Post-graduate study on Nano-Satellite Technologies (PNST) 2024 round

#AccSpace4All
The goal of the Access to Space 4 All initiative is to provide research and orbital opportunities for UN Member States to access space and to ensure that the benefits of space, in particular for sustainable development, are truly accessible to all.

**Access to Space for All in Numbers**

- **Hands on Opportunities**: 9
- **Annual Fellowship**: 1
- **Awardees involving**: 32
- **Entities from**: 44
- **Countries**: 32
- **CubeSats launched**: 5
- **Microgravity & Hypergravity Experiments performed**: 8 & 3
- **Projects in development**: 16
- **Scholarships granted**: 68
- **Hours of educational content on YouTube**: 100+

**Access to Space for All**

- **Acquire cutting-edge skills** for jobs and other opportunities and **develop hands-on capabilities** from A-Z
- **Free of charge access** to unique ground and space infrastructure, technology, and information
- **Gain international cooperation experience** through working with the UN and space-faring partners
- **Visibility** to the R&D and space activities already done in the country/region
- **Motivate the young generation** and boost interest in STEM
Access to Space for All
Impact of the initiative

Aerospace, AI and Digital Centre

ESPIA was able to grow, to expand by
Inauguration AEROSPACE, AI AND DIGITAL CENTRE on July 2022

Guatemalan team launches nation’s 1st CubeSat, wins Interplanetary Initiative prize
International student team recognized for its success through adversity

Launch and Deployment Event from mainstream media
> 1,200,000 views
> 2,300 comments

New enrollment in Mechanical Engineering at UVG grew 176% in 2020
Now these new students ask when are they going to send to space Quetzal-2?

The Aerospace Laboratory at UVG
- New generation of students continue working on developing technologies for CubeSats in the aerospace laboratory at UVG
- The laboratory receives continuous visits from schools
- Other space missions:
  - ORIG: pieces manufactured for this experiment launched in Artemis I
  - Space Biofilms

HyperGES and community impacts in Thailand
- Students stepping out of comfort zone
- Expand space biology research opportunity and awareness
- Collaboration with top organizations
- Government research grant opportunity
- Preparation for space economy through space ecosystem development in Thailand

Launch, Deployment and Event from mainstream media
> 1,200,000 views
> 2,300 comments

How has participating in DropTES changed the environment around us?

- Progress in our scientific knowledge
- New connections
- SPIE Optics and Photonics Education Scholarship
- Best Student Presentation at OSCI-INDLAS 2018 International conference (Albany, NY)
- New project opportunities: Long-term microgravity studies
## Access to Space for All

### Awardees

#### DropTES
- **2014** German Jordanian University, Jordan
- **2015** Universidad Católica Boliviana “San Pablo”, Bolivia
- **2016** Instituto Tecnológico de Costa Rica, Universidad de Costa Rica, Costa Rica
- **2017** Warsaw University of Technology
- **2018** University of Bucharest and Politehnica University of Bucharest, Romania
- **2019** Politecnico di Milano “Polimi”, Italy
- **2020** Universidad Católica Boliviana “San Pablo”, Bolivia
- **2023** Universidad de Antioquia, Colombia

#### Bartolomeo
- **2021** A consortium composed of Egyptian Space Agency, Kenya Space Agency, and Uganda National Space Programme

#### PHI
- **2022** Antarikchya Prathistan, Nepal
- **2022** National Space Science Agency, Bahrain

#### KiboCUBE
- **2015** University of Nairobi, Kenya
- **2016** Universidad del Valle de Guatemala
- **2017** Mauritius Research and Innovation Council
- **2018** Surya University, Indonesia
- **2019** Technical University, Moldova
- **2020** Central American Integration System (SICA)
- **2022** Universidad Popular Autónoma del Estado de Puebla, México
- **2022** École Supérieure Privée d’Ingénierie et de Technologie Appliquée, Tunisia

#### HyperGES
- **2020** Mahidol University, Thailand
- **2023** Macau University of Science and Technology
- **2023** Universidad Católica Boliviana “San Pablo"

#### Vega C
- **2023** University of Nairobi, Kenya, supported by the University of Arizona and Space Trust

#### China Space Station
- **2019** 9 proposals were selected initially. 7 projects from 17 institutions from 13 different countries are under development: China, Germany, India, Italy, Japan, Kenya, Mexico, Peru, Poland, Russia, Saudi Arabia, Spain, Switzerland

#### ISONscope
- **2022** Kenya Space Agency
- **2022** National Space Research and Development Agency, Nigeria
Access to Space for All
Structure of the initiative

