



CAFEO 36

ASEAN Engineering Deans Summit (AEDS)

12-16 November 2018

Resort World Sentosa Convention Centre Singapore

Overview



Fostering Excellence in Engineering Education

In the wake of the global changes that are re-shaping engineering education, the focus must be on quality and excellence in designing and delivering educational programs. Engineering education has been evolving from knowledge-based to skills based, where emphasis is heavily placed on the outcomes of the educational program in shaping not only the knowledge, but also the skills and attributes of its graduates to prepare them to be future ready for the 21st century challenges.

This inaugural summit will focus on outcomes-based engineering education and accreditation and new pedagogies and will bring together engineering deans, academicians and leaders of accreditation bodies to deliberate on important issues and trends impacting engineering education within the region and beyond.



Key Focus:

- Engineering Education for 21st Century
- Progress of Engineering Education in ASEAN Countries
- Importance and Opportunities for International Collaboration
- Quality Assurance of Engineering Education
- Transformation of Engineering Education



Who should participate:

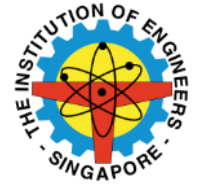
- Leaders in engineering education
- Engineering Deans, HoDs
- Engineering Rectors, Directors, Provosts
- Members of Engineering Accreditation Board
- Programme directors
- Professors & faculty in engineering
- Anyone interested in engineering education

Proposed Conference programme:



Time	Day One	Day Two
8:00 – 9:00	Registration	Registration
9:00 - 10:30	Grand Opening of CAFEO	Plenary Session 2 – Quality Assurance & Accreditation of Engineering Education
10:30 -11:00	Morning Coffee	Morning Coffee
11:00-12:30	Plenary Session 1 Transformation of Engineering Education Invited Keynote Speakers	Outcome-based Innovative Pedagogy & Curriculum Design
12:30-13:30	Lunch	Lunch
13:30-15:00	Transformation of Engineering Education in ASEAN - Presentation by ASEAN Engineering Deans / Rector	Technology-Enhanced Learning
15:00-15:30	Afternoon Coffee	Afternoon Coffee
15:30-17:00	Transformation of Engineering Education in ASEAN -Presentation by ASEAN Engineering Deans/Rectors	Roundtable on Collaborative Development of ASEAN Engineering Education
17:00-18:30	Inauguration of Network for ASEAN Engineering Deans & Rectors	CAFEO36 Closing Ceremony

Proposed Accreditation & Assessment Workshops



Time	Day Three – Accreditation Workshop @ SUTD	Day Four – Assessment Workshop @ SIT
8:00 – 9:00	Registration	Registration
9:00 - 10:30	Accreditation Framework Benchmarked to Washington Accord	Outcome-Based Education & Outcome-Based Accreditation
10:30 -11:00	Morning Coffee	Morning Coffee
11:00-12:30	Preparing Programmes for Outcome-Based Accreditation	Outcomes Assessment Methods
12:30-13:30	Lunch	Lunch
13:30-15:00	Innovative Pedagogy and Design for Learning Outcomes Achievement	Learning Outcomes and Rubrics in Engineering Education
15:00-15:30	Afternoon Coffee	Afternoon Coffee
15:30-17:00	Sharing of Lessons Learnt in compiling, analyzing and presenting outcomes and other accreditation data for accreditation	Using Assessment Results to Improve Course and Curriculum Design
17:00-18:30	Tour of SUTD facilities	--

