

| PEOPLE

World Champion Team From A Dorm Lounge

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| Livestream of KIBO la na tsu bu KIBO/ Robology Awesome Aliens participating in the final round of The 3rd Kibo Robot Programming Challenge 2022.

The Kibo Robot Programming Challenge (Kibo-RPC) is an educational program created and hosted by Japan Aerospace Exploration Agency (JAXA) and the National Aeronautics and Space Administration (NASA), which began in 2020. Last year, the 2022 championship was awarded to NTU's KIBO la na tsu bu KIBO/ Robology Awesome Aliens for their outstanding programming and problem-solving skills.

Kibo-RPC challenges students to hone their programming skills in a unique space setting, learn the most advanced methodologies in science, practice creating real-world simulation programs within errors of margins, and control robots through simulation trials. The competition also gives students the opportunity to meet and learn from other international participants.

Teams are given a fictional scenario—the International Space Station (ISS) has encountered space debris and a new air leak has been detected. In this challenge, students must repair the air leak by developing codes to program an Astrobe, NASA's free-flying robot on the ISS. Teams must move Astrobe to two different points and illuminate the center of the target using Astrobe's laser.

KIBO la na tsu bu KIBO / Robology Awesome Aliens is a mixed team whose



Members of Taiwan's KIBO la na tsu bu KIBO/ Robology Awesome Aliens: Chu-Rung Chen, Yio-Hua Chen, and Guan-Ying Chen of NTU's Department of Electrical Engineering (left to right).



JAXA announcing Taiwan's team as the first place winner (Photo credit to TASA).

members hail from different departments, universities, and nationalities, recruited by team captain Guan-Ying Chen of NTU's Department of Electrical Engineering. "I just sat in the lounge in NTU First Men's Dorm and asked passersby if they wanted to join me and compete together," Chen confessed. He ended up recruiting team members from the Departments of Electrical Engineering, Mechanical Engineering, Computer Science and Information Engineering, and Engineering Science and Ocean Engineering. The team also welcomed a student from National Cheng Kung University (NCKU) and an international student from Tunisia to meet the competition's team requirements.

The team's diversity and the members' different areas of expertise enabled them to outperform their rivals in the competition. The student from Tunisia wrote the code for the program, overcoming the robot's moving-range limitations and thus enhancing the laser's precision. The member from NCKU noticed that the team could use the simulation machine's score to confirm the order of the programming and added defensive programming to prevent the robot from hitting the ISS. By working together, the team successfully overcame the complex challenges in the final round of the competition.

"Having the courage to try is what matters, results come second," remarked Chen, recalling this journey; "I learned to solve problems and help members stay on the right track through communication. I wanted our team to truly become a team." With a smile, Chen added, "Though NTU does not have rocket research, as NCKU and National Yang Ming Chiao Tung University do, we boast bold, wild, and innovative students. With all those talents at NTU, we can do crazy things to make things happen."



Japanese astronaut Koichi Wakata inputting the team's program at the ISS (Photo credit to TASA).



Director General of TASA Jong-Shinn Wu presenting the first prize of TWD 60,000 to the team (Photo credit to TASA).



Click or Scan the QR code to visit the website of Kibo Robot Programming Challenge.



Click or Scan the QR code to visit the website of the Taiwan Space Agency (TASA).



Livestream of the announcement of the winner and the award ceremony of The 3rd Kibo Robot Programming Challenge 2022.

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