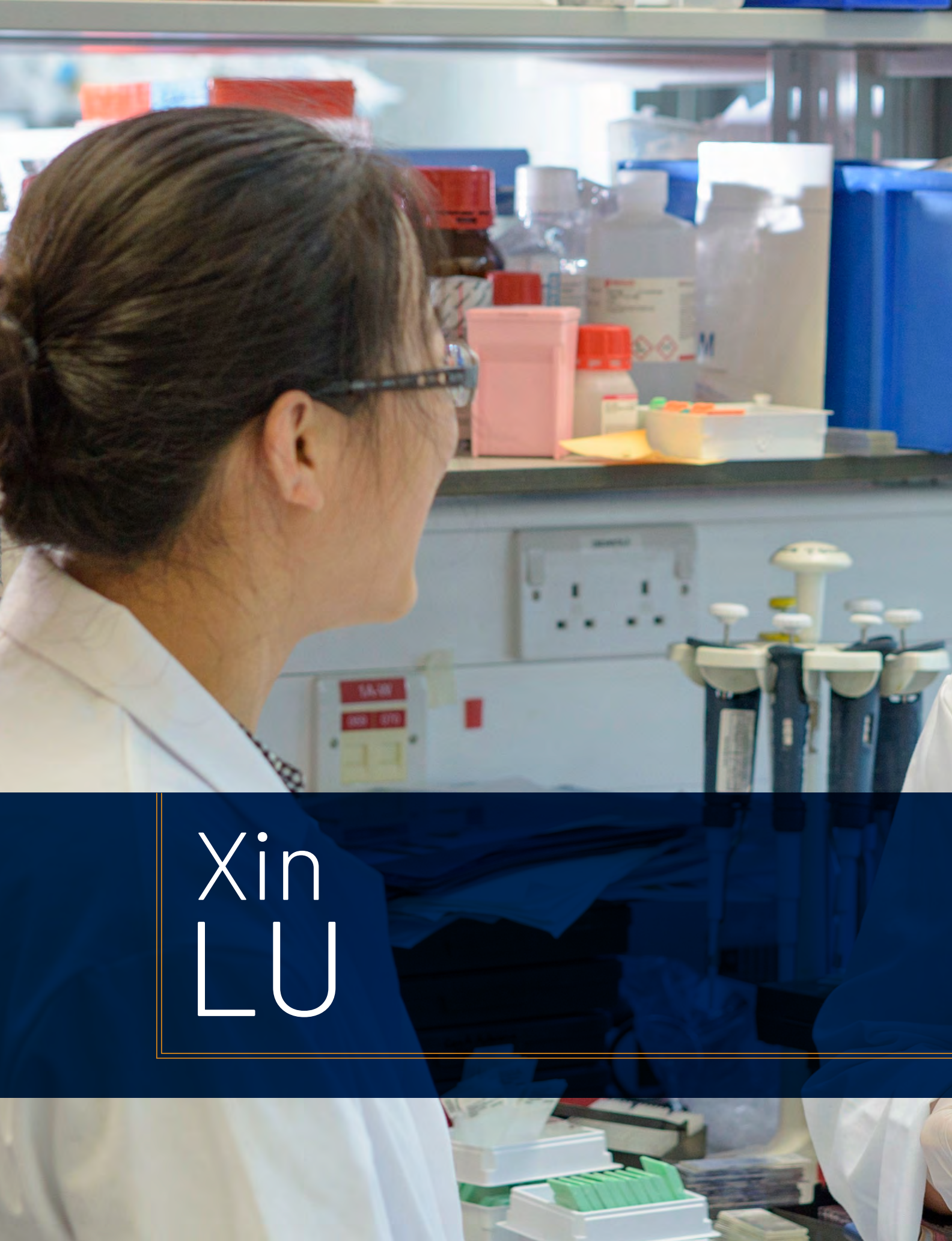
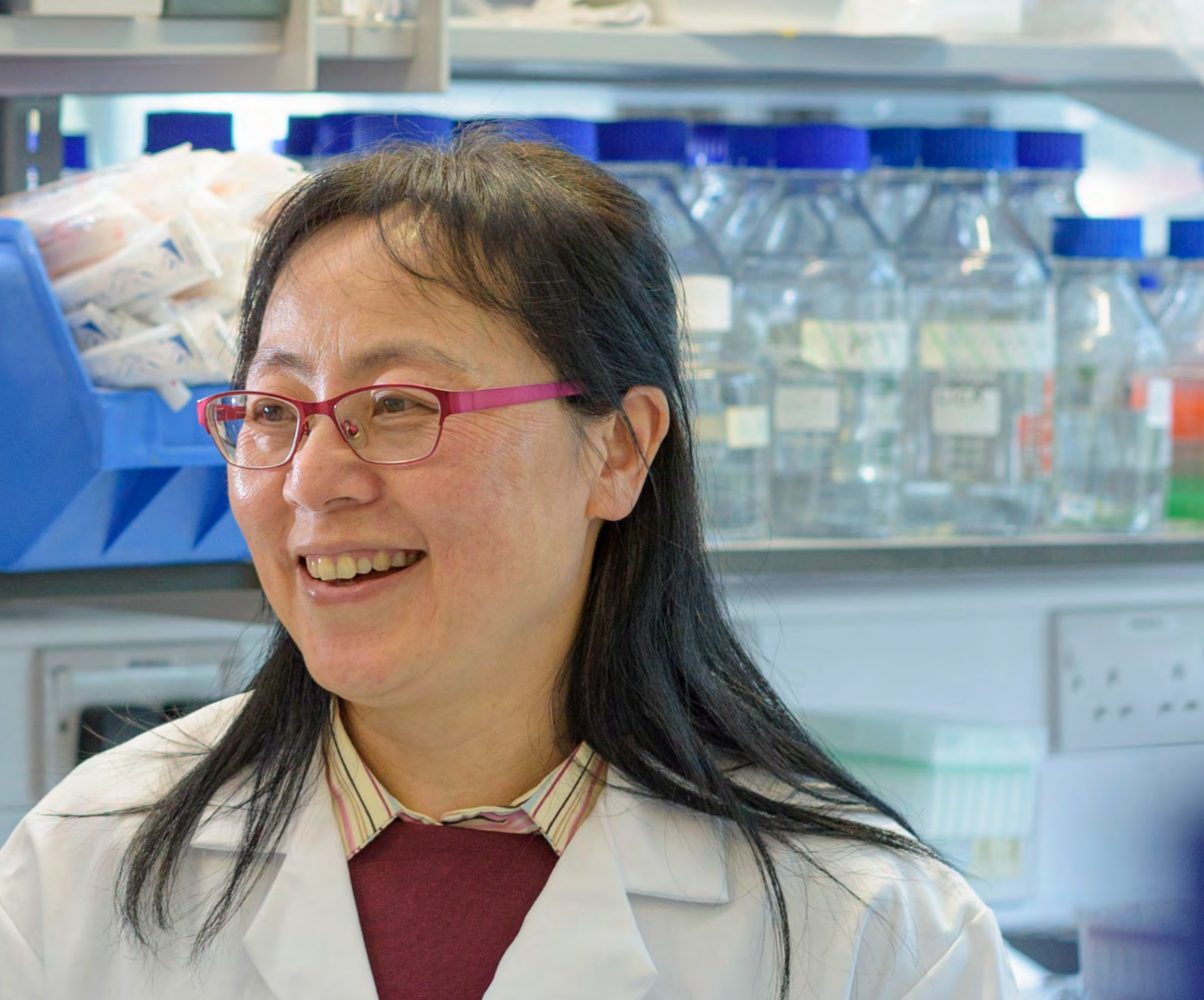




