

# 싱가포르 국립대의 국제 여름 엔지니어링 캠프 안내문

■주제: 우주항공 기술 및 응용

(Exploring New Space Technologies and Applications 2018)

■대상: 1, 2학년 공대 또는 자연대 학생 (3, 4학년도 가능)

■기간: 2018. 7. 9(월) ~ 7. 20(금) (2주간)

■체류: 기숙사 (University Town) - 1인 1실

■비용: 교육비(숙박비 포함) 전액지원, 항공료 및 식비등 자체경비는 학생부담

■사전 지식: 고등학교 수준의 과학 지식

■기타

- 싱가포르 국립대 (National University of Singapore) 는 세계 QS 랭킹 15위의 최우수대학
- 최고급 기숙사, Fitness Center, 수영장 시설 제공
- 다양한 활동, 연구소 방문, tour 프로그램 포함



작업실



기숙사



구내 식당가 (한국식당 있음)



자료실

# Summer Programme (9 – 20 July 2018)

## Exploring New Space Technologies and Applications

### @ National University of Singapore

#### Programme Outline

In this programme, we will cover some basic knowledge of satellite applications, satellite motions in space, different types of satellite orbits, mission simulations, functions of satellite systems and subsystems, and design qualifications and philosophies. You will work in groups to discuss mission planning and satellite design. You will have the opportunity to construct the mockup of your own satellite using 3D printing and other construction materials.

Besides the technical programme, we will also conduct a campus tour, visit to Satellite Technology and Research Centre (STAR) and Center for Remote Imaging, Sensing and Processing (CRISP). A Singapore city tour will also be arranged.

#### Who Should Attend?

This programme is suitable for any budding engineer or scientist who may be interested to discover space technologies. No pre-requisite knowledge is expected other than some high school science.

#### When will this Programme be Conducted?

**Time:** 2 weeks, from 9-20 July 2018

**Venue:** Engineering Design and Innovation Centre,  
Block E2A, 5 Engineering Drive 2,  
National University of Singapore, 117579

**Accommodation:** University Town, NUS

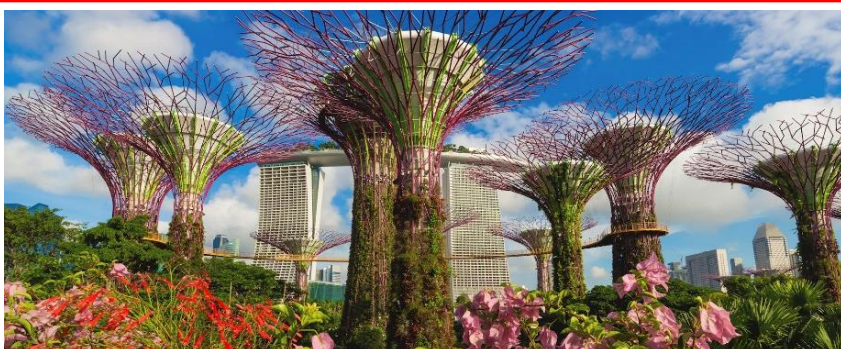
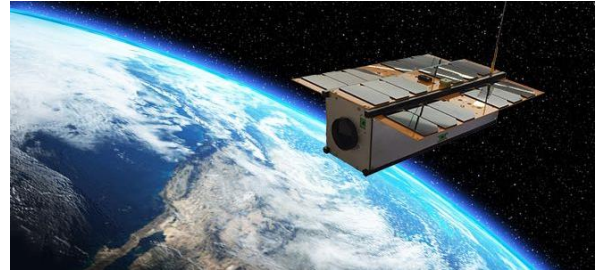
**Cost:** SGD 1200 excl travel costs, incl accommodation  
SGD 1100 (Early bird before 1 June 2018)  
The above cost is for non-air conditioned rooms.  
Air conditioned rooms may be arranged for SGD100 more.

**Contact:** Ms Rosanna [engrsmu@nus.edu.sg](mailto:engrsmu@nus.edu.sg)

**Register via**

<https://mysurvey.nus.edu.sg/EFM/se/543BE5C24ADD9B15>

Or use the softcopy attached below



## Detailed Programme : Exploring New Space Technologies and Applications

Week 1	Programme and Activities
Day 1	<p><u>Morning</u></p> <ul style="list-style-type: none"> <li>• Opening Address</li> <li>• Ice-breaking session</li> <li>• Brief introduction of Global Satellite Agencies and their Roles</li> </ul> <p><u>Afternoon</u></p> <ul style="list-style-type: none"> <li>• NUS Campus Tour</li> <li>• Different satellite configurations eg nanosats, cubesats, microsats, etc</li> <li>• Case studies or examples of some student projects from other institutions</li> </ul>
Day 2	<p><u>Morning</u></p> <ul style="list-style-type: none"> <li>• Space Environments and Orbits</li> <li>• Subsystems in a satellite</li> </ul> <p><u>Afternoon</u></p> <ul style="list-style-type: none"> <li>• System Tool Kit (STK) Simulation Environment</li> <li>• Company Visit</li> </ul>
Day 3	<p><u>Morning</u></p> <ul style="list-style-type: none"> <li>• Orbital Mechanics</li> <li>• Orbital Mechanics Simulations</li> </ul> <p><u>Afternoon</u></p> <ul style="list-style-type: none"> <li>• Attitude Determination and Control Subsystem (ADCS)</li> <li>• Free &amp; Easy – Bonding time</li> </ul>
Day 4	<p><u>Morning</u></p> <ul style="list-style-type: none"> <li>• Electrical Power Subsystem (EPS)</li> <li>• Thermal Subsystem</li> </ul> <p><u>Afternoon</u></p> <ul style="list-style-type: none"> <li>• Visit to the Center for Remote Imaging, Sensing and Processing (CRISP)</li> <li>• Tracking, Telemetry and Command (TT&amp;C)</li> </ul>
Day 5	<p><u>Morning</u></p> <ul style="list-style-type: none"> <li>• On-Board Computer (OBC)</li> <li>• Satellite Launch &amp; Operations</li> </ul> <p><u>Afternoon</u></p> <ul style="list-style-type: none"> <li>• Visit to the Satellite Technology and Research Centre (STAR)</li> <li>• Testing of Satellites</li> </ul>



Week 2	Programme and Activities
Day 1	<u>Morning</u> <ul style="list-style-type: none"> <li>• Structure &amp; Mechanisms</li> <li>• Power Budgets</li> </ul> <u>Afternoon</u> <ul style="list-style-type: none"> <li>• Re-cap of theory</li> <li>• Creative Activity on Satellite Design</li> </ul>
Day 2	Singapore Tour  Evening : BBQ
Day 3	<u>Morning</u> Introduction to 3D Printing  <u>Afternoon</u> Brainstorming & Prototyping
Day 4	Brainstorming & Prototyping (Cardboard / 3D Printing / Laser Cut)
Day 5	<u>Morning</u> Final Project Presentation  End of Programme

**You may register by completing the form attached and email to [engrsmu@nus.edu.sg](mailto:engrsmu@nus.edu.sg) by 15<sup>th</sup> June 2018.**

**Or register via the online form by 15<sup>th</sup> June 2018  
<https://mysurvey.nus.edu.sg/EFM/se/543BE5C24ADD9B15>**

Register early to avoid disappointment!

Register early to get the early bird discount!