



Southeast Asia Ministers of Education Organization  
Regional Centre for Education in Science and Mathematics



International STEM Exhibition, Industrial Expo,  
Education Fair & Book Fair 2022

# ISEE 2022

International **S**TEM Exhibition,  
Industrial **E**xpo, **E**ducation Fair  
& Book Fair

“CONNECTING REGIONALLY, FORESEEING GLOBALLY”

📅 14 - 16 December 2022 | ⌚ 9.00 a.m. to 5.00 p.m.

📍 SEAMEO Hall, SEAMEO RECSAM, Penang



**OPEN TO PUBLIC**  
**FREE ENTRANCE**

Target Participants:

Primary / Secondary Science and / or Mathematics Teacher / Students  
College / University / IPG / Matriculation Students / Factories / Companies / Industries

## BACKGROUND AND RATIONALE

The emphasis of Science, Technology, Engineering, and Mathematics (STEM) education is on preparing future generations to be successful in their careers. The skills gained from STEM education extend beyond those needed to be successful in STEM fields, preparing children with varied interests who move into any industry to have valuable skill sets that allow them to be successful. 21<sup>st</sup> century skills include media and technology literacy, productivity, social skills, communication, flexibility, and initiative. Other skills that could be attained through STEM education include computational thinking, problem-solving, mathematical reasoning, critical thinking, creativity, curiosity, decision making, leadership, entrepreneurship, acceptance of failure, and more.

There are a lot of factors deterring students from pursuing STEM education and engineering-related fields such as school Key Performance Indicators (KPIs) and pass-fail statistics, social and parental influence, school implementation, heavy theory-based classes, lack of adequate lab facilities, misinformation, lack of creative outlet, to name a few. The school KPIs and pass-fail statistics may lead to the decline in STEM subject class sizes. Social media influencers may set trends that demotivate the students from pursuing engineering-related courses.

To increase the students' enrollment in STEM fields and draw their interest in STEM education, SEAMEO RECSAM initiates to organise ISEE 2022 to draw the interest of the students. This event also aims to provide correct information regarding the further education and future career through the industrial exhibition and education fair. The education fair acts as an effective platform for the students to explore their study options before making an informed decision on what course to pursue to realise their fulfilling careers. It helps the students to receive related information from representatives of colleges, institutes, and universities directly so that the students can get a deeper insight into their study preferences as well as choose the right course and institutes. The students can access information on a range of scholarships and funding opportunities from the participating institutes.

This STEM Expo is an artistic, creative, innovative, imaginative, as well as inspirational, alternative concept to the typical Science Fair which acts as a framework for teaching and learning across the disciplines. It is striving to give students a place to exhibit their work alongside entertainment and learning opportunities for the whole family. The participants can share their projects, as well as ideas with their friends, parents, and people who visit the fair. STEM Expo contributes to the social development of students and increases the skills of the presentation. The STEM Expo includes the STEM-based activities and interactive exhibits from local scientists, organisations, schools, colleges, universities, factories, industries, and companies. This serves as venue to showcase educational opportunities and viable career paths from elementary through high school with learning output exhibiting student-generated work connecting students with their community. Hence this event can broaden the students' horizons involving a variety of STEM projects and exhibition from local, national, or global companies, factories, universities, and colleges.

## OBJECTIVES OF INTERNATIONAL STEM EXPO, INDUSTRIAL EXHIBITION, BOOK FAIR & EDUCATION FAIR

To enhance the awareness of the public on the roles and importance of STEM in socio-economic wellbeing and sustainable development.

- a) To achieve aspiration in STEM education include developing a solid knowledge base among the students and enhancing their interest in STEM.
- b) To strengthen the students' ability to integrate as well as apply knowledge and skills, nurturing their creativity, collaboration, and problem-solving skills to solve real world problems.
- c) To provide opportunity to the talented or creative students for the nourishing and nurturing of their creative talents and prepare future generations to be innovators.
- d) To enhance STEM learning and promote further education as well as career development in areas related to STEM among the school students and community.
- e) To provide networking for schools, educators, industries, public and private sector to share information as well as experiences on projects, extra-curriculum, and good practices in STEM educations.
- f) To motivate and encourage the students to be involved in STEM education or career.

## INTERNATIONAL STEM EXHIBITION (COMPETITION)

The International STEM Exhibition (Competition) is free and open to all the elementary and secondary students from Southeast Asia countries. The International STEM Competition aims to provide young inventors with the opportunity to showcase their inventions amongst their peers from Southeast Asia.

### CATEGORIES

- a) Internet of Thing and Artificial Intelligence (IOT & AI)
- b) Invention & Innovation
- c) 3-D Design / Creation
- d) STEM / STEAM / STREAM project
- e) Robotics / Smart Device / Information and Communication Technology

Participants are required to register online, upload abstract by **18 November 2022** through the google form (<https://forms.gle/Zzz8kN2wSs53g65e7>).

- Participants may join the competition individually or as a group / team (up to 4 students) and must be guided by one mentor.
- The teams are required to present, and exhibit their final project as part of the judging requirement.
- The teams will be provided with a table (L 60 cm x W of 40 cm x H of 76 cm) and a standard T Bunting with double-sided tripod display stand (height 125 cm to 220 cm).
- The teams are required to provide their own project requirements such as exhibition poster (6ft height x 2ft width) and extension wires. The school is requested to bear the cost of transportation, food and drink of the participants and equipment for the competition.

## EVENT HIGHLIGHTS

1. International STEM Exhibition (Competition) & Industrial Expo
  - Internet of Thing & Artificial Intelligence (IOT & AI)
  - Invention & Innovation
  - 3-D Design and Smart Devices
  - Maker Education
  - Green Energy Technology and Environment
  - Robotics
  - Information and Communication Technology
  - Biological Technology
  - Smart Living Technology
  - Culture and Creativity
  - New Agriculture Technology
  - Augmented Reality & Virtual Reality (AR & VR)
2. Talks from STEM Experts
3. Education & Career Talk
4. Book and Education Fair
5. Workshops with Hands-on and Minds-on Activities
6. Mini Food Fair

## PROGRAMME

TIME	ACTIVITY
9.00 a.m. – 5.00 p.m.	Registration / Free Entrance
9.00 a.m. – 1.00 p.m.	STEM Exhibition / Industry Expo / Education Fair / Book Fair
1.00 p.m. – 2.00 p.m.	Lunch
2.00 p.m. – 5.00 p.m.	STEM Exhibition / Industry Expo / Education Fair / Book Fair

## EVENT HIGHLIGHTS



To enroll, please register by **18 November 2022** via  
**<https://forms.gle/xfUeZa5ZK6kPaxSZ7>**  
or scan the following QR code.

For more information, please visit: **[www.recsam.edu.my](http://www.recsam.edu.my)**

### FOR ENQUIRIES

Dr. Thong Ying Li

+60125634388

[thongyl@recsam.edu.my](mailto:thongyl@recsam.edu.my)

Ms. Bhavani Ramasamy

+6046522752

[bhavani@recsam.edu.my](mailto:bhavani@recsam.edu.my)

Ms. Noraini Daud

+6046522741

[noraini\\_daud@recsam.edu.my](mailto:noraini_daud@recsam.edu.my)