

SPACE ACADEMY SINGAPORE



OBJECTIVES

- To train young enthusiasts and students who are keen to explore the science and technology of space flights.



- To interact with visiting NASA engineers, who are a great example of the kind of work you could be involved in if you do well in math and science.

EXPERIENCE SPACE

❑ **The programme provides an invaluable learning experience for students, who will experience the excitement life of as an astronaut.**

In this 5-day interactive camp, which will include lively lectures by former NASA Engineers and site visits, students will learn:



- ✓ **Human Effect and Challenges in Space Environment**
- ✓ **Astrodynamics & Robotic Exploration Module**
- ✓ **Satellite Navigation, Location & Tracking**
- ✓ **Fundamentals of Rocketry**
- ✓ **Unmanned Systems Module**
- ✓ **Arctic Survival / Extreme Environment Training**

+ EXPERIENCE SPACE



+ SPACE ACADEMY SINGAPORE



Among the activities of the camp was navigating a robotic "Mars rover" (left) through a "canyon" made of chairs. The picture on the right shows (seated, from left) students Nathanael Wong, 15, Annie Sinh, 17, and Jethro Lim, 14, performing the task in a separate room with the assistance of instructors Joey Shelton (standing, left) and J. Marc Verhage (standing, right). ST PHOTOS: ADAM RAUF

Beaming up starry-eyed kids

Academy offers insight into aerospace studies

By GRACE CHUA

AS A child growing up in Ho Chi Minh City, Annie Sinh spent evenings peering through her uncle's telescope and soon discovered a passion for astronomy.

Last week, the bubbly 17-year-old Anglo-Chinese School (International) student got to attend Singapore's first Space Academy, where she learnt about life as an astronaut, shivered through an "Arctic Survival" session, and finished off "shooting" her fellow campers in a paintball game.

But the camp, organised by the Singapore Space and Technology Association, aerospace consultants TriVector International and the Science Centre Singapore, was not all fun and games. During classes, students learnt about basic rocketry, robotic navigation, and even the physics of satellite orbits. And they put their knowledge to the test by launching rockets, analysing satellite data and helping a robotic "Mars rover" navigate through a "canyon" made of chairs.

In lessons that started at 8am

each day, the 15 boys and three girls aged 14 to 19 sat through lively lectures, asking questions like "Why does a satellite orbit the Earth that way?"

The students were from seven schools, including Raffles Girls' School (Secondary), the Overseas Family School and ITE College Central (Yishun).

They were selected from about 40 applicants, based on academic performance and an interview.

The programme fees were \$850 to \$900, though some students were subsidised fully or in

part by their schools.

The camp was organised to boost students' interest in engineering and science, and give them a taste of a realistic aerospace/astronautics curriculum, said Mr Jonathan Hung, president of the Singapore Space and Technology Association.

The entire camp cost about \$120,000 to organise, he added.

The organisers hope to hold another Space Academy in December. After that, they aim to hold at least four a year, venturing beyond student programmes to corporate training programmes.

After Space Academy, the participants plan to put their new learning to good use.

National Junior College's Atreya Shankar, 17, said he was interested in a career in the space industry.

Annie, who counts choir and dance among her co-curricular activities, had more immediate plans. "My school's quite new and doesn't have a lot of CCAs - after this I might propose astronomy as a new one."

asia@phg.com.sg



4th December 2010

Instructor Teo Meng Hue (left), 34, watching over Anglo-Chinese School (Independent) student Koh Ying Wei, 15, as he fixes nuts and bolts on a plastic board underwater. Astronauts use this exercise to simulate making repairs in space.

Aspiring astronauts get to 'float in space'

By LESTER KOK

IT WAS the equivalent of a total space immersion programme for a group of students aged between 15 and 20. Literally.

This week, 26 aspiring astronauts got to experience weightlessness while attending the Space Academy Singapore programme.

They plunged 4m into a Naval Diving Unit (NDU) pool and secured nuts and bolts onto a plastic board, guided by diving instructors from the NDU and former National Aeronautics and Space Administration engineers.

This is exactly the kind of training astronauts receive before embarking on a space repair mission.

The exercise, which was part of an intensive five-day programme that ended yesterday, was held at the Ngee Ann Polytechnic under the watchful eyes of space engineers and scientists.

Organised by the Singapore Space and Technology Association (SSTA), it was the second programme of a series, though the first to simulate weightlessness. The first one was held in June.

Other activities included workshops on astronautics and satellites, launching bottle rockets and

piloting Mars rovers.

The camp was not cheap, costing the 35 participants \$850 each, and the SSTA about \$150,000 in all. There will be four more such camps next year.

Speaking at the closing ceremony of the camp yesterday, the Defence Minister's chief defence scientist Quak Tong Boon said he was heartened to see such strong interest in space among the young. Mr Quak, who was the guest of honour, said the global aerospace industry had estimated revenues of US\$200 billion (\$260 billion) this year and added that there would be "many opportunities" in Singapore.

SSTA president Jonathan Hung said the camp gets the students "into the field", imparting practical skills they can use in the future. He added that an advanced camp is in the works to help Singapore's "future rocket scientists" sustain their passion.

BEST ACADEMY GRADUATE – SAS I



As space exploration was always my fascination since young, the 1st Space Academy Singapore was truly an eye opener for me. Working under the guidance of experienced NASA engineers and scientist was a rewarding experience... I intend to work hard and further consolidate my interest in space and build on it. *Smrithi, Raffles Girls' School 1st SAS Best Academy Graduate*

Smrithi is currently in USA Huntsville, Alabama on a 1 month internship!

+ FACULTY

- The faculty comprises of former NASA Engineers, who will fly down to Singapore to conduct the program in its entirety



CAMP DETAILS

Age Group: 13 to 17 yrs

Duration: 5 Days

Dates: 13 June – 17 June, 2011

Price (Land Package): INR 83,900



(INR 55,000 to confirm registration, while the rest will be paid prior to travel)

Limited Seats : For first 30 students only!

INCLUSIONS / EXCLUSIONS

INCLUDED

- ✓ 5 days Camp Fee, and Space Camp Kit
- ✓ Accommodation at hotel Ibis, Singapore or similar; all transfers to venue including airport transfers, and Site visits as per programme
- ✓ Meals: Breakfast & Lunch (Dinner provided as per choice at an additional cost)

EXCLUDED

- ✓ Airfare: Extra as per actual (Cost of the airfare may vary depending on availability and choice of Airlines)
- ✓ Visa processing fees, and medical insurance fee
- ✓ Cost of additional consumables such as beverages or any items of personal nature, etc.

Thank You!

