

Local Chapter Activity Report

at the 11th UNISEC–Global Meeting

Jyh–Ching Juang

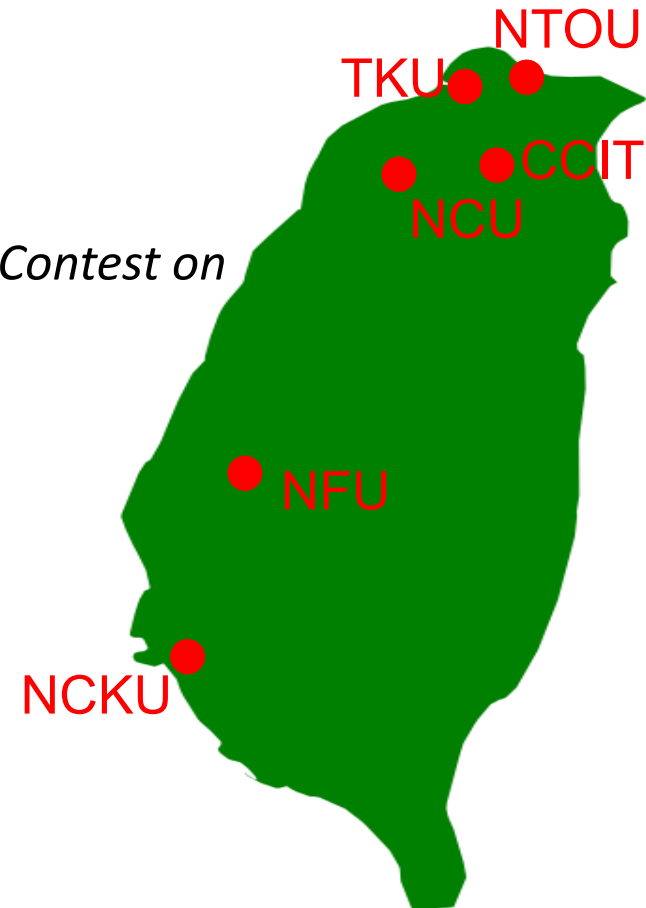
UNISEC–TAIWAN

(National Cheng Kung University, NCKU)



History of Local Chapter Activities

- ◆ Established in 2019
- ◆ Attended UNISEC-GLOBAL Meetings in 2013-2025.
- ◆ Organized MIC seminars
- ◆ Participated in MIC
 - Two teams are finalists of MIC-9
- ◆ Held several CubeSat (subsystems) competitions.
 - CubeSat (Taiwan International Mission Idea Contest on CubeSat) competition 2024.12.2
- ◆ Held HEPTA-Sat training program
- ◆ Six universities and one group
 - National Cheng Kung University (NCKU)
 - National Central University (NCU)
 - Tam Kang University (TKU)
 - National Taiwan Ocean University (NTOU)
 - National Formosa University (NFU)
 - Chung Cheng Institute of Technology (CCIT)
 - Taiwan Space Generation



UNISEC-TAIWAN Activities in 2024-25

- ◆ Government support remains strong
 - Long term development program
 - Space development law
 - TASA (Taiwan Space Agency)
 - Involvements of local industries
- ◆ CubeSat launches
 - 2014 PACE
 - 2017 PHOENIX
 - 2021 YUSAT and IDEASSat,
 - 2022 IRIS-A and NutSat
 - 2023 IRIS-C, IRIS-C2, PEARL-1C, PEARL-1H, and Lilium-1
 - 2024 IRIS-F1, Nightjar, Toro, TAURUS-2, and ONGLAISAT
 - 2025 IRIS-F2, IRIS-F3, PARUS-T1A, Lilium-2, Lilium-3, PARUS-T2, SATORO-T3, RIoT, Toro-2, Tmicrosat



In addition to UNISEC-TAIWAN member universities, TASA and several Taiwanese companies are launching CubeSats.

UNISEC-TAIWAN Activities in 2024-25

◆ Sounding rockets

- A scientific research sounding rocket launch site for research and development verification

◆ University teams

- NCKU two-stage hybrid rocket
- NYCU HTTP-3A S2, Asfaloth, SSTO
- TKU TK-1, Jessie, Polaris
- FCU SHSR-Aero1, SHSR-Aero2
- 2024.07.21 - Asfaloth, NYCU
- 2024.07.21 - SSTO, NYCU
- 2024.08.05 - Polaris Rocket, TKU
- 2024.11.11 - SHSR-Aero2, Feng Chia University
- 2025.10.18 - Asfaloth-2025, NYCU
- 2025.11.22/23 -



Source: NSTC



Source: NCKU



Source: HOSPO

jtSPACE Launches Suborbital Rocket VP01 from the Hokkaido Spaceport, Reaches Altitude of 4 km

UNISEC-TAIWAN Activities in 2024-25

Please put logo of your Local Chapter into the slide master.

- ◆ Capacity building workshops
- ◆ 2024.12.7
- ◆ International CubeSat Basics Course (on-line) by professors from UNISEC-TAIWAN
- ◆ 2025.6.19-20
- ◆ 2025 Low Earth Orbit Satellite Capacity Building Workshop at NCKU
- ◆ Moon mission
 - NCU participated the ispace Hakuto-R mission 2
 - *ispace Selected for Taiwan Space Agency's Lunar Mission Payloads*



2024 Taiwan International Online CubeSat Basics Course

**Saturday December 7th, 2024
9am-5pm (GMT+8)**

09:00-10:00	CubeSats: trends and opportunities	Jyh-Ching Juang (NCKU)
10:00-11:00	Space radiation environment	Kaifu Wang (TKU)
11:00-12:00	Introduction to orbit mechanics	Fu-Yuen Hsiao (TKU)
12:00-13:30	Lunch Break	
13:30-14:30	CubeSat structure and thermal subsystems	Yu-Jui Liang (NCKU)
14:30-15:30	CubeSat attitude determination and control subsystem	WoeiLeong Chan (NCKU)
15:30-16:30	Introduction to IoT over Non-Terrestrial Network in 3GPP	Chao-Yu Chen (NCKU)
16:30-17:00	Discussion	

*Note: The organizer reserves the right to adjust course content, schedule, and speakers.

Registration link :
<https://forms.gle/eqQiiHMHypjcnb6h8>

 TASA Taiwan Space Agency  NCKU

Plan for 2025-26 and beyond

- ◆ Continue existing works
 - CubeSats
 - Sounding rockets
 - Space missions
 - Capacity building workshops
- ◆ More collaborations with UNISEC and international partners
- ◆ Host the 2026 UNISEC-GLOBAL meeting and NSAT symposium (TBD)
 - Welcome to Taiwan

Contact
Professor Jyh-Ching Juang
National Cheng Kung University
UNISEC TAIWAN
juang@mail.ncku.edu.tw