



Members of BIRDS -1, -2, -3, and -4, on 29 Nov 2018 in front of the lab building



Archive website: <http://birds1.birds-project.com/newsletter.html>

All back issues are archived at this website.

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BIRDS Project Newsletter

Issue No. 35
(20 December 2018)

Edited by:
G. Maeda

Laboratory of Spacecraft Environment
Interaction Engineering (LaSEINE),
Kyushu Institute of Technology (Kyutech)
Kitakyushu, Japan



Space
Engineering
International
Course

All back issues of this newsletter can be easily downloaded.

Go to here: <http://birds1.birds-project.com/newsletter.html> and scroll down to the desired issue.

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FROM PARAGUAY  **GUEST BOX**



Tereré

The "Tereré" is a traditional, declared official and cultural heritage by Paraguayan congress, drink from my country, invented by the Guaraní natives, people who are living in Paraguay.

It is usually prepared in a container called "Guampa" in which cold water with medicinal and refreshing herbs are added.

Generally it is drincken in a group of friends, and the guampa with it's bombilla (straw) is shared between everyone.

It is a very social drink, which is consumed by all social classes at any time of the day.

Anibal Mendoza, Paraguay

See also:

<https://en.wikipedia.org/wiki/Terer%C3%A9>

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01. A word of thanks from the editor



Quick Note of Thanks

Year 2018 is nearly over. I want to say *Thank You* to each person who contributed to the **BIRDS Project Newsletter** this year. Thanks to you, the newsletter is more interesting and more informative than ever before.

In Year 2019, please continue to send in your high-quality material for publication so that we may all enjoy your information.



G. Maeda, The Editor

02. Applications for 2019 PNST are now being accepted at UNOOSA website



The **United Nations Office for Outer Space Affairs (UNOOSA)** and the **Kyushu Institute of Technology (Kyutech)** are pleased to announce that the website to accept PNST applications for 2019 is now open. See

www.unoosa.org/oosa/en/ourwork/psa/bsti/fellowships.html

Dead line for applications is 20 January 2019, so applicants have plenty of time to submit a high-quality application.

Please encourage your best students to apply. But applicants must:

- be from a non-space-faring nation
- be passionate about space and have a yearning to use that passion to benefit his or her country in space-related development
- be under the age of 35
- have an engineering degree (any field is OK)
- must have graduated near the top of his or her engineering program

This PNST round will have six slots: (1) three for Phd program, and (2) three for masters program. Successful applicants would start at Kyutech in October of 2019.

Continued on the next page.



INTERNACIONAL



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

10/24/2018 - 14:15 a 01/15/2019 - 14:15

Historia de PNST

El Programa de becas PNST fue iniciado en 2013 por la Oficina de las Naciones Unidas para Asuntos del Espacio Ultraterrestre (UNOOSA) y el Gobierno de Japón en conjunto con el Instituto de Tecnología de Kyushu (Kyutech). PNST ofrece hasta seis becas por año (dos maestrías, cuatro de doctorado) para aspirantes a estudiantes de posgrado que estén interesados en estudiar diseño nano-satélite y aprender sobre desarrollo de tecnología espacial básica. Todos los estudiantes de becas de PNST se inscriben en el Curso Internacional de Ingeniería Espacial (SEIC) en Kyutech, que se inició en inglés en abril de 2013.

Requerimientos de aplicacion

- Aplicar cuando sea menor de 35 años.
- Adecuadas habilidades verbales y escritas del idioma inglés.
- Nacional de un país en vías de desarrollo o de una nación no espacial.
- Licenciatura y / o maestría (o equivalente) en asignaturas relacionadas con la ingeniería (la comisión puede considerar títulos en diferentes campos tecnológicos)
- Capacidad para hacer uso profesional o académico de la experiencia obtenida en la beca PNST

This is the promotion of PNST in Panama

Límite de aplicación: 29 de enero 2019.

Programa PNST y futuras oportunidades

El programa PNST ofrece amplias oportunidades de investigación en sistemas nano-satélite a través del uso de instalaciones de investigación espacial en Kyutech. Los estudiantes de PNST se unirán a un proyecto de desarrollo espacial en Kyutech. A través del proyecto, se espera que cada participante identifique un tema de investigación y lleve a cabo el trabajo de investigación bajo la supervisión de la facultad de Kyutech. El participante también debe cumplir con los requisitos de los cursos de posgrado de SEIC. Al completar con éxito una tesis y su defensa, el participante obtiene una maestría en ingeniería o un doctorado en ingeniería. Al graduarse, se espera que los becarios del PNST regresen a sus países de origen para ayudar a desarrollar el sector espacial.

Beca de beca y vida estudiantil.

Comienzo en octubre: el curso principal es de 2 años y el curso de doctorado es de 3 años. La matrícula, las tarifas universitarias y el pasaje aéreo en clase económica desde el país de origen. Oportunidades para aprender japonés y también cultura japonesa. Instrucción en inglés, excepto en la clase de idioma japonés.

Cómo aplicar

Su solicitud completa y todos los demás documentos requeridos deben enviarse electrónicamente. El plazo de solicitud suele ser en enero para la admisión de octubre. La selección se realiza sobre la base de las credenciales académicas, la experiencia laboral relevante y el potencial futuro de cada solicitante. Para más detalles y para aplicar visita: <http://www.unoosa.org/oosa/en/SAP/bsti/fellowship.html>

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

03. The 6th UNISEC-Global Meeting at ISU in France



[Home](#) > [Meetings](#) > [6th Global Meeting](#)

The Sixth UNISEC-Global Meeting November 19-21, 2018, Strasbourg, France



Updated on October 26, 2018



Venue: International Space University (ISU)

Purpose of this meeting <http://unisec-global.org/meeting6.html>

Inheriting from the founding vision of creating a world where space science & technology are available by every country for the benefit of humankind in November 2013, and taking note of its Permanent Observer Status to the UN Committee on the Peaceful Uses of Outer Space (UNCOPUOS), UNISEC-Global for its 6th Meeting is seeking the following purposes:

- To evaluate and follow the successful results at the 5th UNISEC-Global Meeting in December 2017 at Sapienza - University of Rome, Rome , Italy,
- To learn and apply ISU's diversity and dynamism for future UNISEC-Global activities, by taking an opportunity of holding the 6th Meeting at ISU,
- To identify the 17 Goals for UN Sustainable Development for possible contributions by UNISEC-Global, and to try to find a way of how to connect these identifies goals with UNISEC-Global's programs,
- In commemoration of the 5th anniversary of UNISEC-Global, to evaluate the past achievements of UNISEC-Global for a future direction,
- To strengthen the Mission Idea Contest (MIC) with particular emphasis to satisfy Sustainable Development Goals.