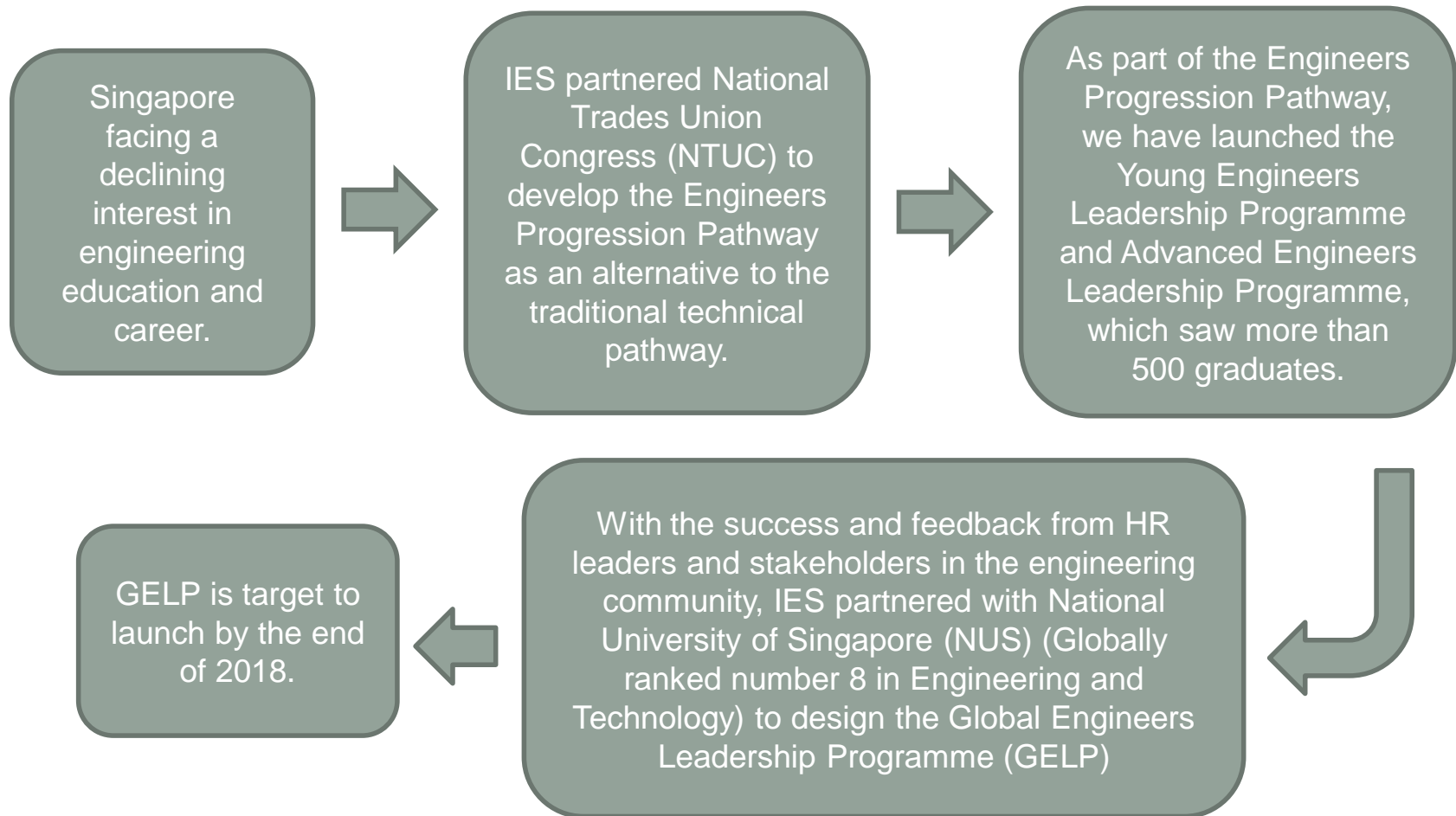
How AFEO Members can participate meaningfully?

1. To widely promote and encourage participation of engineering Deans and HoDs within respective country as the carefully crafted programme provides deep insights, best practices and an unprecedented **interactive round-table dialogues** among the academics.
2. To provide suitable speakers to present on respective country's journey and development in fostering excellence in engineering education.
3. To encourage Deans, Rectors & Directors to take part in the **Inauguration of Network for ASEAN Engineering Deans & Rectors**



GLOBAL ENGINEERING LEARNING PROGRAMME (GELP)

Background



Theme of the inaugural GELP:
“Opening Minds To Discover Possibilities”

GELP aims to target professionals who are 1 to 2 levels below the c-level management leaders to help them address pertinent leadership challenges:

- Better appreciation & awareness of the future engineering trends and disruptions in the global/regional environment
- Open windows of opportunities to engage/network with other engineering /business leaders regionally/ globally
- Coping with millennials and baby boomers
- Exposure to a different culture and working relationships
- Small Medium Enterprises (SMEs) bosses & directors with 10-15 years of experience from Large Local/ Government linked organizations could benefit from GEL Programme as it aims to leverage on the expertise of industry practitioners, qualified facilitators & successful mentors in well-established organizations.