HYPERGRAVITY AND MICROGRAVITY

- Building capacity for conducting experiments in orbit
  - Hands-on opportunities in hypergravity and microgravity from ground to orbit
  - Open source tools bridging hands-on and education components
  - Educational material for building up experiments

SATELLITE DEVELOPMENT

- Building capacity that enables the development, deployment, and operation of satellites
  - Hands-on opportunities for satellite deployment
  - Open source tools bridging hands-on and education components
  - Educational material supporting the whole life-cycle of satellites

SPACE EXPLORATION

- Broadening the engagement in space exploration
  - Hands-on opportunities to engage in space exploration
  - Open source tools bridging hands-on and education components
  - Educational material for space exploration
Access to Space for All
Opportunities

HYPERGRAVITY/MICROGRAVITY
- DLR DropTES
- ZARM
- ESA HyperGES

SATELLITE DEVELOPMENT
- canSATS
- PHI

SPACE EXPLORATION
- ISONscope
- Ground Analogues

Systems Engineering Webinar Series
- NASA
- JAXA
- PNST
- MEXT
- Kyutech
- UNISEC

Kibo-RPC
KiboCUBE Academy
Beyond GEO
Partner: Kyutech (Kyushu Institute of Technology) with the support of the Gov. of Japan (MEXT)
Established: 2013
Provides 3 students in the Master’s Programme (2 years duration) and 3 students in the Doctoral Programme (3 years duration) to enroll in Kyutech’s Space Engineering International Course (SEIC) for a hands-on, extensive research opportunity in nano-satellite systems through the use of the nano-satellite development and testing facilities available at Kyutech.

The selected fellows are expected to return to their home counties upon completion of their studies and contribute to their countries using the experience and knowledge gained from the programme.

Year | Selected Student’s Countries of Origin
---|---
2023 | Algeria, Indonesia, Nepal, Nigeria, Uganda
2022 | Egypt, Mexico, Mongolia, South Africa, Turkey, Thailand
2021 | Bhutan, Cambodia, Ethiopia, Laos, Trinidad and Tobago, Zimbabwe
2020 | Brazil, El Salvador, Indonesia, Nepal, Paraguay, Vietnam
2019 | Bhutan, Ethiopia, Laos, Malaysia, Sri Lanka, Trinidad and Tobago
Access to Space for All
Post-graduate Study on Nano-Satellite Technology (PNST)

Why PNST?

1. Opportunity to study in an international environment at a leading university in the field of small satellites
   Hands-on, extensive education opportunity in nano-satellite systems through the use of testing facilities available at Kyutech.

   From 2018, Kyutech has been reported by Bryce Space and Technology to have launched the highest number of small satellites among all academic operators.

2. Generous support from Japan
   144,000 JPY per month for the duration of their fellowship study (2 or 3 years) to cover housing, food, local transportation, and other expenses from MEXT

   An economy class air ticket between an international airport in the country and Japan from MEXT

   Fees for matriculation, tuition and entrance examinations will be paid by Kyutech.
Access to Space for All
Post-graduate Study on Nano-Satellite Technology (PNST)
Access to Space for All
Post-graduate Study on Nano-Satellite Technology (PNST)

The United Nations Office for Outer Space Affairs and the Government of Japan in cooperation with the Kyushu Institute of Technology (Kyutech) have established a United Nations/Japan Long-term Fellowship Programme on Nano-Satellite Technologies for nationals of developing countries or non-space-faring nations. The Programme will provide extensive research opportunities in nano-satellite systems through the use of the nano-satellite development and testing facilities available at Kyutech.

Every year this ‘Post-graduate study on Nano-Satellite Technologies (PNST)’ Fellowship Programme will accept up to three students in the Master’s Programme (2 years duration) and up to three students in the Doctoral Programme (3 years duration). Successful participants will be awarded a master or doctoral degree after successful thesis defence. The successful candidates will enroll in the Space Engineering International Course (SEIC) after passing an official entrance examination by the Graduate School of Engineering, Kyushu Institute of Technology.

The selected candidates will each receive a grant under Japanese government (Ministry of Education, Culture, Sports, Science and Technology; MEXT) scholarship (Research Students) of approximately 144,000 JPY per month for the duration of their fellowship study (2 or 3 years) to cover housing, food, local transportation, and other expenses. Each candidate will be provided, according to his/her itinerary and route as designated by MEXT, an economy class air ticket between an international airport in the country of his/her nationality and an international airport in Japan used on the normal route to the accepting university. Fees for matriculation, tuition and entrance examinations will be paid by Kyutech.