Photos courtesy of Taiwo

Student & Teacher





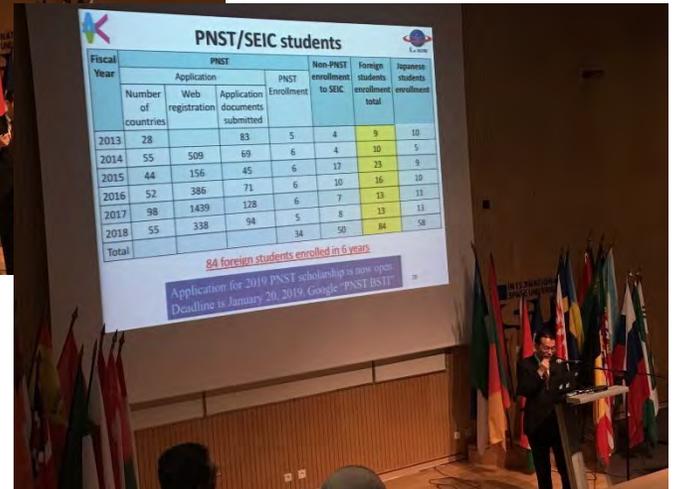
Prof. Cho delivered this talk



Photos are courtesy of Taiwo of ISU



Photos courtesy of Taiwo



During the morning of DAY 1 – Monday, 19 November 2018



Photos courtesy of Taiwo



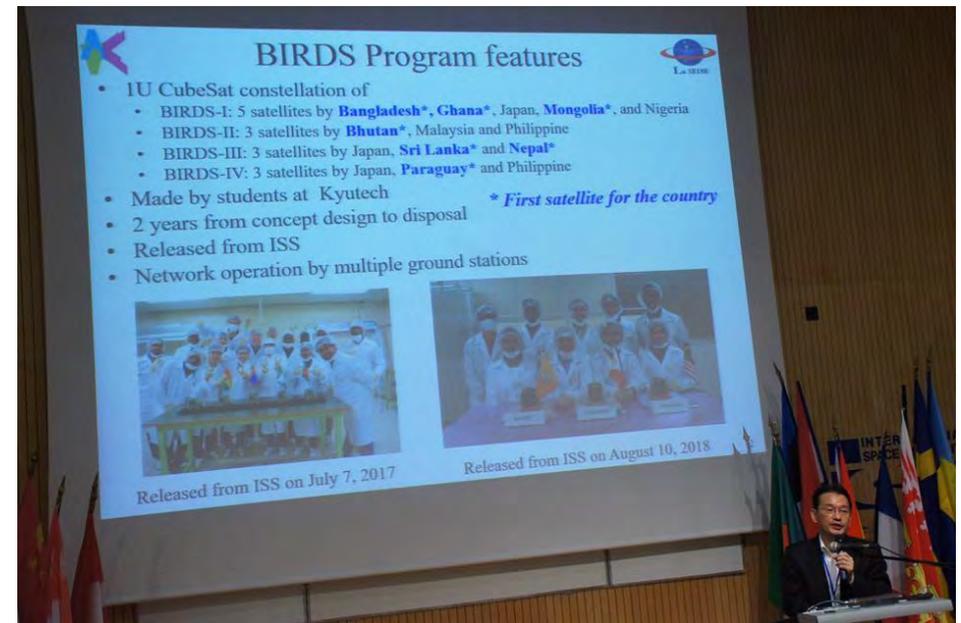


Above:
 Prof. Cho holds the 2nd Place Award (5th MIC) given to Kiruki Cosmas of Kyutech in Japan. Cosmas is a Phd PNST student from Kenya.
Great job Cosmas.



Above: Antara (BIRDS-1 member) presented via video for Bangladesh

Photos courtesy of Taiwo



BIRDS Program features

- IU CubeSat constellation of
 - BIRDS-I: 5 satellites by **Bangladesh***, **Ghana***, Japan, **Mongolia***, and Nigeria
 - BIRDS-II: 3 satellites by **Bhutan***, Malaysia and Philippine
 - BIRDS-III: 3 satellites by Japan, **Sri Lanka*** and **Nepal***
 - BIRDS-IV: 3 satellites by Japan, **Paraguay*** and Philippine
- Made by students at Kyutech ** First satellite for the country*
- 2 years from concept design to disposal
- Released from ISS
- Network operation by multiple ground stations

Released from ISS on July 7, 2017

Released from ISS on August 10, 2018





Dear MIC Coordinators,

5th Mission Idea Contest results are as follows.
Congratulations and thank you for your support!

1st Place

Smallsat Ionosphere Exploration at Several Times and Altitudes,
William Evonosky, Duann Yi, Kandi Anand Kaustubh University of Colorado
Boulder, National Central University, IIST

2nd Place

Arid and Semi-Arid Lands Satellite (ASAL-SAT): A LoRa ground sensor network
for easing life in Sub-Saharan Africa ASAL areas,
Kiruki Cosmas, Kyushu Institute of Technology, Japan

IAA Award

Development of Microsatellite in Monitoring Initial Harmful Algae Bloom (HAB) ,
Aik Kwan Tan University Sains Malaysia (USM)

Student Prize

HERON - An Open Source Microbiology Experiment Platform in Low Earth Orbit,
Ali Haydaroglu University of Toronto

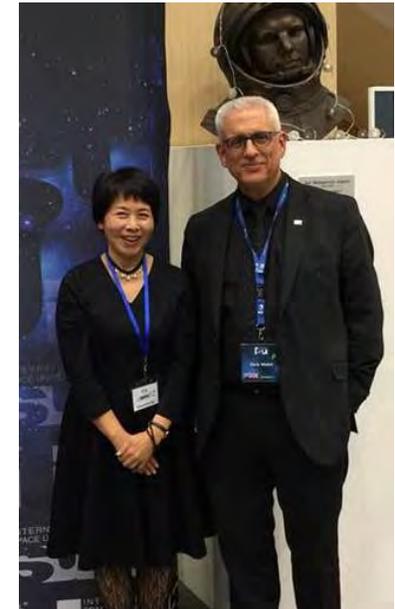
-- Rei Kawashima, 22 Nov. 2018

The 5th Mission Idea Contest

See here for details:

<http://www.spacemic.net/>

Results were announced at this meeting at ISU.
The results are at the left.



Rei Kawashima with
Prof Chris Welch



Thank you Claire Byrski for your dedication to the successful 6th UNISEC-global meeting at ISU on Nov 19-21, 2018.
-- Rei Kawashima



Kyoko Oribe, a Japanese female space engineer of IHI Aerospace, attended the 6th UNISEC-Global meeting and joined a panel discussion on “gender equality” organized by students.

-- Rei Kawashima.

With Italian female engineering students, Alice and Giulia >
-- Rei Kawashima





HEPTA-Sat Training course during UNISEC Global conference

The 6th UNISEC-Global Meeting

in collaboration with
International Space University
November 19-21, 2018
Strasbourg, France

Photo Report

By the end of 2030, let's create a world where university students can participate in practical space projects in all countries.

http://www.unisec-global.org/pdf/uniglo6/UNIGLO6_photo_report.pdf

For more photos,
check out the
26-page
Photo Report of
this meeting.

END OF THIS SECTION

04. "Programa de invitación a los Nikkeis en América Latina para profundizar su entendimiento sobre Japón"



27 August 2015, 総理大臣官邸



Dr Kurita with Prime Minister Abe

http://www.kantei.go.jp/jp/97_abe/actions/201508/27hyokei.html

This information was received on 22 Nov. 2018:

The program from Ministry of Foreign Affairs (MOFA) is called: "Programa de invitación a los Nikkeis en América Latina para profundizar su entendimiento sobre Japón." In English it would go something like this: "Latin America Nikkei Invitation Program for deepening the understanding of Japan."

Every year, under the Japan government initiative to promote internationalization and strengthening of its foreign policy through the Nikkei community, nine Nikkeis from different countries of Latin America are being selected to participate in this program.

This program consisted of 5 days of intensive exposure to Japanese culture. Among activities related to cultural affairs, there were lectures conducted by renowned specialist on different subjects such as the Bushido Spirit.

Sincerely,
Jorge Kurita, Ph.D.
Director, Planning and Management
Space Agency of Paraguay; www.aep.gov.py

05. News media in Paraguay/Argentina covers BIRDS-4 Project

11 DE NOVIEMBRE DE 2018 | TECNOLOGÍA.

El Paraguay avanza en el desarrollo de un satélite

Por Nancy Duré Cáceres. ABC Color

11 Nov. 2018

Adolfo Jara Céspedes es el primer profesional paraguayo que viaja al Japón en busca de una maestría, Ph. D., para el diseño y montaje del primer CubeSat nacional, a ser aplicado en la detección de la endemia causada por el mal de Chagas, en el Chaco paraguayo.

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Aa

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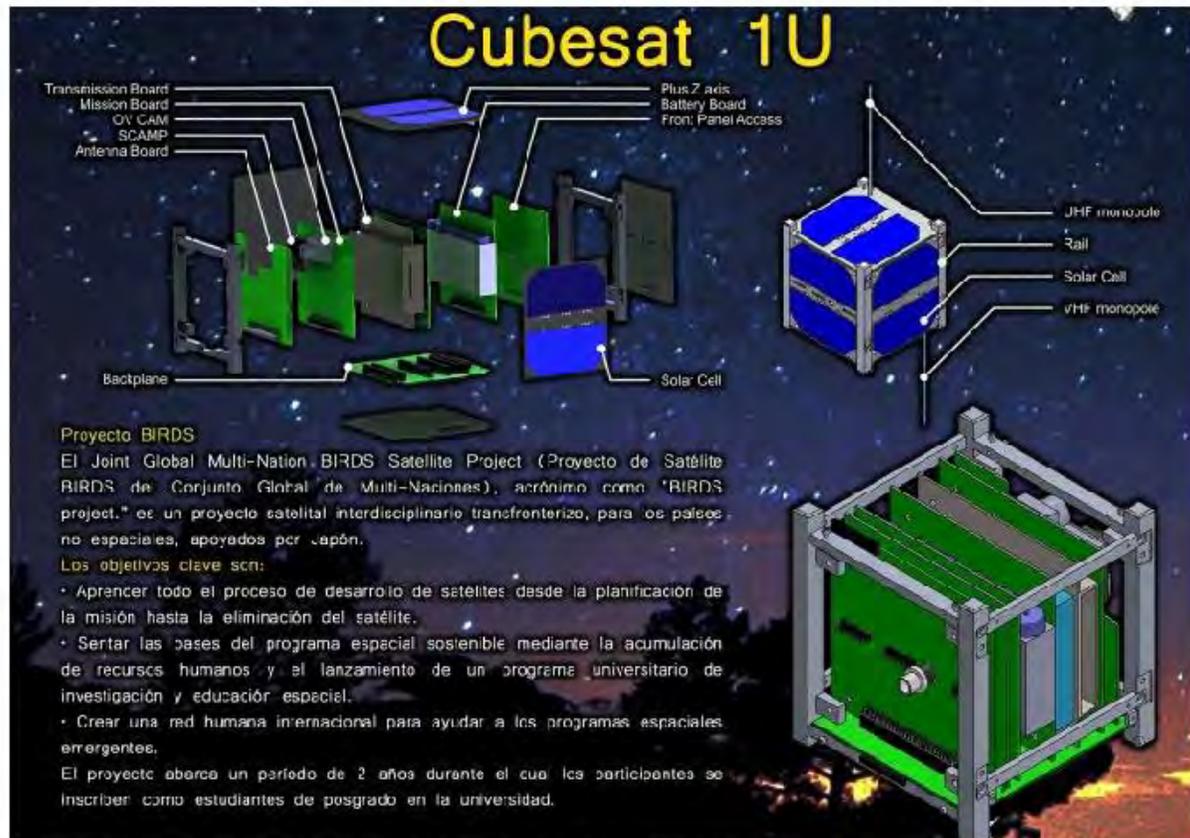


¿Qué es CubeSat?, se preguntará. Es un satélite en forma de cubo diseñado para orbitar alrededor del planeta y que, por su tamaño, se clasifica desde 1U hasta 12U. Un CubeSat 1U es un cubo de 10 cm de cada lado.