Participant Learning Objectives

- To understand and be prepared for regional / global challenges.
- To anticipate and adapt to changes in a complex, disrupting and uncertain world future.
- To gain extensive networking experience with high-level industry leaders through fire-side chats, dialogues & immersion programme
- To learn and understand more about yourself and how to bring out the leader in you

Programme Features

- Maximum number of participants per cohort: **30 participants**
- **5 days residential programme**, comprising core modules, immersion programme, fireside chats with CEOs, dialogues with government leaders & networking opportunities with thought leaders in the industry and insightful learning journeys.
- Various pedagogical tools to be used to enhance the learning experience. Examples: team simulation, relevant and real case studies, dialogues, experts sharing, innovative facilities etc.

I AM A 'YOUNG ENGINEER' BADGE

Co-organised with Science Centre Singapore



I am a Young Engineer Badge Scheme

- A collaboration with Science Centre to raise our younger generations' interest in engineering.
- Comprises of a series of self-directed activities in various engineering disciplines.
- Simple task -1 star, more challenging task -3 stars.
- Students will carry out the activities to earn enough stars to be certified a Young Engineer (they will be awarded a certificate and a badge pin).
- Develops knowledge and skills, and encourages initiative and creativity.
- Target audience: Primary 3 – 6 students (8 – 12 years old)

I am a Young Engineer Activity Card and Badge

I AM A YOUNG SCIENTIST

RECORD CARD FOR YOUNG ENGINEER

The objectives of this card are to stimulate interest in engineering through activities, enable you to carry out self-directed activities in various disciplines of engineering, and to provide opportunities for you to take initiative and be creative in your presentation and communication of learning.

Instructions:

- Try to carry out the activities by yourself. You may seek advice from your parents or teachers, but you are encouraged to take pride in conducting the activities independently as the activities are designed for your self-learning.
- Submit your completed works to your teacher for certification. Your parents may certify up to 10 stars worth of activities.
- Complete at least 15 stars to qualify for the award and submit your card to your school teacher. Your teacher will then submit to a designated collection centre on your behalf.

LIST OF ACTIVITY CARDS

- I am a Young Astronomer
- I am a Young Scientist
- I am a Young Ecologist
- I am a Young Energy Saver
- I am a Young Entomologist
- I am a Young Environmentalist
- I am a Young Food Scientist
- I am a Young Geneticist
- I am a Young Geologist
- I am a Young IT Specialist
- I am a Young Mathematician
- I am a Young Meteorologist
- I am a Young Microbiologist
- I am a Young Physicist
- I am a Young Water Airtanker
- I am a Young Zoologist
- I am a Young Advocate of Climate
- I am a Young Engineer

ENJOY YOUR JOURNEY OF DISCOVERY!

