

# Report on Japan–Malaysia–Thailand Joint Workshop on Arduino, TinkerCad Integrated

Date	Place	Partner Organization	Students' Major and Grade	Participants' Information	SIT Instructor
Feb21 ~Mar04, 2022	Japan	Universiti Tun Hussein Onn Malaysia King Mongkut's University of Technology Thonburi	<ul style="list-style-type: none"> <li>Department of Engineering Science and Mechanics</li> <li>Undergraduate 1st grade</li> <li>Undergraduate 2nd grade</li> <li>Undergraduate 3rd grade</li> <li>Undergraduate 4th grade</li> <li>Master 1st grade</li> <li>Master 2nd grade</li> </ul>	(SIT) Students 7, Student Staff 3, Professor 4, Staff 2 (Universiti Tun Hussein Onn Malaysia) Students 11, Professor 1 (King Mongkut's University of Technology Thonburi) Students 3, Professor 1	NAGASAWA Sumito(Department of Engineering Science and Mechanics) YOSHIKUBO Hatsuko(Innovative Global Program) TACHIBANA Masahiko(Innovative Global Program) SAITO Hiroyasu(Department of Engineering Science and Mechanics) ISHIZAKI Hiroyuki(Malaysia Satellite Office)

### Application fields of microrobot

Rescue

Dangerous, not enough teams

Humanoid robot

Expensive, need onsite calibration

Microrobot

Cheep, no calibration, mass production

Massive earthquake in 2011 in East Japan

NASA Proposed: "Future of Mars exploration."

Even though only few percent of introduced robots achieve their tasks, but great effects are obtained in these applications.

SHIBAURA INSTITUTE OF TECHNOLOGY Micro Robotics Lab., Dept. of Engineering Science and Mechanics

Image1 Lecture Scene1

It was a joint gPBL with our partner universities, UTHM in Malaysia and KMUTT in Thailand. Since all the international participants from Malaysia and Thailand were unable to travel due to COVID-19, the program was conducted online in a HyFlex manner similar to the previous year. The entire workshop was divided into two parts. The first phase consisted of team building, self-introduction practice, presentation preparation, and a cross-cultural introduction held in English. The second part was a prototyping session of robotics using Arduino and TinkerCad. Throughout the entire gPBL program, the students were able to acquire basic knowledge of embedded systems, experience group work discussion, and improve their presentation skills in English. In order to provide students with best possible study opportunities to replicate face-to-face experiences, optional lectures on Japanese robot culture and Japanese history with foreign cultures were also conducted. As a whole, the mutual cultural understanding and kindling of international curiosity has been promoted throughout Japan–Malaysia–Thai student-to-student exchanges. On the first and last day of the program, all participants were asked to fill out the Cross-Cultural Competency Assessment (MGUDS-S). We will measure and analyze the effects of this later.

What if the printing press had never been invented?

- We would not have books, modern inventions and even robotics.
- Printing technology is necessary to educate people.
- There are advances in printing technologies for soft robotics devices applications.

Image2 Lecture Scene2

Artisans in Edo Era (1)

Roof tile maker

Wooden bowl maker

Image3 Lecture Scene3

英語での自己紹介の例

1. Hello, I am ... (プロフィール)
2. My major is ... My personal interest is ... (現在、関心事)
3. My Mid-Term goals is to beido ... and my future goal is... (今後の目標)
4. When I will go to Bangkok, I want to go to... (相手に対する関心、質問)
5. When you come to Japan, I will bring you to... (ガイド、日本紹介)

Image4 Lecture Scene4



Image5 Lecture Scene5

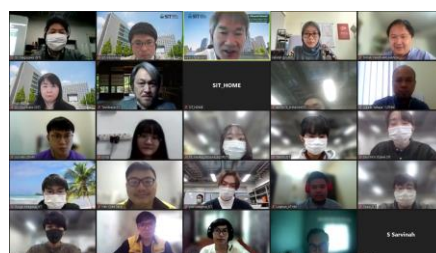


Image6 Commemorative photograph



Image7 Closing Ceremony