Estos aparatos se crearon por la necesidad que surgió de diseñar, construir y operar satélites cada vez más pequeños. Luego de casi 15 años desde que el primer CubeSat llegó al espacio, en el 2003, el avance tecnológico facilitó que pueda realizar más tareas en el área de la salud, por ejemplo. Y, precisamente, para eso viaja a Japón el primer profesional paraguayo, Adolfo Jara Céspedes, en busca de una maestría Ph. D. para el diseño y montaje del primer CubeSat nacional a ser aplicado en la detección de la endemia causada por el mal de Chagas, en el Chaco paraguayo.

La charla con el ingeniero se dio en la Sala de Relaciones Públicas del aeropuerto Silvio Pettirossi, poco antes de su embarque con destino a la tierra del sol naciente. "Es una tremenda responsabilidad y orgullo ser el primer profesional paraguayo que accede a esta maestría. Mi deseo es contribuir al desarrollo de nuestro país en esta área y, a la vez, promover a los jóvenes ingenieros en los mejores puestos de trabajo. De esta forma, ganamos todos", es lo primero que dice.

<http://www.abc.com.py/edicion-impres/suplementos/abc-revista/el-paraguay-avanza-en-el-desarrollo-de-un-satelite-1758054.html>



Bosquejo del proyecto del satélite que será fabricado por Adolfo Jara. Gentileza



El satélite paraguayo servirá para monitorear los vectores de las enfermedades epidemiológicas. AMHE.

Como en el Chaco no hay cobertura del 100% de la telefonía celular, se utilizará la información recogida por el satélite, que se estará retransmitiendo sin impedimentos hasta una estación terrena que se construirá en Asunción, de acuerdo con la disposición presupuestaria. Está diseñado para que dé cobertura en todo el país.

<https://www.ultimahora.com/satelite-paraguayo-sera-lanzado-al-espacio-rusia-n2775617.html>

Inicio Última Hora Actualidad Ciencia Economía Multimedia Política Salud Sociedad

Inicio » Tecnología » Anuncian construcción de satélite para combatir enfermedades en Paraguay

Anuncian construcción de satélite para combatir enfermedades en Paraguay

octubre 26, 2018 La Verdad Oculta 0

Según reportaron las autoridades paraguayas, será el primer satélite que cooperará en el campo de la salud, combatiendo enfermedades como el mal de chagas o el dengue.

El Gobierno de Paraguay anunció este jueves la construcción de su primer satélite, que servirá para combatir enfermedades como el dengue, según informó la Presidencia a través de un comunicado.

Una de las acciones previstas dentro del Plan Estratégico del Estado Paraguayo "es la construcción del primer satélite que cooperará en el campo de la salud, captando información sobre la presencia de vectores que transmiten enfermedades como el mal de chagas y el dengue", indicó el organismo.

El director de ejecución de proyectos de la Agencia Espacial Paraguaya (AEP), Adolfo Jara, explicó que el plan de construir un satélite implicará la colocación de sensores en el Chaco para captar la presencia de vectores que transmiten enfermedades.

<https://www.laverdadoculta.com.ar/2018/10/anuncian-construccion-de-satelite-para.html?sref=fb&m=1>



Presidencia Paraguay 
@PresidenciaPy



👉 WEB | Paraguay prevé programa satelital en el Chaco para combatir epidemias bit.ly/2CDgg52

🍷 19 23:48 - 25 oct. 2018

06. The 62nd Space Sciences and Technology Conference (UKAREN 62)



A
conference
report by
Apiwat
(BIRDS-1)

The 62nd Space Sciences and Technology Conference (UKAREN 62)

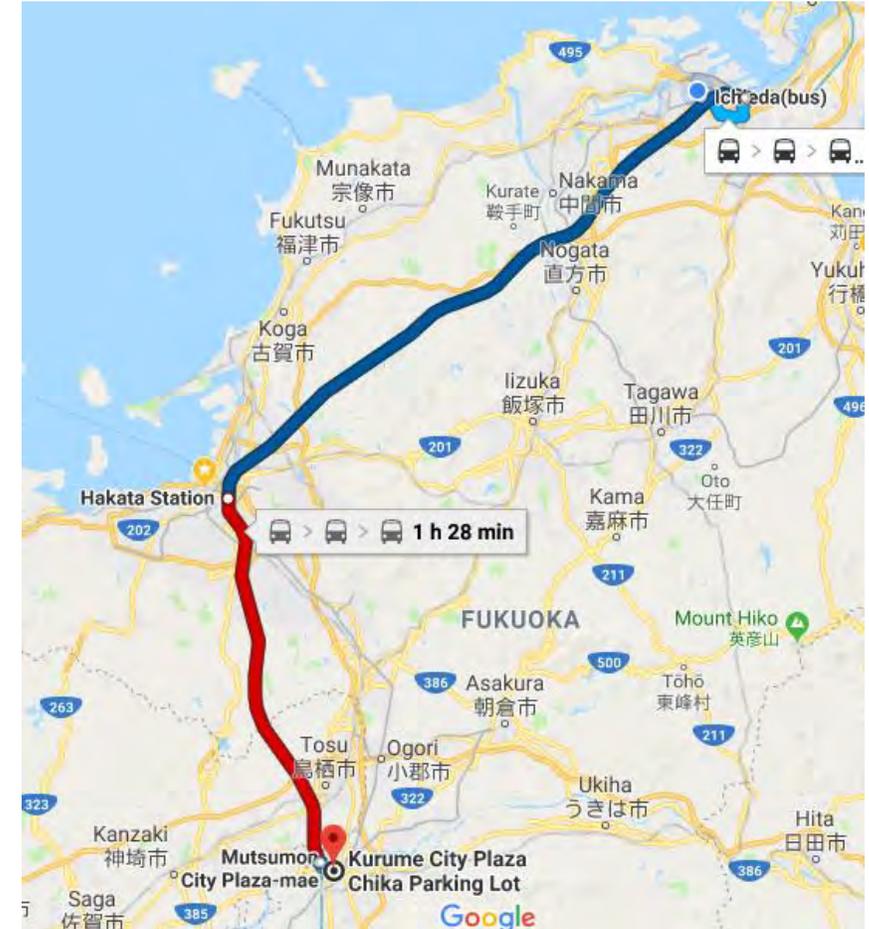
October 24 – 26, 2018

At Kurume City Plaza, Kurume city, Fukuoka, Japan



The UKAREN conference is one of the biggest Space Technology conference in Japan.

This year, some of BIRDS-1, 2, 3 members attended the conference and details are in this reported.



Kurume is about 100 km far from Kyutech which take about 35 minutes by Shinkansen bullet train.

Space Industries Exhibition (1)



Chemical observation company, Promoting Astronaut drinking water



POLYTEC, Structural Dynamics Measurements



Kawasaki Heavy Industrial

Space Industries Exhibition (2)



Glenair - Mission-Critical Interconnect Solutions
Military and Aerospace grade connectors

Cosmotec vacuum component company

Space Industries Exhibition (3)



HUBER+SUHNER, RF components for space application



Space grade coaxial cable for satellite



RF connector



Waveguide

Space Industries Exhibition (4)



ORBITAL Engineering, Thermal insulator sheet and equipment for thermal vacuum testing



Deployable structure for spacecraft

Space Industries Exhibition (5)



Small satellite mock-up



“Lipovitan D” Japanese Energy drink is one of conference sponsor.
Free samples of Lipo were handed out during the conference.



