



30 March 2016

Fact Sheet

YOUNG DEFENCE SCIENTISTS PROGRAMME

The Young Defence Scientists Programme (YDSP) is an initiative by the Defence Science and Technology Agency (DSTA) and DSO National Laboratories (DSO). Established in 1992, the YDSP nurtures students' interest in defence science and technology by providing a diverse range of activities including customised programmes, camps and projects.

The YDSP experience also provides students with insights into the careers of professionals in the Defence Technology Community, and recognises top young minds through the YDSP Scholarships and YDSP Academic Awards.

Research@YDSP

- 102 students from 12 Integrated Programme (IP) schools participated in 66 projects under the Research@YDSP last year.
- The Research@YDSP is a four-month project attachment, which offers students the chance to learn experimental techniques and experience laboratory work under the mentorship of staff and professionals in DSTA, DSO and other local establishments, such as the National University of Singapore, the Nanyang Technological University and research institutes.
- The project – **“Ship Wake Detection in SAR Imagery”** under Research@YDSP was presented at the Congress. Project members comprised Rachel Qing Pang (Raffles Girls School) and Walter Kong (Hwa

Chong Institution). The project mentors were James Ang and Foo Jit Soon from DSO National Laboratories.

- Another Research@YDSP project – “**Gesture Control Technology**” was also showcased at the YDSP Congress exhibition. Project members comprised Pee Yong Han and Sandheep Ransilu Piyasanka (both from Victoria School), and Toh Ya Wei and Tay Ya Jun (both from the NUS High School of Mathematics and Science. The project mentors were Bryan Ng Kin Loong and Sharon Ang Mei Ling from DSTA.

YDSP Science & Technology Camp

- The YDSP Science & Technology Camps aim to introduce science and technology to students through hands-on science workshops, project visits and competitions. Two five-day camps were held in June and in November/December 2015:

(1) **Arduino Programming**. Students were introduced to Arduino Programming, and learned to build digital devices and interactive objects that sense and control the physical world using a simple microcontroller board. The winning team of the competition comprised Quek Kai Yang Eugene (Catholic High School), Silas Yeo Shuen Yu (Hwa Chong Institution), Ying Fangfei Anna (Raffles Girls' School (Secondary)) and Athena Leong Yin Huey (Singapore Chinese Girl's School). This camp was conducted for 55 IP Year 2 students.

(2) **Underwater Robotics**. Two underwater robotics camps were conducted, where students learnt to design and build remotely operated vehicles to navigate underwater. Besides learning about remotely operated vehicles, students were also exposed to areas such as electronics, water-proofing techniques, programming and serial communication. 74 students from 18 schools participated in the YDSP S&T Camps from 30 November to 4 December 2015.

The winning IP2 team of the competition comprised Tan Hsien Rong (Anglo-Chinese School (Independent)), as well as Kenneth Hoh Jia Khai, Ng Zeming Michael Eugene, Ng Zewei David Ethan and Tan Guan Jie, Sherard (all from Catholic High School). The winning IP3 team of the competition comprised Patricia Mosqueda Loi Hui Yi and Tay Jie Qi (both from St. Nicholas Girls' School), and Jonathan Koh Ern Juan, Teo Hong Ray and Wayne Yeo Wei Zhong (all from Victoria School). 74 students from IP Years 2 and 3 participated in both camps.

World of Science

This informative series of lectures and laboratory sessions exposed students to advanced science topics beyond the school curriculum, such as signal processing, aerodynamics, artificial intelligence, cryptography, photonics etc. Joshua Lim Yueh from Anglo-Chinese School (Independent) shared his experience as a World of Science participant at the Congress.

YDSP Scholarship

- 32 students received the YDSP Scholarship this year. The scholarship recognises academic excellence, and an interest in Science & Technology in particular. It is open to science students in IP Year 3.
- All applicants must be Singapore Citizens or Permanent Residents, with good records of academic results and a passion for science and technology.
- The scholarship is tenable for two years. Each scholar will receive S\$500 in IP Year 3 and another S\$500 in the subsequent year, should they continue to excel in their studies.
- Recipients are not required to enter into a bond with DSTA or DSO upon completion of their studies. They can be concurrent recipients of other bursaries and scholarships.

YDSP Academic Awards

- 75 students received 83 YDSP Academic Awards this year. The award recognises outstanding academic achievements in Mathematics and Physics, and is presented to the top students in Mathematics and Physics from Integrated Programme (IP) Year 3 to Year 6.
- Each recipient will receive S\$200 in cash.

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