

NEWS

 XML
 JSON
 中文

Campus Life Publish Date : 2025-07-30

Asia's First Large-Scale Rocket Competition: NYCU UAV Team Takes First Place in University Division at 2025 Rocket Taiwan Cup



Edited by Chance Lai

The team "NYCU UAV Team (好討厭的感覺啊)," a joint squad of students from their winning rocket impressed the judges by successfully completing the challenging return mission using a self-navigating drone system.

Held from July 25–27, the 2025 Rocket Taiwan Cup Finals drew an impressive turnout of 638 students across 56 teams. After rigorous reviews of technical documentation and multiple rounds of engineering checks, only 15 teams advanced to the final round. Among them, NYCU stood out with three teams—one competing in the main category and two serving in demonstration roles—each showcasing cutting-edge technology and exceptional aerospace capabilities.



The NYCU UAV Team's rocket at the moment of launch.

Tackling the Return Mission: Merging Robotics and Aerospace Engineering

The NYCUC UAV Team's rocket incorporated a drone capable of autonomously navigating back to the launch site—a "return mission," considered one of the most technically complex challenges in the competition. The team leveraged their mechanical engineering expertise to integrate flight control and system-level coordination, demonstrating both technical rigor and creativity through the rocket's playful name.

Demonstration Teams Showcase Future Rocket Technologies

Two additional NYCU teams also delivered standout performances in demonstration roles:

- SSTT (SS Test Two / SS to Taipingyang), composed of students and faculty from NVCU's Institute of Space Systems Engineering (ISSE), showcased a rocket featuring a reefing dual-stage parachute system—a mechanism designed to reduce shock and drift upon landing, building upon the success of last year's SSTO prototype.
- The Formosan Fox Rocketry team returned with "Hermes," an upgraded rocket design that has previously represented Taiwan in the international Spaceport America Cup (SA Cup). The team collaborated with National Central University on payloads, including in-flight imaging, a detachable fin system, and a carbon dioxide separation module. The rocket also featured GPS tracking provided by TASA (Taiwan Space Agency).

These demonstrations previewed several core technologies that will be validated

Leading the Way in Space Talent Cultivation

NYCU served as a competitor, technical verification, and co-hosting institution, highlighting the university's commitment to nurturing the next generation of aerospace innovators. From drone-based return systems to precision payload integration, the university continues to explore new frontiers in space engineering and hands-on education.

All competing rockets in this year's event employed a standardized solid-propellant propulsion system (with a total impulse of 4700 N-s, peak thrust of 200 kg, and burn time of 3.1 seconds), reaching altitudes of approximately 1 km before descending and floating on water while recording complete flight data. Teams were responsible for end-to-end system design, including structure, avionics, and recovery—within a weight limit of 28.5 kg—making it a comprehensive test of practical space engineering skills.

Team Members of "NYCU UAV Team":

【Advisor】

- Jui-Cheng Hsu (Research Assistant, Advanced Rocket Research Center, ARRC)

【NYCU Students】

- Yong-Xiang Chang (Captain, Department of Mechanical Engineering)
- Po-Sheng Hsueh (Vice-Captain, Department of Mechanical Engineering)
- Po-Yen Chen, Chi-Chun Wang, Han-Ting Lan, Hsiang-Yu Chih, Shao-En Wu, Bing-Kai Hsu, Ai Sendoda, Shiu-an-Yi Fang (Department of Mechanical Engineering)
- Min-Yen Chang (Department of Industrial Engineering and Management)
- Chun-Jung Lai (Department of Civil Engineering)
- Tzu-Hsin Tseng (Department of Biomedical Engineering)

【National United University】

- Chun-Wei Tsai (Department of Mechanical Engineering)



Despite the humor in their naming, the team demonstrated serious aerospace engineering muscle, earning praise from judges and peers alike.

Related Image(s) :



cover image

[← Back](#)

▼ Open