First day of the UKAREN



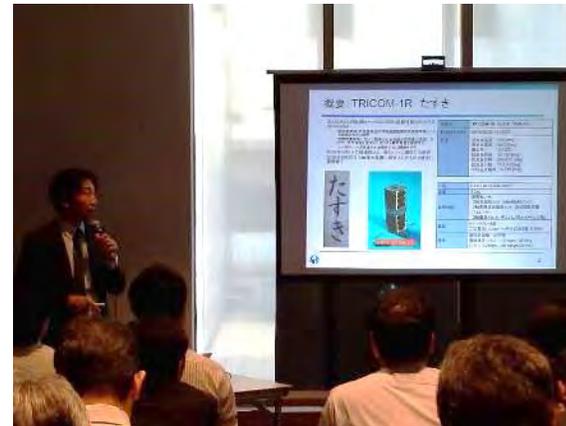
Apiwat presented on current status BIRDS ground station network.



Kyutech members L-R: Adrian, Prof. Masui, Apiwat, Kiran



Prof. Kim presented on overview of AOBA VELOX-IV satellite



We attended TRICOM-1 satellite presentation to learn about IoT and Store and Forward (S&F) system.

2nd day of the UKAREN



Adrian presented on “BIRDS-2 1U CubeSat Constellation Missions and Initial Flight Operation Results “



Bonsu presented about his research “Development and Testing Performance of Thermal Vacuum Testing Device based on On-Orbit Temperature Data Analysis of Lean Satellites”



Abhas, BIRDS-3 project manager presented on “Overview of BIRDS-3 Satellite Project involving Sri Lanka, Nepal and Japan”

3rd day of the UKAREN



Prof. Cho gave a presentation about the database of Commercial off the shelf (COTS) components used in small satellites.



“Shortening of the Development Time for University Built Class of Lean Satellites” was presented by Kiran, BIRDS-2 member from Bhutan



“A proposal for Small Satellite-based Communication System for Disaster Response in Bhutan” was presented by Cheki, BIRDS-2 member from Bhutan

End of this report

07. BIRDS participates in Kyutech Student Festival (58th 工大祭)

3. BIRDS participates in Kyutech Student Festival (55th 工大祭)



工大祭は毎年11月下旬に開催される九州工業大学の学園祭です。
This student event occurs each year sometime in November.



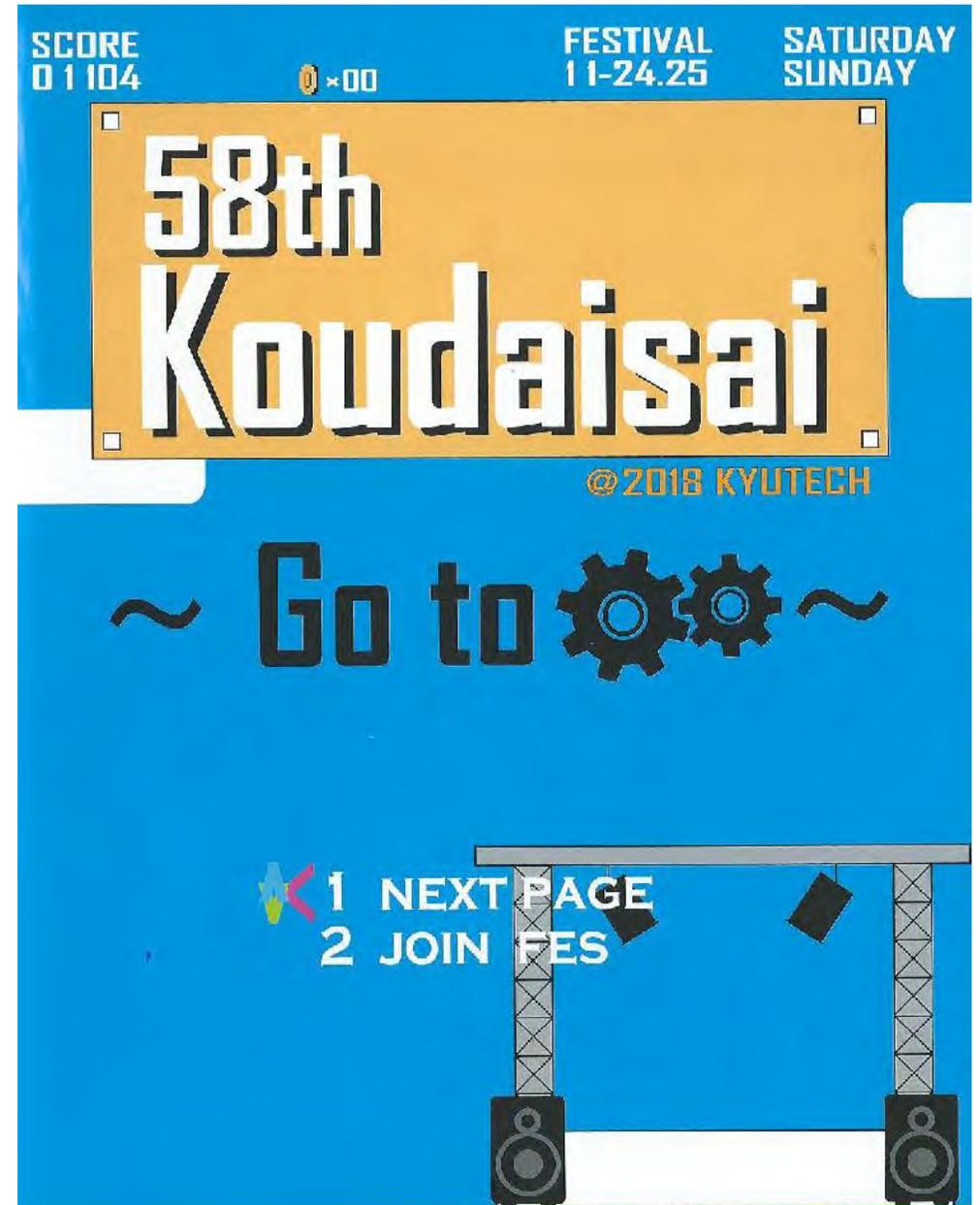
This year it took place on 19th and 20th of November.



BIRDS Project Newsletter – No. 11

Page 6 of 31

The 55th Kyutech Student Festival (工大祭) was covered originally on pages 6-8 of Issue No. 11 of the **BIRDS Project Newsletter**. So check it out.



Cover of the festival program booklet





工学部長・工学府長あいさつ



工大祭2018によせて



九州工業大学
工学部長・工学府長
岸川 聖一

2018年度九州工業大学第58回工大祭(戸畑キャンパス)にご来場いただき、誠に有難うございます。

1909(明治42)年に4年制の私立明治専門学校として開学した本学は、1921(大正10)年に官立へ移管し、1949(昭和24)年に国立九州工業大学へと変遷し、2004(平成16)年の国立大学法人化を経て現在に至っています。創立当時「緑の森と自治の丘」と謳われた戸畑キャンパスは、約60000㎡の広大な面積を有しており、現在でもその面影を随所に残しています。この中で、3000名以上の学生諸君が活発に学び、未来に向けて技術を研鑽しています。

1961年(昭和36年)、それまで隔年で行われていた学内開放に、学生自身によるサークル活動発表の場を加えたのが工大祭の始まりです。その趣旨は現在でも脈々と受け継がれており、他大学でよく見かける模擬店やゲスト企画だけでなく、学科展等の学生自身の企画によるイベントがいくつも盛り込まれています。特に、日頃の学びの発表を通して地域の人々と交流する学科展は力が込められており、その出展数は年々増加しています。各学科で、それぞれの技術を使った展示物を学部4年生や大学院生が説明します。日頃の学生諸君の学びの一端をぜひ見学していただければと思います。

工大祭を通じて、学生諸君の生き活きとした活動をご覧いただき、本学の教育研究活動の一端をご理解いただければ幸いです。どうぞ戸畑キャンパスの工大祭をお楽しみください。

末筆ながら、工大祭を開催するにあたりご協力・ご支援頂いた関係各位に篤く御礼申し上げます。



実行委員長あいさつ



九州工業大学 工学部
第58回工大祭実行委員長

中瀬 雄太



本日は九州工業大学第58回工大祭にご来場いただき、誠にありがとうございます。待ちに待ったこの日を迎えることができとてもうれしく思います。

今年度のテーマは「GO to infinity」とのことで無限大の楽しさを皆様にお届けできるように様々な企画を行わせていただきます。企画の紹介の方は、実行委員が頑張って制作したこのパンフレットをじっくり読んでいただければと思います。またツイッターやホームページでも工大祭の内容の方を紹介させていただいております。是非是非チェックしてくださいね!

