

NEWS

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NYCU ARRC Team Wins Third Place at AIAA SciTech Capture the Satellite Challenge!



The ARRC team was comprised of Shuo-Chien Wang (left), a master’s student in Mechanical Engineering; Tsung-Chun Lee (right), from the Graduate Institute of Space Systems Engineering; and Zuo-Ren Chen (center), a 2024 graduate from NTHU’s Department of Power Mechanical Engineering.

Edited by Chance Lai

The Advanced Rocket Research Center (ARRC) team from National Yang Ming Chiao Tung University (NYCU) made a stellar impression at the 2025 AIAA SciTech Forum, securing third place in the prestigious Capture the Satellite Challenge. Competing against 34 elite teams worldwide, NYCU’s team demonstrated exceptional technical expertise, creativity, and adaptability, reaffirming Taiwan’s growing presence in the global aerospace industry.

Elite Trio Conquers Aerospace Challenge

The ARRC team featured a dynamic trio: Shuo-Chien Wang, a master’s student in Mechanical Engineering; Tsung-Chun Lee, from the Graduate Institute of Space Systems Engineering; and Zuo-Ren Chen, a 2024 graduate of National Tsing Hua University’s Department of Power Mechanical Engineering.

Utilizing Nonlinear Model Predictive Control (NMPC) technology, the team skillfully piloted their satellite, executing precise orbital transfers and target captures while adeptly dodging interceptions from opposing satellites. The challenge was conducted through the Kerbal Space Program (KSP), a simulation that tested their expertise in orbital mechanics, navigation control, and mission planning.

What Is the Capture the Satellite Challenge?

A highlight of the AIAA (American Institute of Aeronautics and Astronautics) SciTech Forum, this highly technical competition tasks participants with executing complex orbital maneuvers and target captures in a realistic simulation environment. Teams must leverage advanced flight dynamics, control algorithms, and navigation strategies to overcome obstacles and achieve mission success.

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ARRC Sets Its Sights on Future Challenges

As a leading research center in aerospace technology and remote sensing, NYCU ARRC is dedicated to pioneering next-generation aerospace innovations and actively competing internationally. This latest achievement underscores ARRC’s technical excellence and strengthens Taiwan’s position in the global aerospace sector.

Looking ahead, ARRC remains committed to pushing the boundaries of aerospace research, tackling even more challenging international competitions, and nurturing top-tier talent for Taiwan’s aerospace industry.



The ARRC team members introduced ARRC at the 2025 AIAA SciTech Forum.