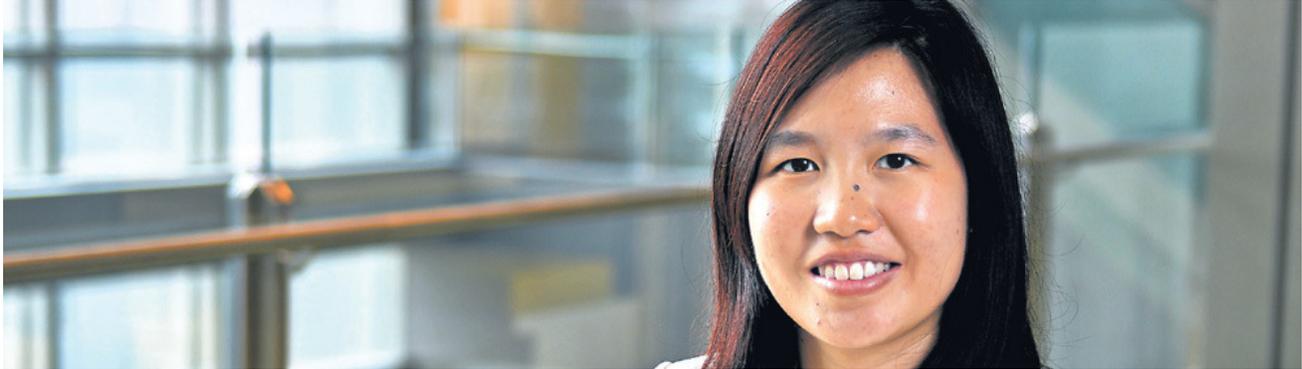


Down to earth



WHEN executive engineer Tung Qiao Yue was deciding which university degree to pursue, she was certain about one thing: It should not lead to a career that shackled her to a desk. She was also keen to practise her craft out in the field. Ms Tung found her calling at a local university's open house.

Civil engineering, she believed, would offer her the prospect of seeing through a project from the design stage — where it is conceptualised — to construction and to the finished product. It was not something that many professions could offer her. After two years at the National University of Singapore (NUS), Ms Tung found her interest veering towards geotechnical engineering, prompting her to apply for a scholarship.

She wasn't short on offers and accepted the one from the Building and Construction Authority (BCA). "I first learnt of the BCA Undergraduate Scholarship through one of BCA's talks at NUS," recalls Ms Tung, an executive engineer with the Deep Excavation & Geotechnical Department of BCA. "Not only were their terms attractive, but working in BCA would also offer a bird's eye view of the industry as it is the main policymaker and regulator of the built environment sector."

"I took up BCA's offer as I felt that it would offer me many career options and development potential," adds Ms Tung, 24. After four years at NUS, Ms Tung graduated with first class honours in June 2014. A month later, she started work with BCA in a department specialising in deep excavation and tunnelling projects, including basements and MRT stations.

Complex challenge

Geotechnical engineering is the science that explains the mechanics of soil and rock, and its applications to the development of humankind. "It is an area fraught with complex challenges set by nature, as we often cannot choose the site and soil conditions that we have to work with," says Ms Tung. "Yet, when done right, there is a great sense of fulfilment."

She adds: "An interesting aspect of the job is to see how man can harness machines so much bigger than himself to construct underground structures and spaces that can last many decades." But the road to graduation was not entirely smooth for her. Her parents had to work hard and make many sacrifices to put her and a younger brother through school. Then, her father died when she was in her second year at NUS, putting a strain on the family expenses.

Ms Tung says: "Fortunately, the BCA scholarship helped to relieve the burden on my mum. Not only did it cover the full tuition fees, but it also took care of my hostel fees and books. It would have also covered a student exchange programme had I chosen to go for it.

"Dad was proud to know I received the BCA scholarship. He was always equaliser and encouraged us to study hard so that we would have more opportunities to choose from."

Nurturing environment

Ms Tung stayed at Raffles Hall in NUS for the duration of her four-year degree course and says the university has a good environment that encourages inquisitive minds to constantly learn their craft.

The professors and teaching assistants were helpful, patient and passionate about their work and gave her a strong foundation in geotechnical engineering. She says: "Through courses that taught me about basic soil mechanics, earth retaining structures and pile foundations, my professors equipped me with the necessary basic theories and their applicability.

"More importantly, I was encouraged to continue learning and develop more in-depth knowledge in this area. This led me to constantly question and learn in the course of my work," she adds. At NUS, she was also able to pursue modules relevant to her studies and activities that piqued her interest. Ms Tung aims to obtain a Professional Engineer (Geotechnical) certification next, and she is banking on her more experienced BCA colleagues to guide her towards achieving it. So far, she has hit the ground running at BCA and is learning from the many projects assigned to her. "A couple of the MRT station construction projects are under my purview," says Ms Tung.

"On top of that, there are other deep excavation projects under my charge as well. The safety of the structure and that of the public is always the first and foremost priority. I hope to see these projects completed safely and quickly, while keeping inconveniences to the public to a bare minimum."

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