今年の工大祭も多くの方々のご協力によって成り立っております。協力して下さった企業の方々や教授の方々、模擬店や学科展サークル展等で工大祭を盛り上げてくださる本校生徒のみならず、また地域住民の方々の協力によって今年も工大祭を開催することができました。来年度、再来年度の工大祭につなげていくことができるように、安全に気を配りながら工大祭を行っていきたくと考えております。九工大の学生のみならずの創意工夫によって工大祭の可能性は無限になると信じております。

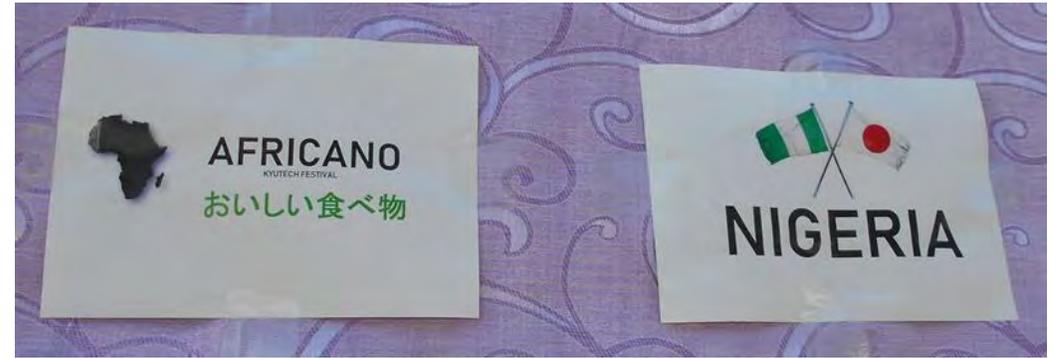
最後になりますが、パンフレット内の気になる企画にはぜひ足を運んでいただき全身で余すことなく第58回工大祭を楽しんでいただきたいと思います。



Festival banners at the main gate to Kyutech (Tobata)



The booth of Indonesia – Rahmi is holding the plastic box.



The booth of Africa – Femi (Nigeria) and Senior (Namibia)



Crepes, French style. You can have it with blueberry jam, creamy chocolate, or strawberry jam. It is hard to decide.



The booth of France



Food of other countries – mainly Japan



Advertisers



BIRDS-2 Malaysia Syazana with hubby and new baby



Mark (BIRDS-4, Philippines) and Victor (research student, Brazil)



Taiwan cuisine, 100 yen



Hakata Nabe (Big Pot), 300 yen



2018.11.24



2018.11.24



2018.11.24



2018.11.24



2018.11.24



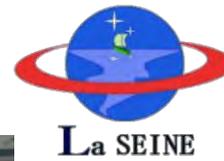
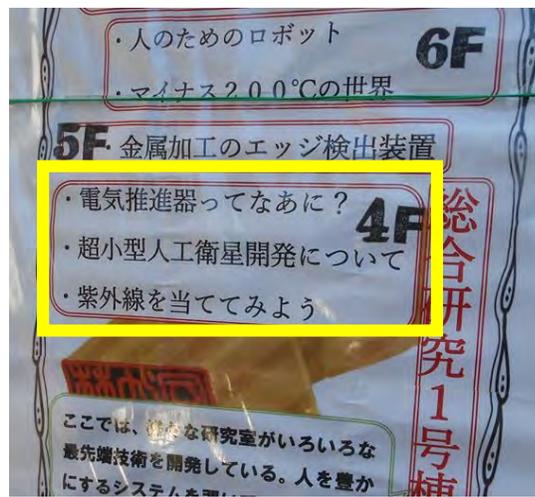
2018.11.24

Great autumn weather



11月24日(土)、25日(日)
10:00~18:00
※研究室によって時間は異なります。

学科展



Local high school students dropped by LaSEINE and were greeted by LaSEINE students

08. On 29 Nov., Prof. Fabio Santoni and his Phd student, Paolo Marzioli, visited Kyutech



On 29th of November, LaSEINE received as visitors Prof. Santoni and Paolo (his grad student) of Sapienza – University of Rome. At the left, they stand at the Main Gate of Kyutech – at 9:30 am. Below, they stand with Prof Cho before sitting down for a meeting.

Basic Facts of Sapienza

Motto	Il futuro è passato qui
Motto in English	The future has passed here
Type	Public
Established	1303
Administrative staff	8,000
Students	112,564
Location	Rome, Italy

**Continued
on the
next page**



Between 13:00 and 14:20, Prof. Santoni and Paolo delivered their presentations (multiple topics) to the students of SEIC. Just about all BIRDS students were in attendance.



Lunch at a ramen shop near the Main Gate of Kyutech



09. 2018 Group Photo of LaSEINE – the laboratory where we work



Thursday afternoon, 29 November 2018

10. The ISS can be seen by the unaided human eye

The streak in the photo below is the ISS. This photo was taken by Mr Uemura (BIRDS student) on 25 Nov. 2018 atop the building of LaSEINE. It is the tallest building on the Tobata Campus of Kyutech.



観測対象:ISS(国際宇宙ステーション)
観測目的:スペースダイナミクスの課題
観測日時:11月25日17時58分12秒(最大仰角)
最大仰角:70.0°

Data from Uemura-san



OLAYINKA'S WORLD

COLUMN NO 5

OLAYINKA FAGBEMIRO

NATIONAL SPACE RESEARCH & DEVELOPMENT AGENCY(NASRDA), ABUJA. NIGERIA

PRINCIPAL SCIENTIFIC OFFICER, HEAD, SPACE EDUCATION UNIT



7TH AFRICAN LEADERSHIP CONFERENCE ON SPACE SCIENCE AND TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT

The 7th edition of the **African Leadership Congress (ALC)** on Space Science and Technology themed “Implementation of the African Space policy and Strategy (ASPS)” with a focus on the progress of various African space programmes, and their culminating effect on Africa’s united front in Space Science and Technology held at Nicon Luxury Hotel Abuja, Nigeria, 5th -7th November, 2018.

Welcome remark at the opening ceremony was given by the Chairman of ALC from Egypt Prof. Prof Islam Abou El-Magd. He gave account of progressive movement and achievement of ALC and the strategic importance of the conference theme to assist Africa continent on Space Science and Technology for sustainable development. He expressed his happiness and thanked the LOC for putting up a great international conference.

In his welcome address, Prof. S. O. Mohammed (DG/CE, NASRDA) gave a general overview of the Agency’s achievements since last conference in Egypt, 2015. He highlighted some of the achievements of the Agency in the area of Research and Development (R&D), applications of space Science and Technology to address socio-economic and environmental problems in Nigeria. However, specific attention of the conference was drawn to the successful establishment of the Space Institute by NASRDA which will take-off with twenty (20) PhDs and Forty (40) Master Degree students in January, 2019. He enjoined all space faring nations in Africa to engage in quality research work to enhance industrialization and socio- economic development of the continent.



This event was hosted by NASRDA, the space agency of Nigeria

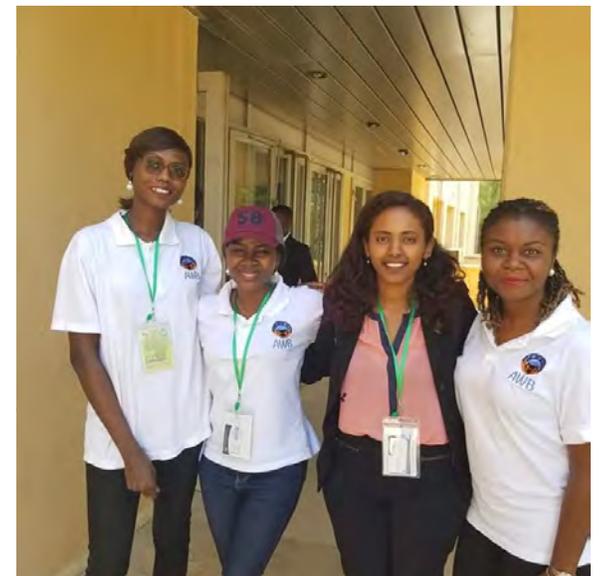
Various technical papers which focused on the theme of the conference were presented by presenters which cut across the various fields of Space Science and Technology. Some of the papers focused on Space Applications in Africa, African Space Policy and Strategy, National and Continental Space Programmes in Africa, Space Science and Space Weather, Space Communication and Navigation among others.

As part of the communique issued at the end of the 3-day conference, among others, the participants expressed appreciation and accepted the offers by the Ethiopian Space Science Institute and the South African National Space Agency to host the ALC in 2019 and 2020, respectively and also, resolved to change the name of the African Leadership Conference (ALC) to the African Space Leadership Congress (ASLC) to reflect the growing scope and pace of developments in the African space arena, and that this evolution be formalized through consultative development and adoption of a Constitution of the African Space Leadership Congress at the next assembly in 2019.

Some photos are presented on the next page.