Xin
LU



The Ludwig Oxford Director on the improbable start of her career, its steep trajectory, the mentors who helped make it possible and the lessons she learned on persistence and scientific freedom that she passes on to trainees.



When Xin Lu first arrived in London, it was only supposed to be for a year.

The plan was for her to complete her scientific apprenticeship and then return home, to China, where she was a research assistant at a cancer institute in Beijing.

"It was not planned for me to stay in the UK until now," says Lu, who is the director of the Ludwig Institute for Cancer Research Oxford Branch.

Lu's supervisor and former graduate advisor, Min Wu, had encouraged members of his group to apprentice in labs across Europe and the U.S.—a fairly radical concept in China at the time. "Many supervisors wouldn't encourage people to do that. You don't want to lose them after so much training. But he recognized the importance of science outside of China and encouraged us to go," says Lu, who is best known for her identification of the ASPP family of proteins and characterization of their role in regulating the tumor suppressor gene p53, which is mutated in a wide range of cancers. Defects in ASPPs also cause developmental diseases including brain abnormalities and sudden cardiac death.

The bewildering plane ride from Beijing to London, which lasted almost 24 hours and included layovers in three countries, was Lu's first ever flight. When the plane finally landed at Heathrow Airport, Lu felt like she had been dropped on a new planet. Her English vocabulary was so limited that it took her two hours to buy toothpaste. And all the scientists around her seemed to be so much more accomplished.

Yet despite the challenges, Lu decided to stay, and she applied for a PhD student opening in Birgit Lane's lab at University College London. By then, Lu recalls, her



Xin Lu with Min Wu in 1987.

command of English had improved, but not by much. Her opening line at her PhD interview was "I am from China, and my (scientific) background is very bad, but I would like to do a PhD with you."