The purpose of this fellowship is to help non-space-faring nations join the community of space-faring nations. Consequently, if you are selected as a PNST Fellow through the aforementioned process and earn your advanced degree at Kyutech, you have an immense moral obligation to return to your home country and contribute to it. This is the central expectation of both UNOOSA and Kyutech.

Applications for the Fellowship Programme will be accepted until 5 January 2024 (Friday, 23:59 Japan Standard Time (JST)). If not fully completed at the time of the deadline, the application will be deemed to be not qualifying.

Our Work
Secretariat of COPUOS
Programme on Space Applications
UN-SPIDER
International Committee on GNSS
UN-Space
Space Law
Benefits of Space
Access to Space for All
For Member States
Partnerships
Opportunities
Hypermics/Microsat Track
Guidance, Navigation, Tracking
Space Operation Track
Awards
Acknowledgement
Space Law for New Space Actors
Space for Persons with Disabilities
Space4Youth
Space4Water
Space4Women
Access to Space for All
Post-graduate Study on Nano-Satellite Technology (PNST)

Application Requirements

Information Note and Application Documents

Before submitting the completed application documents through the online upload form, please first complete the electronic registration form, using the link below:

Register for the Post-graduate study on Nano-Satellite Technologies (PNST)

The PNST registration site is using Mozilla Firefox. If you are unable to access the above URL due to restrictions on Microsoft services in your area, please contact PNST Administration: pnst.space[at]mail.kyutech.jp (Replace [at] with @). Please note that the administrative office cannot reply to your inquiries during weekends and Japanese holidays (from Dec. 29 to Jan 3, and Jan 8). If you want to apply, please contact us well in advance.

After registering for PNST you will receive a confirmation email with the web address where you will download the .doc versions of the application forms.

Application Documents:
- Information Note (.pdf)
- Terms of Participation (.pdf)
- Nomination Form (.pdf)
- Nomination Form (Rank certificate) (.pdf)
- Application Form (.pdf)
- Reference Report Form (.pdf)
- Academic Background (.pdf)
- Academic Background Sample (.pdf)
- Application for Japanese Government (Ministry of Education, Culture, Sports, Science and Technology, MEXT) Scholarship (.pdf)
- Field of Study and Research Plan (.pdf)
- Checklist (.pdf)
- Application Guidelines of Japanese Government (MEXT) Scholarship (.pdf)

Application Submission Procedure

The fully completed application form and other required documents except the referee report forms shall be submitted in electronic format (.doc or .pdf or .xls) at the Web address that is in the confirmation e-mail you will receive after registering above, by no later than 5 January 2024 (Friday, 23:59 JST). If not fully completed at the time of the deadline, the application will be deemed to be not qualifying.

Note: Do not use any non-English characters. Moreover, each character must be a one-byte type of character. As well, do not use spaces in your file names, as the file server will not handle such data correctly. Use "_" (under bar) or "-" (hyphen) instead, e.g. "'01_Tom_Smith_20031224"

The referee report forms should be sent by uploading to the designated URL by the referees themselves by no later than 5 January 2024 (Friday, 23:59 JST).
Access to Space for All
Post-graduate Study on Nano-Satellite Technology (PNST)

Schedule

- **Application Open**: Nov. 2023
- **First round selection**: Mar. 2024
- **Finalization of research and study plan**: June 2024
- **Beginning of Fellowship Programme**: Oct. 2024

**Key Dates**

- **5 Jan. 2024**: Application Closed
- **Jan. 2024**: Final Selection
- **July 2024**: Official entrance exam to Kyutech

**Programme Overview**

- **Nov. 2023**: Application Open
- **Mar. 2024**: First round selection
- **June 2024**: Finalization of research and study plan
- **Oct. 2024**: Beginning of Fellowship Programme
Frequently Asked Questions (FAQ)

During the registration process for PNST, if you have any questions, first please read the Application Flow (PDF) which can be downloaded from https://www.tobata.kyutech.ac.jp/ig-school/gra-program/nnst/post/

Q: I am expected to graduate sometime in 2024. Am I still eligible to apply for the PNST?
A: We accept applications as long as the applicant is expected to have the degree by September 2024. However, the applicant will need to submit a proof of the expected degree conferal date by the submission deadline, 5 January 2024 (23:59 JST), and if selected, will also have to submit the diploma received before the Fellowship Programme starts on 1 October 2024.