ALC IN PHOTOS



12. A dinner party to celebrate the kick off of the BIRDS-4 Project



A celebration party:
*The Kick Off
of the
BIRDS-4 Project*

Place:
Seminar Room
of Cho Lab, 4th floor

Date:
29 Nov. 2018

Time:
7 – 10 PM

Format:
Pot Luck
あり合わせの料理
・食べ物を持ち寄って行う



両手に花



A dish from Paraguay



FRIED GYOZA SKIN

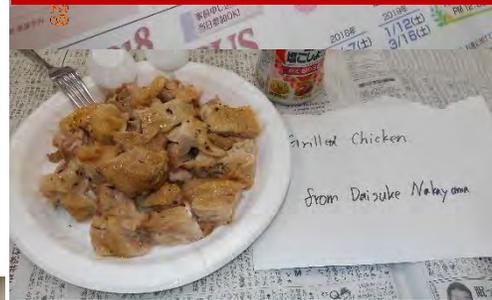


From Sri Lanka

Shrimp Chilly



A dish by Kakimoto-san



A dish by Nakayama-san



From the Philippines



Costco pizza from Goto-san

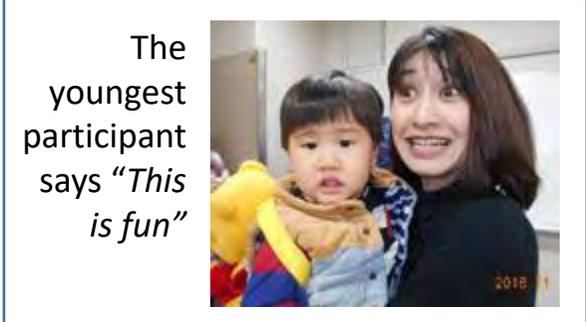


From Sri Lanka

Banana Flowers from Dulani



Tom Yam Noodles (spicy!) from Thailand, by Apiwat



The youngest participant says "This is fun"

Continued on the next page





Cool space engineers from Bhutan



At this icebreaker, we broke a lot of ice.



From the Philippines: Adrian with the newly arrived engineers for the BIRDS-4 effort



Diehard veterans of BIRDS



< Pooja approves of this homemade cooking



< BIRDS newsletter editor approves of this party



They approve of Tharindu >



13. IAF travel grants for attending IAC

You can attend the next IAC [in Washington DC] with a travel grant from the IAF

Who should consider applying?

- * Individuals interested in pursuing careers involving the development, application and use of space systems, space science research, the policy, legal, social and cultural aspects of space activities, international cooperation on space programmes and other similar subjects.
- * Persons who - for financial, sponsorship or other reasons - would not otherwise be able to attend an International Astronautical Congress.
- * Young people who wish to meet and interact with other colleagues from around the world with similar interests.
- * Individuals who hope to utilise the knowledge and experiences they gain during the IAC in their own careers and in enhancing space and related activities in their home countries.

For full details, see this link:

<https://mailchi.mp/iafastro/iaf-emerging-space-leaders-grant-programme-esl-2019-call-for-applications-164437?e=521363f648>



Announcements

Connecting @ll Space People

IAF Emerging Space Leaders (ESL) Grant Programme

2019 Call for Applications

The International Astronautical Federation (IAF) is pleased to announce its 2019 Emerging Space Leaders (ESL) Grant Programme that provides opportunities for students and young professionals to participate in the annual International Astronautical Congress.

The young people selected to take part in the 2019 Emerging Space Leaders Grant Programme will participate in the 70th International Astronautical Congress (IAC) scheduled to take place in Washington D.C., United States, from 21 – 25 October 2019. The individuals selected will also participate in other activities held the week prior to and during the Congress such as the UN/IAF Workshop, the Space Generation

Apply now!



Deadline: 8 February 2019

More information on ESL Programme

14. General Director Roman of the space agency of Paraguay (AEP) visited Kyutech



Director Alejandro J. Román Molinas (AEP, the space agency of Paraguay) visited LaSEINE on Monday, 3 December 2018. It became a full day of activities.

He distributed souvenirs to LaSEINE staff.



Kate (staff, from Ukraine) receives a gift from Director Roman.



In the morning, Dr Masui gave the full tour to our visitor from Paraguay.



Director Roman conducted a seminar from 2 PM to 3:30 PM.

Group discussion with students from Latin America

Written by: Juan J. Rojas (Costa Rica)

Prof. Alejandro Roman visited Kyutech on December 3rd as part of his Asian tour. He gave a presentation about the activities of the Paraguayan Space Agency.

To introduce his country to the audience he showed a promotional video of Paraguay that showed its beauty and explained several facts about its economy.

Their Space Agency was created since 2014 but this year they received budget for the first time.

He mentioned that they found out about Kyutech when they read about Irazu Project of Costa Rica. And that their participation in BIRDS was formalized in record time.

Right now they are collaborating with NASA in a project that aims to measure the Sahara dust distribution in the World.



Prof. Alejandro Roman delivered his presentation in the seminar room of LaSEINE.

After his presentation, there was a panel discussion in Spanish language with the participation of students from Colombia and Costa Rica.

During that session, several topics were brought to the table, among them, the possibility of creating a Latin American Space Agency in the future.

Several “lessons learned” were shared between the participants and some possibilities of collaboration were explored.

SEIC members in the panel discussion shared their perspective of the BIRDS project and their experiences in other satellite projects they have participated.

Prof. Roman gave several examples of how they have established partnerships with other agencies.



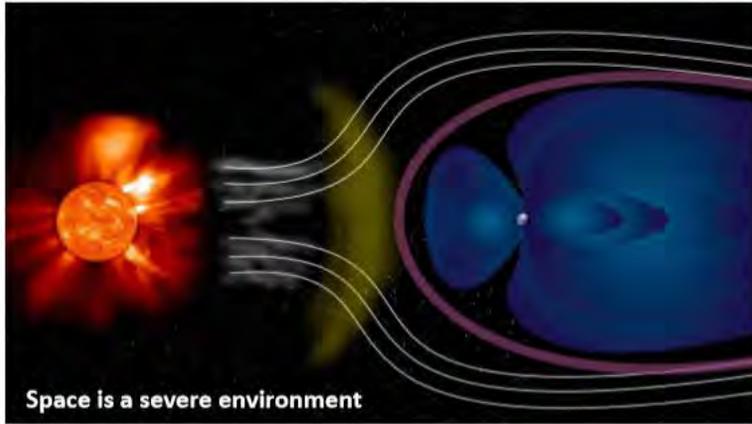
Panel discussion with SEIC students.

END OF THIS SECTION

15. Dr Huzaimy has arrived at Kyutech to teach his space weather course for SEIC

Special 4th quarter SEIC 1-credit course to enhance your knowledge of space hazards:

Space Weather and Satellite System Interaction



Taught by
Dr. Mohamad Huzaimy Jusoh
(faculty member, UiTM in
Malaysia), who is UiTM's official
"Space Ambassador"



Dr Necmi, Dr Huzaimy, Dr Kate, and Dr Rodrigo

Abhas (BIRDS-3, Project Manager), and Dr Huzaimy; checking out LaSEINE's new clean room



Dr Huzaimy is back again to teach this course at the left. He taught it last year, as well.



Photos at the right are from the first lecture, 13:00 on 6 Dec 2018, Lecture Hall S-2A





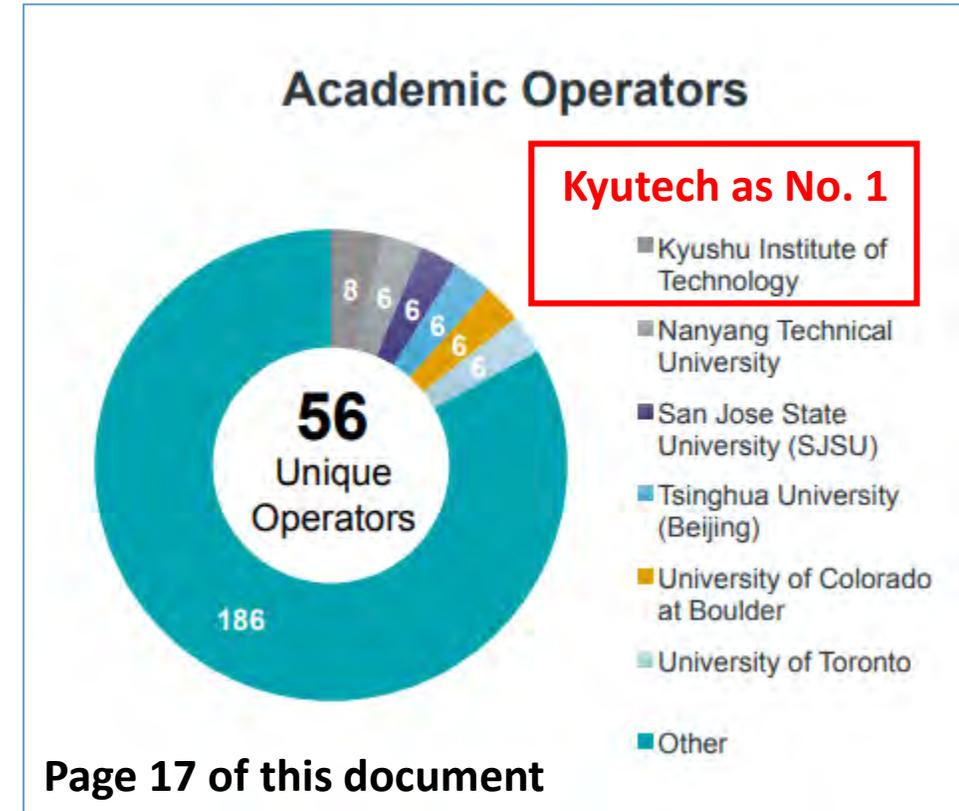
Dr. Huzaimy and Ms. Makino, who takes care of SEIC/PNST students



Mr. Wakabayashi [International Affairs Division] and Dr Huzaimy, right before a meeting

During his time at Kyutech (3 Dec thru 17 Dec, 2018), Dr Huzaimy is able to work on a few Kyutech-UiTM projects.

