

Kyushu Institute of Technology

Kyushu Institute of Technology (Kyutech) is a Japanese national university founded in 1909. The university is located in the city of Kitakyushu. Kitakyushu is known as the birthplace of Japanese modern industry. Over the past 20 years, Kyutech has offered courses in space engineering at undergraduate and graduate levels. In 2004, Kyutech established the Laboratory of Spacecraft Environment Interaction Engineering (LaSEINE) as a special research centre dedicated to studies on spacecraft charging, spacecraft material degradation, and hypervelocity impact. In 2010, a new research division, the Centre for Nanosatellite Testing (CeNT) was added to LaSEINE. CeNT provides all the environmental tests necessary for a nano-satellite with size up to 50cm x 50cm and weight up to 50kg. In May 2012, HORYU-II, a nano-satellite built by Kyutech students, was launched to low-earth orbit and operated successfully.

HORYU-II nano-satellite



Additional information

UN-OOSA: <http://www.unoosa.org/oosa/en/SAP/bsti/fellowship.html>

Kyutech: http://cent.ele.kyutech.ac.jp/index_e.php



Post-graduate study on Nano-Satellite Technologies (PNST)

United Nations/Japan Long-term

Fellowship Programme

on Nano-Satellite Technologies hosted by

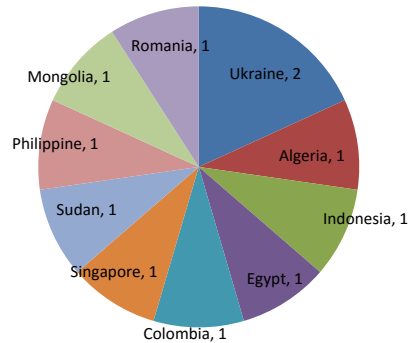
Kyushu Institute of Technology, Japan



History of PNST

The PNST Fellowship Programme was initiated in 2013 by the United Nations Office for Outer Space Affairs (UNOOSA) and the Government of Japan in conjunction with the Kyushu Institute of Technology (Kyutech). PNST offers up to six fellowships per year (two Masters, four Doctoral) to aspiring post-graduate level students who are interested in studying nano-satellite design and learning basic space technology development. All PNST fellowship students enroll in the English-based Space Engineering International Course (SEIC) at Kyutech, which was launched in April 2013.

PNST students (as of March 2015)



Members of Horyu-IV development team



Application Requirements

- Apply when under 35 years of age
- Adequate verbal and written English language skills
- National of developing country or non-space faring nation
- Bachelor and/or Master Degree (or equivalent) in engineering-related subjects (degrees in different technological fields can be considered by the commission)
- Ability to make professional or academic use of experience gained in PNST fellowship

PNST program and Future Opportunities

The PNST program provides extensive research opportunities in nano-satellite systems through the use of space research facilities at Kyutech. PNST students will join a space development project at Kyutech. Through the project, each participant is expected to identify a research topic and carry out the research work under the supervision of Kyutech faculty. The participant is also required to satisfy the graduate course work requirements of SEIC. Upon successful completion of a thesis and its defense, the participant is granted either a Master of Engineering or a Doctor of Engineering degree. Upon graduation PNST fellows are expected to return to their home countries to help develop the space sector.

Fellowship term and Student life

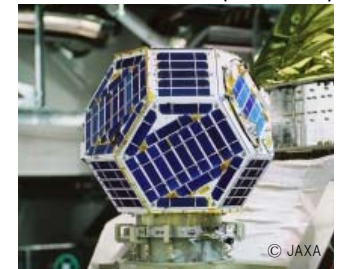
- Start in October: Master course is 2 years and Doctoral course is 3 years
- Tuition, university fees, and economy class airfare from home country covered
- PNST fellows receive about 145,000yen per month for living expenses
- Required to enroll in Space International Engineering Course (SEIC)
- Opportunities to learn Japanese and also Japanese culture
- Instruction in English except Japanese language class

Space projects at Kyutech

Kyutech has numerous world-class space facilities and space projects, including:

1. Electrostatic discharge testing in space plasma environments
 2. Space-use material degradation testing under UV and atomic oxygen flux
 3. Nano-satellite environment testing (vibration, shock, thermal vacuum, thermal cycling, outgassing, EMC & antenna compatibility, etc.)
 4. Hypervelocity impact testing using two-stage light gas guns (up to 6.2 km/s)
 5. HORYU nano-satellite series
 6. Shinen (Shin-En) nano-satellite series
 7. Winged rocket flight experiment
 8. Mars probe
- and many others!

Shinen 2 (Shin-En 2)



Thermal vacuum chamber



Winged rocket flight testing



How to Apply

Your fully completed application and all other required documents should be submitted electronically. The application deadline is typically in January for October admission. Selection is made on the basis of each applicant's academic credentials, relevant work experience, and future potential. For more details and to apply visit:

<http://www.unoosa.org/oosa/en/SAP/bsti/fellowship.html>