Taiwan may be her birthplace and America where she built her reputation. But Singapore will always be where Professor Jackie Yi-Ru Ying grew up.

Some 20 years after leaving for the US, the 36-year-old scientist has returned as the new woman at the helm of Institute of Bioengineering and Nanotechnology (IBN).

And it’s not all coincidence that her right-hand aide, director of administration Noreena AbuBakar, was a former classmate in Raffles Girls’ School.

“It was the best part of my life and I very much wanted to come back,” said Prof Ying of her childhood and early teen years in Singapore, from 1973 to 1981.

“In fact, I didn’t want to go to the US. I remember fighting with my father…all my friends were here.”

When she was 15 years old, her father, a Chinese literature lecturer at Nanyang University, uprooted the family of five and moved them to New York, partly because permanent residency status in Singapore was hard to come by.

The two school-friends kept in touch and when Prof Ying launched her own start-up venture in the US three years ago, she roped in Ms Noreena.

In America, Prof Ying thrived in the R&D world of chemical engineering. A multi-award winner, she was featured in the centennial issue of the Massachusetts Institute of Technology’s (MIT) Technology Review magazine as one of the world’s 100 young people likely to lead 21st century innovations.

She was involved in the Singapore MIT Alliance, before being headhunted by Agency of Science, Technology and Research’s (A*Star) chairman Philip Yeo for the top post at IBN.

“I have a strong emotional tie with this country,” said Prof Ying, with her slight tell-tale Singaporean accent. “I don’t know how to get around in Taipei but I know how to get around in Singapore.”

One of two women chiefs at the five research institutes under the Biomedical Research Council (BMRC), Prof Ying is also the youngest.

But she speaks with the experience of a mother of one when she expounds on the importance of balancing family with career.

“It’s very difficult for a scientist. I used to work 70 to 80 hours a week, on weekends and nights,” she said. “And we travel to disseminate information and understand what the industries want.”

She takes 15-month old Chan Hsi-Min on her travels. And, when she decided to start a family in 2001 after becoming a full professor at MIT’s chemical engineering department – the youngest to do so – she took her daughter with her to classes.

“I want to send a message to girls who want to study science and engineering that it is possible but it requires the woman to plan a lot better than the man.”

“We have a biological clock, which means that you have to decide what you really want to do. There’s very little room for us not making the right decision.”

Under Prof. Ying’s hand for barely a week, the IBN will be implementing a Family Friday programme where children can visit their parents at work on one Friday evening every month.

One of her immediate tasks will be to outline a research strategy based on Singapore’s strengths in engineering and the medical sciences. Already, she is persuading a number of international researchers, some of her students, to join the institute. She intends to generate commercial spin-offs from IBN’s research in the next five years.

“Most people know me by reputation.. I have a tough reputation and high expectations of my students,” she said.