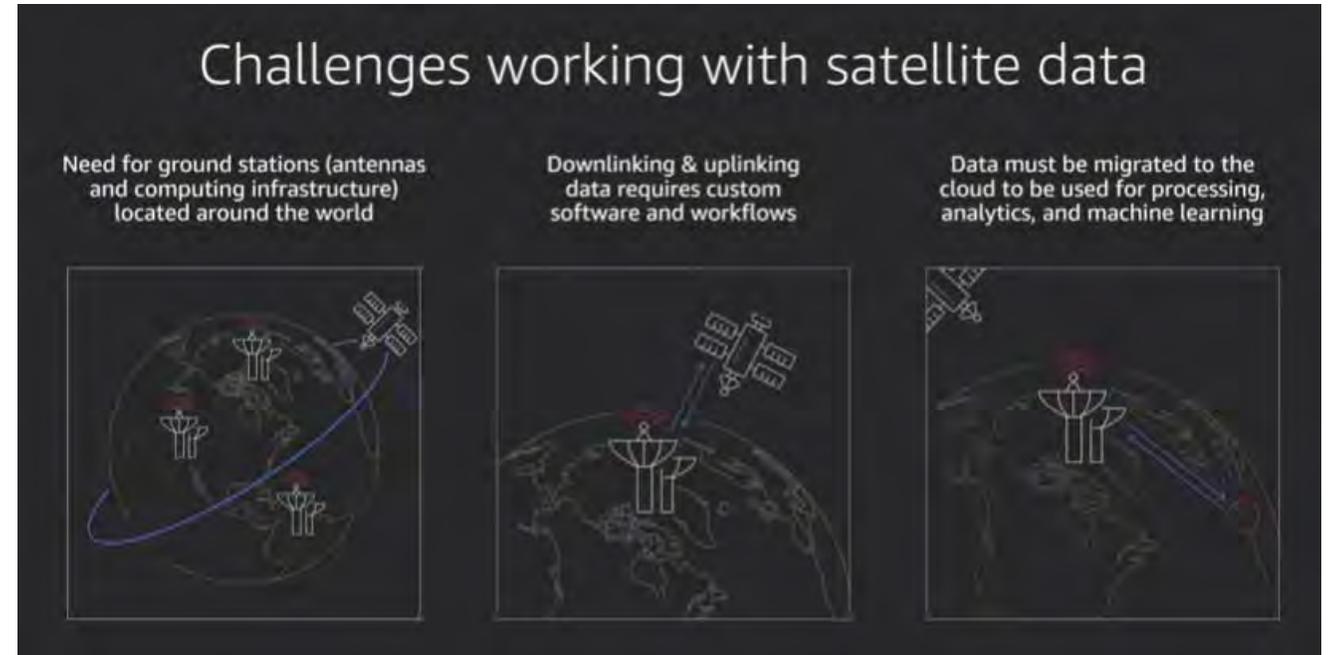
16. BRYCE report cites Kyutech as the No. 1 academic operator of small satellites



You can download the entire report from here:

file:///C:/Users/MAEDA/Documents/BIRDS%20Newsletter/Issue%20No.35---Dec/BRYCE%20REPORT/Bryce_Smallsats_2018.pdf

Nihongo news version (九工大 HP): <http://www.kyutech.ac.jp/whats-new/topics/entry-6067.html>



Amazon moves into satellite data services (22-min. video) :

<https://www.youtube.com/watch?v=EOAxdma0IUY>

Info also here:

<https://aws.amazon.com/jp/blogs/aws/aws-ground-station-ingest-and-process-data-from-orbiting-satellites/>

<https://www.geekwire.com/2018/amazon-web-services-launches-aws-ground-station-cloud-service-designed-satellite-operators/>

18. Rwanda delegation is part of Japan Tour organized by JICA

Prof Cho explains the menu



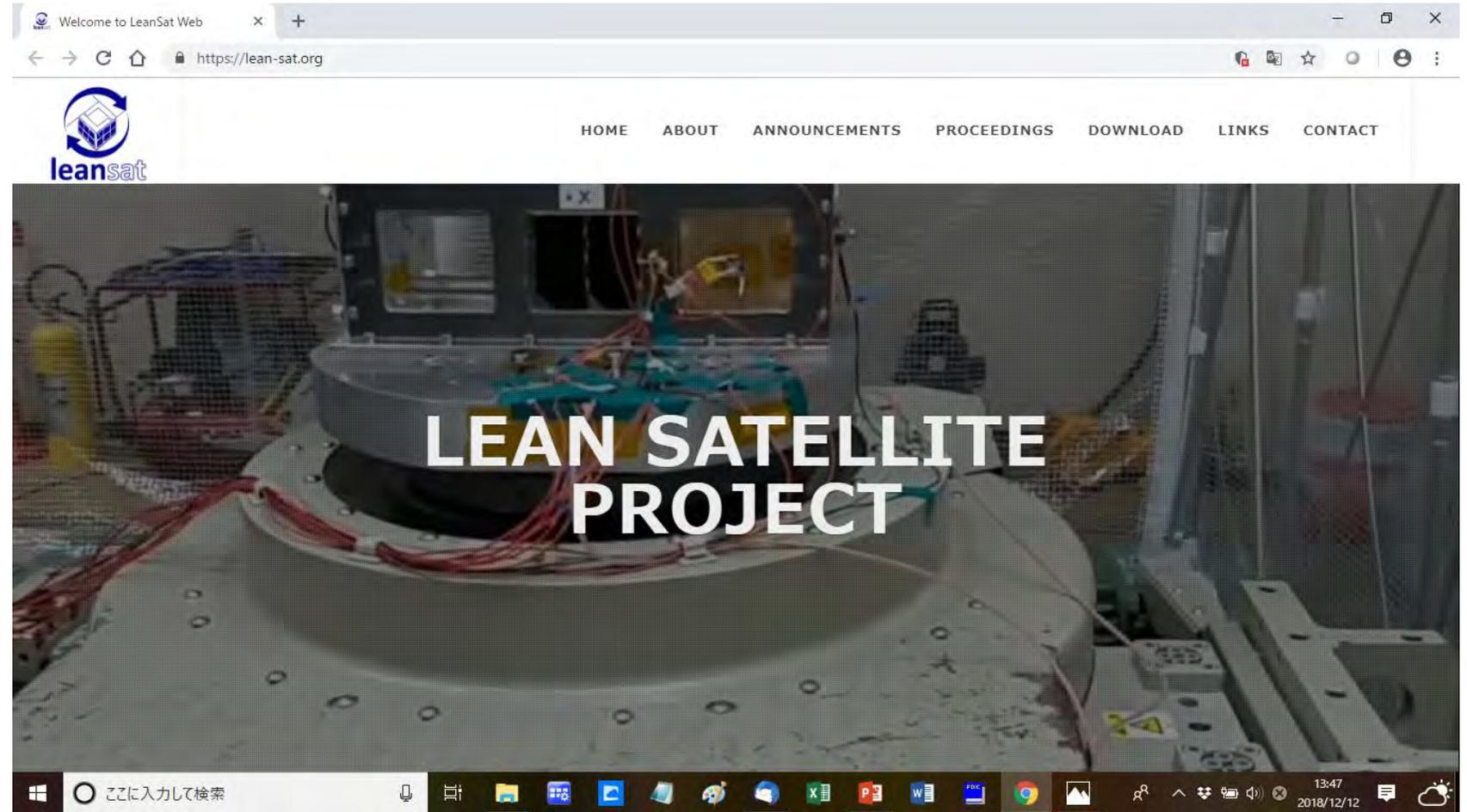
Alex Ntale and Georges Kwizera



We took Alex and Georges to Kyutech's Rouge Blanc Cafe

On 10 Dec 2018, JICA brought to Kyutech a group of foreign visitors. They are making a ten-day tour of space-related institutions in Japan. BIRDS has ongoing discussions with Rwanda.