Lane did accept Lu into her lab, though, and would prove to be a supportive mentor. She helped select the research questions Lu would investigate, but then gave her the freedom to establish her own scientific approach. This scientific freedom continued to be encouraged when Lu did her postdoctoral work with Sir David Lane—one of the discoverers of p53—who was then at Dundee University in Scotland and was, more recently, scientific director of the Ludwig Institute for Cancer Research.



Xin Lu with “the three most important mentors in my scientific career.” From left, Sir David Lane, Birgit Lane and Min Wu.

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Lu says that when she first joined Birgit Lane’s lab, everything was so new that she didn’t realize at first how rare it was at the time for females to be PIs. She saw nothing amiss because in China, she grew up with the Communist slogan, “women hold up half the sky.”

Gender equality was also the norm at home,

where both Lu’s parents were doctors and Lu’s mother was a professor as well. Her graduate advisor’s lab in China contained a roughly even mix of men and women scientists, and there were more women than men in her lab during her PhD and an even mix of men and women scientists in the lab where she did her postdoctoral research.



Photo by Paul Wilkinson

Lu just thought that's the way it should be. "It never entered into my mind that men and women are different," she says. "You have to remember also that my English was pretty limited. It would take a few years before I sensed a difference."

It was only after she was leading her own research group that she began noticing that she was sometimes treated differently—like the company representatives who dropped by her lab to sell their wares and who would speak to her male students instead of her. "It makes you wonder, 'why did they have that reaction?'" she says. "Well, I'm a short, Chinese woman. They probably just never expected me to be the supervisor."

ON THE CUTTING EDGE

Lu grew up in Guiyang, China, in the late sixties and early seventies, during the Cultural Revolution. When Chairman Mao issued a call for the "Down to the Countryside Movement" that required young students from the city to be sent to the countryside to live, Lu knew she would never survive the intensive agricultural labor. So, she learned to play the violin, practicing every day for three hours in the hope that she could make a living as a musician.

When schools and universities that had been closed during the Cultural Revolution reopened, Lu changed course. She took the university entrance exam and was admitted

to Sichuan University, where she specialized in biochemistry—a subject she chose in part to avoid going into medicine like both of her parents. But she realized she really loved the discipline. “It was during the era when biochemistry was still quite new in China. It was considered cutting edge,” Lu says.

After completing her undergraduate education, Lu enrolled in a graduate program at the Cancer Institute, Peking Union Medical College & Chinese Academy of Medical Sciences, under the tutelage of cancer geneticist Min Wu. After receiving her master’s degree, Lu stayed on in Wu’s lab as a research assistant, where she worked for one year until her formative trip to the UK to learn about science beyond China.

FOSTERING SCIENTIFIC FREEDOM

Lu’s group at Ludwig’s Oxford Branch is focused on identifying molecular mechanisms that control cellular plasticity and suppress tumor growth.

In her own lab, Lu says, she tries to follow the examples set by her former mentors. As she said in a recent interview she gave to The FEBS Journal, “I give my lab members the freedom to develop the direction of their research projects, which is a vital skill for an independent research career.”

This approach requires a certain degree of self-confidence on the part of the student or postdoc—a confidence that comes more naturally to some than to others. “I don’t think it’s women-specific,” Lu says, “but I do think women have a tendency to more self-doubt and I think more of them may lack confidence compared to men.”

Lu, who is today also a professor of cancer biology at the University of Oxford, acknowledges she didn’t have that confidence when she started out. “I never thought I was good enough to do a PhD, let alone do a postdoc, let alone what I’m doing now,” she says. “But I just kept going.”

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That’s why the advice she always gives to new students is to never give up, reminding them that persistence and optimism are essential ingredients of a successful research career and citing herself as an illustration that opportunity exists for each one of them in their chosen fields of research.

Lu says she did have to deal with some of the challenges faced by the current generation of young scientists, such as searching for reliable daycare. However, “I think each parent should take 50% of the family responsibilities,” says Lu, who has two daughters. “But in a lot of societies, that’s not the case. Men are not supposed to do it. It’s a woman’s job. And that is a problem. Luckily, my husband did a lot more childcare when our children were really young. Without that support, I don’t think I could have done it.”

There were times during her career, Lu says, when she felt guilty that she couldn’t be more of a traditional mother. “Like they’ll have cake days, and you’re supposed to bake the cake and take it to school, but I had no time to do it. So, we’d always go to the supermarket to buy something,” Lu says.

But in hindsight, Lu thinks witnessing that may have been a good experience for her daughters, who are now both adults. “Reflecting back, they actually think it was a pretty good way of seeing how things can be done,” Lu says. “And they’re proud of me for what I was able to do.”