Name: _____ Class: _____ School: _____

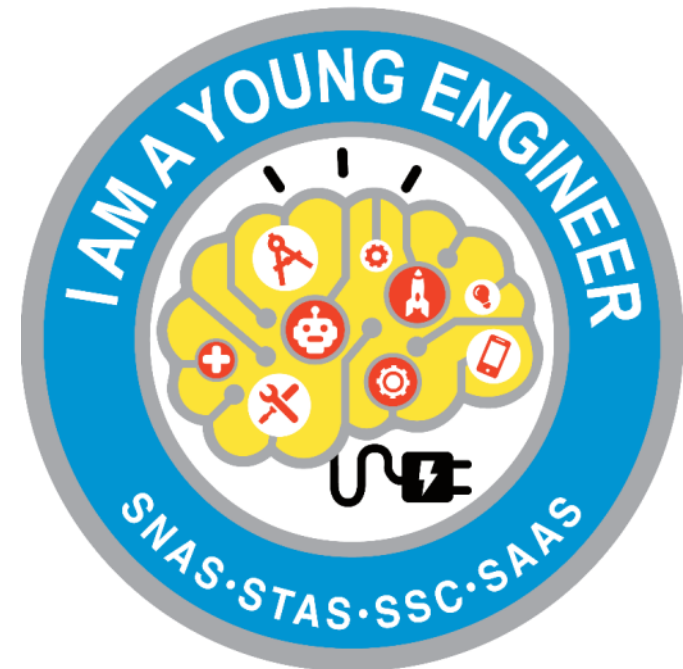
"I AM A YOUNG ENGINEER" BADGE

Earn 15 stars ★

No.	Task	Star	Teacher's / Parent's signature and date on completion of activity
1.	Visit the Internet and search the origin of the word, 'engineer'. Explain what it is engineering.	★	
2.	Take pictures of 5 things that are made possible by engineers. Describe what problems they are trying to solve.	★	
3.	List 4 types of engineer who work on airplanes. Name at least 3 activities in the Science Centre's Engineering Exhibits that are or can be related to aviation.	★	
4.	List at least 4 skills that are needed for engineering.	★	
5.	List 5 main engineering disciplines and explain what each discipline is about.	★	
6.	Name 2 arch bridges in the world. Explain how an arch bridge works.	★★	
7.	Find out how electricity is generated in a power plant. Create a poster to explain the difference between a nuclear and a conventional power plant.	★★	
8.	Find out what an aeroplane is and why it is important. Make two Cryptograph messages and use them to exchange secret messages with a friend.	★★	
9.	Find out what a 3D map (image) and create a 3D map using a piece of graph paper and a pencil. Use image compression technique to reduce 'load' your 3D map (image) to fit inside their folder or file and then upload it to cloud.	★★	
10.	Search the Internet to find out where a Green Building. List three at least technologies used by engineers to build a sustainable building.	★★	
11.	Do a research on the use of robots care for the elderly. Create a storyboard PowerPoint presentation slide to share on your Message.	★★	
12.	Search the Internet to learn more about Punggol Town and Punggol Waterway, and answer the following questions: a. Punggol is classified from a living design that is _____, identified name. b. List 4 parks located in Punggol Town Centre _____, name from the list and use it to pose creative thoughts in the park. c. Identify 3 features of the Punggol Waterway which involve engineering.	★★	
13.	Design and construct a 30cm long bridge using paper.	★★	
14.	Search the Internet and give ideas on future possibilities of other transport in Singapore. Document your dreams and what engineers can do to realize those dreams.	★★	
15.	Find an everyday object at home and find ways to make it work better. It could be a ladder of making it lighter or sturdier, more powerful, multifunctional, more economical or more energy efficient.	★★	
16.	Build a boat with the materials that you can find at home. It should be able to hold a 500ml bottle for at least 10 seconds before sinking.	★★	
17.	With materials you can find at home, build a robot that can move.	★★	
18.	Setup an exhibit on biomedical engineering in your school and explain to your classmates on how biomedical engineers save lives.	★★	
19.	Build a mechanical hand with materials you can find at home. The hand should be able to pick up a bunch of items.	★★	
20.	Interview 10 classmates and find out what would it take to invent them to pursue Science, Technology, Engineering and Math studies in secondary school. Based on your findings, propose a student holiday program and send your proposal to The Institution of Engineers, Singapore (IES).	★★★	

Date started: _____ Date completed: _____

Teacher's name: _____ School stamp: _____



Official Launch During National Engineers Day (NED) on 28 July 2018



Launched by IES-Science Centre Steering Committee Chair Mr Mervyn Sirisena, Science Centre Chief Executive Prof Lim Tit Meng, Minister of Finance Mr Heng Swee Keat and NED Chair Ms Jasmine Foo