

Boosting Singapore's security

The Defence Science and Technology Agency (DSTA) Scholarship enables careers at the forefront of defence technology

by mike lee

Advancing electronic warfare

Having always been interested in technology and innovation, Mr Goh Teck Lun decided to secure his dream career with the DSO National Laboratories (DSO), through the Defence Science and Technology Agency (DSTA) Scholarship.

He excelled at Nanyang Technological University, completing his undergraduate studies in electrical and electronic engineering in three years, and then a Master of Science in his fourth year.

Mr Goh, 28, began working with DSO in 2010. He is now a Member of Technical Staff at the Electronic Systems Division, where he previously did his scholarship internship, which provided him insight to the nature and challenges of a defence engineer's work.

He says: "A defence engineer has to have a keen passion for technology, and be able to work comfortably in multi-disciplinary teams to develop systems."

"With the continuous advancement of technology, defence engineers also have to be keen learners. This allows us to exploit technological advances by incorporating them into the systems and capabilities that we develop."

His current role revolves around the design, development and integration of prototype electronic and microwaves modules into an electronic warfare system.

Electronic warfare is a crucial component of Singapore's defence forces.

He explains: "By exploiting the opportunities that are inherent in the radio signals used for applications such as communications and radar, electronic warfare will provide fellow countrymen defending our country with valuable battlefield information enhancing their survivability and mission success while denying the same for the enemy."

Mr Goh notes that DSO has a culture of knowledge sharing, and senior colleagues are always willing to share their experiences.

There is a strong emphasis on innovation. For instance, every staff member has an allocation of time and funds, apart from the project's budget, to develop and test new ideas.

Staff development includes annual



Mr Goh (left) benefited from DSO's knowledge sharing culture. Mr Chan (right) says simulation contributes to Singapore's overall defence capability. PHOTOS: CHONG JUN LIANG

training budgets for external courses or even overseas conferences and seminars. Additionally, in-house training courses extend from technical courses to those on programme management and personal development.

"If you love to challenge the boundaries of science and technology, and want a career that will make a meaningful difference to Singapore's defence and security, the DSTA Scholarship may just be what you're looking for," he says.

Stimulating simulation

Mr Jerald Chan, 29, picked the DSTA Scholarship as it matched his interest in technology and desire to contribute to Singapore's defence.

He studied computer engineering at the University of Michigan, graduating with first class honours, and then earned his

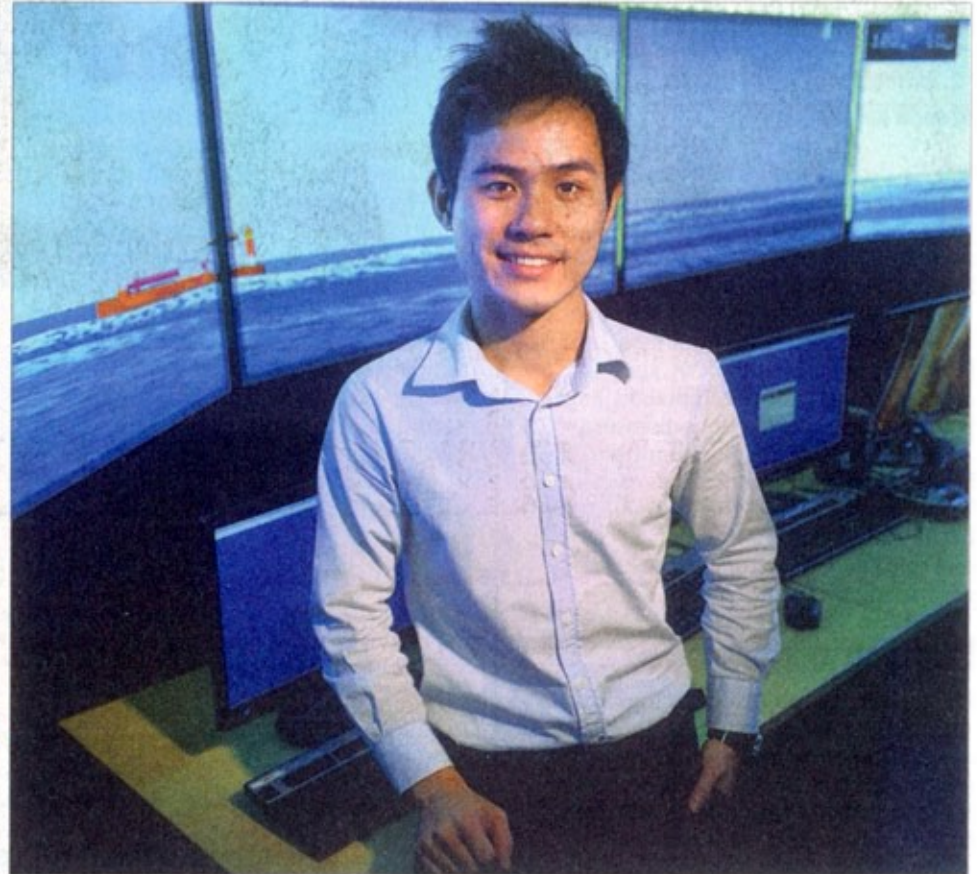
Master of Science in engineering management at the University of Southern California in the United States.

Living and studying overseas has made him more mature and independent. "Being away from home and with no one to monitor my progress, I had to train myself to be highly self-motivated and disciplined in staying focused on my academic goals," he says.

Fellow course-mates inspired him too, with their passion for learning that took them above and beyond course syllabi.

An internship at DSTA provided him first-hand insights into the organisation's diverse business areas, and also gave him a taste of the working culture in DSTA, which focuses on continual learning and knowledge sharing.

He returned to Singapore in June 2009 and began working as a defence engineer in the modelling and simulation team of the



C4I Development Programme Centre.

Today, Mr Chan is a development lead at the centre, managing software development for a simulation trainer for the Republic of Singapore Air Force (RSAF). The software generates scenarios to help RSAF system operators train more efficiently and effectively.

"There are many types of simulation models with different functions and features," he says.

"Using these models, we are able to emulate physical motion and behavioural patterns, and analyse how entities behave in the real world."

"What I like about being in modelling and simulation is that it exposes me to different technology domains, including weapons, radar, ships and aircraft."

Simulation contributes to Singapore's overall defence capability. It is an accurate and realistic method of assessing the performance of a defence system under different

operational scenarios, he explains.

It also allows defence engineers to propose improvements to system design, to achieve better synergy and integration among systems.

On the open learning and knowledge-sharing culture at DSTA, Mr Chan recalls that as a junior engineer, his teammates were patient with him and gave him much encouragement and guidance, thereby building his confidence and abilities.

He appreciates DSTA's strong support to understand and realise staff aspirations. For example, a comprehensive staff development framework is in place to holistically develop technical, leadership and management skills.

His advice to those who love science and technology, consider themselves team players and are looking to give back to the nation, is to "follow your heart, and go for the DSTA scholarship".