Q: As the topic of my Doctoral or Master thesis, am I restricted to choose something related to nano-satellite?
A: Space technology is made of many disciplines. You do not have to restrict yourself to choosing a topic too narrowly such as "nano-satellite technology", "nano-satellite communications", etc. As long as the topic is space-related, it has a possibility to be applied to nano-satellite. The important thing is that the basic topic has suitable academic meaning as a Doctoral or Master thesis. Your research topic will be determined via matching between your research interest and the academic disciplines that Kyutech faculty members can offer. We will try to find a supervisor who is able to guide you in the area of your research interest.

Q: Where can I find more information about the research work I could conduct at Kyutech?
A: Please visit http://kyutech-cent.research.kyutech.ac.jp/nnstweb.html which provides information about the research programmes at Kyutech, on the subjects of the Space Engineering International Consortium and the faculty members and their recent publications.
You can also find the list of professors who belong to the Department of Space Systems Engineering at https://www.space.tobata.kyutech.ac.jp/tablist/. Although the page is in Japanese, you can go to the webpage of each laboratory from the links listed in the page.

Q: After a survey of the different researchers at Kyutech I am interested in working with Dr. XXX. My question is if I can apply to the United Nations/Japan Long-term Fellowship Programme on Nano-Satellite Technologies even though I do not have any agreement with any researcher yet?
A: Yes, of course you can apply! You do not need any pre-agreement with a Kyutech faculty before you apply. After the first round of short-selection, we will work on matching the remaining applicants to a professor at Kyutech. We will consider your interest in working with a particular professor if you pass this first round. Please first register for the PNST programme 2024 and then submit your application package.

Q: Who should sign the "Nomination Form"?
A: The nomination form shall be signed by the head of the nominating organization. If you are a student right now, the person who signs the form has to be the Dean or a Higher ranking official. If you are employed by a company, the person who signs the form has to be the president of your company. If you are neither a student nor employed, please ask the Dean or a Higher ranking official of the school you attended most recently.

Q: Is it sufficient for the "Referee Report Form" to be signed by the referee or is the seal of the referee's organization also required?
A: The referee's signature is sufficient, however, for the "Nomination Form" the official seal of the nominating organization is required.

Q: Is it necessary to send hardcopies of the application forms to PNST?
A: At the first stage in the application process this is not necessary. You should just upload and submit the softcopies of required documents through the specified website. However, please retain all the original certificates, such as Certificate of graduation (Diploma) or transcript (both documents in English), and those official selections into TOEIC, TOEFL or other equivalent standardized English test (such as TOEIC, TOEFL, etc.), and the Nomination Form signed by the head of the nominating agency/institution. The short-listed candidates will be contacted and asked to send these original documents by express mail (such as DHL, FedEx) directly to Kyutech in early February.

Q: Can I send additional certificates to support my application?
A: Yes, you can if you think that it will strengthen your application.

Q: I will apply for the Master's Program. Do I have to fill the STATEMENT OF PURPOSE in the PNST 2024 Application Form?
A: Yes, please complete this field if you apply for Master's Program as well as if you apply for Doctoral Program.

Q: As an applicant do I need any help from my nominating agency during the application process? How is the nominating agency going to know about the progress in the selection process?
A: It is up to the applicant and the nominating agency how they wish to relate to each other during the application process. For example, some successful applicants have retained employment with their respective nominating agency, retained the opportunity to return to their previous employer or had coordinated the signing of their theses work with their nominating agency. This is handled differently in each case and so it is up to the applicant and the nominating agency how you would like to handle this. It is also up to the applicant to keep the nominating agency informed about the progress in the application and selection process.

Q: Do I need preparation for an examination to Kyutech?
A: You need to register online for admission application in May, and then take an interview as an official entrance examination for Graduate School of Engineering, Kyutech in July. The details for registration will be provided by Kyutech. Doctoral Program candidates may be exempted from an interview, whereas Master's Program candidates must undergo an interview. However, as long as the candidates are selected as final PNST candidates, it is unlikely to fail the interview.

Q: Is TOEFL or another English proficiency certification required? If so, what score is required and where should the exam results be sent?
A: Basically, it is advised all the candidates should submit an official English test score taken within two years, such as TOEIC, TOEFL, etc. and the score level should be CEFR (Common European Framework of Reference for Languages) B2 or higher. Please check what tests are approved by CEFR at Wikipedia: https://en.wikipedia.org/wiki/Common_European_Framework_of_Reference_for_Languages

The submission of the test score is not mandatory if your university (Bachelor for Master candidates, Master for Doctoral candidates) education was conducted entirely in English, and you can submit the evidence of that as a certificate signed by Dean or an official of higher rank.

Please refer to the checklist No.68 for the details about certification of English proficiency.

Please note that the application materials and information are subject to change, and applicants are responsible for checking the latest information on the PNST website.