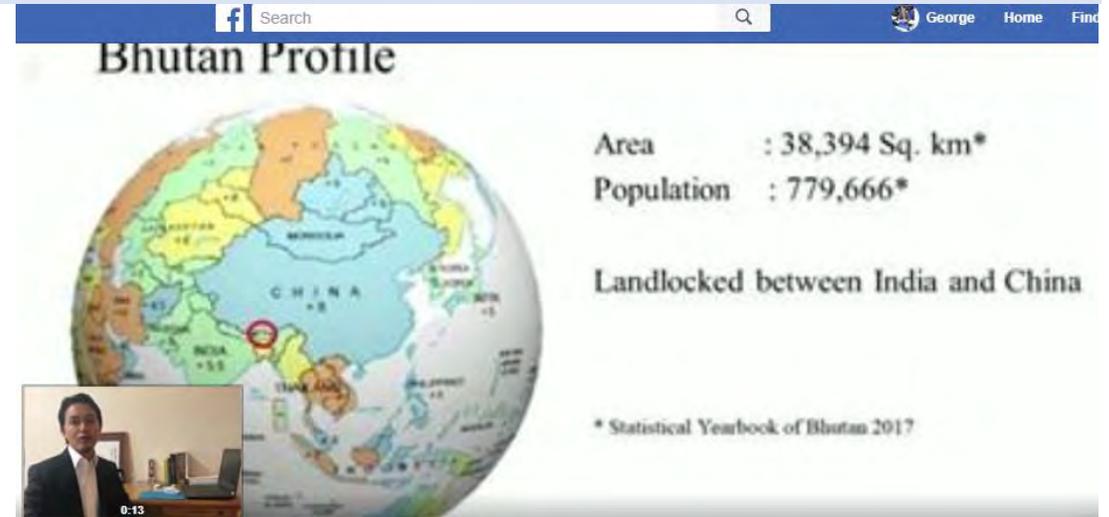
19. “Lean Sat” has a new website URL



<https://lean-sat.org/>

20. Cheki (Bhutan member of BIRDS-2) explains BIRDS to Paraguay

Bhutan, like Paraguay, is a land-locked nation squeezed between two giants. To explain BIRDS to Paraguay, Cheki made this 3-minute video – *well done Cheki!*



Testimonio de Cheki Dorji, estudiante de postgrado de Bután, realizando sus estudios en Kyutech Japón, sobre su experiencia en la construcción del primer satélite para su país.

Bután es un país con una de las economías más pequeñas del mundo. Su población no alcanza el millón, para ser exacto, 800 mil habitantes y su pequeña superficie es comparable a la mitad del Departamento de Presidente Hayes.

Así como nuestro país, este pequeño país del sur de Asia, es mediterráneo y está rodeado por economías gigantes, en este caso, India al sur y, China al norte.

En este video, un estudiante de este país nos relata su experiencia positiva, en la construcción del primer satélite de su país, a través del programa BIRDS de Kyutech.

To view this video in English (Facebook of the Space Agency of Paraguay):

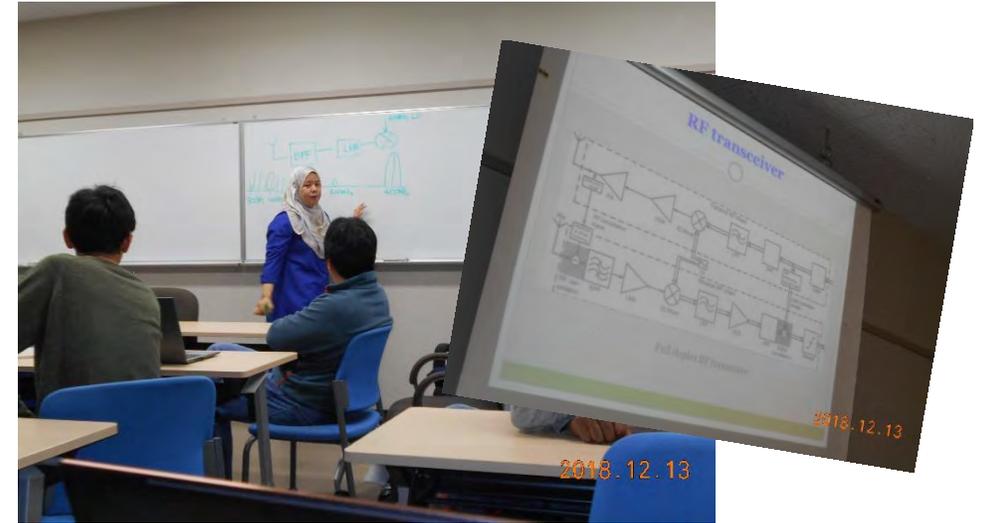
<https://www.facebook.com/agenciaespacialpy/videos/355531281900062>

21. Dr Amalina (UiTM of Malaysia) visits Kyutech for BIRDS-2 discussions; and SAES 2018

Dr Amalina came to Kyutech during 12-17 December to meet with the BIRDS-2 team, and to attend SAES 2018 of Kyutech (a joint symposium between Kyutech and UPM).



Welcome dinner for Dr Amalina on 12 December in the office of G.Maeda



Dr Amalina made a presentation to BIRDS-2 at 13:00 on 13 December. Title: **The RF transceiver system design**

She wrote: “This short presentation invites the audiences to have a deeper look at the design of the RF transceiver system, which plays an important role in the communication system of nanosatellites. In fact, it converts the data from the micro-controller unit (MCU) into RF analog signal, and prepare the signal for transmission. But how does it do it? That's what the audience will find out in this presentation. “



SAES-International Symposium on Applied Engineering and Sciences 15-16 December 2018, Tobata Campus

For full details:

http://www.kyutech.ac.jp/english/mssc/saes_en.html



The agenda for Day 2 2018.12.16



Registration desk 2018.12.16



Oral presentations 2018.12.16



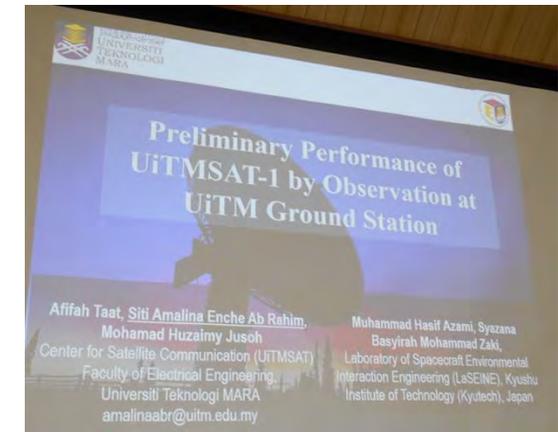
Poster hall 2018.12.16



Dr Amalina also presented at SAES on 16 December at 3:00 PM.

Title: **The Performance of BIRDS-2 Nano-satellites by Observation from UiTM Ground Station.**

Briefly it is about the analysis of the house-keeping data that we have received at UiTM's ground station.



22. 5th IAA Conference on University Satellite Missions



CALL FOR PAPERS *(3 Oct. 2018, during IAC)*

2nd INTERNATIONAL ACADEMY OF ASTRONAUTICS
Latin American Symposium on Small Satellites:
Advanced Technologies and Distributed Systems

November 2019
11th to 15th

Hosted by the Colomb Institute at the Auditorio del Centro Cultural de la Ciencia (C3)
Godoy Cruz 2270, Buenos Aires, Argentina

You are invited to contribute a paper for presentation at the Symposium.

A one-page, single-spaced abstract of no less than 350 and no more than 600 words is needed. The abstract must be in English. Student papers are encouraged.

Advanced Technologies and Distributed Platforms and/or Payloads themes are recommended, but all topic related to Small Satellite Missions will be considered. The symposium will have a worldwide vision, with some focus on the needs and developments of Latin America.

Presentations during the Symposium will preferably be in English, however, presentations in Spanish will be considered.

SCIENTIFIC COMMITTEE

Honorary Chairman C. F. Varotto; CONAE, Argentina	A. da Silva Curiel; SSTL, UK
Chairmen R. Sandau; IAA, Germany L. R. Gratton; Colomb Institute, Argentina	J. S. de Almeida; INPE, Brazil
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Please ask for registration for the Symposium and for payment instructions by sending an e-mail to icolomb@unsam.edu.ar, or by calling +54-11-4724-1500 ext. 1389.

Abstracts due: **May 31st 2019**
Papers due: **November 15th 2019**
www.unsam.edu.ar/institutos/colomb
icolomb@unsam.edu.ar

Professor Graziani and Marta Massimiani invite you to "5th IAA Conference on University Satellite Missions" during 28-31 January 2020 in Rome, Italy ➔

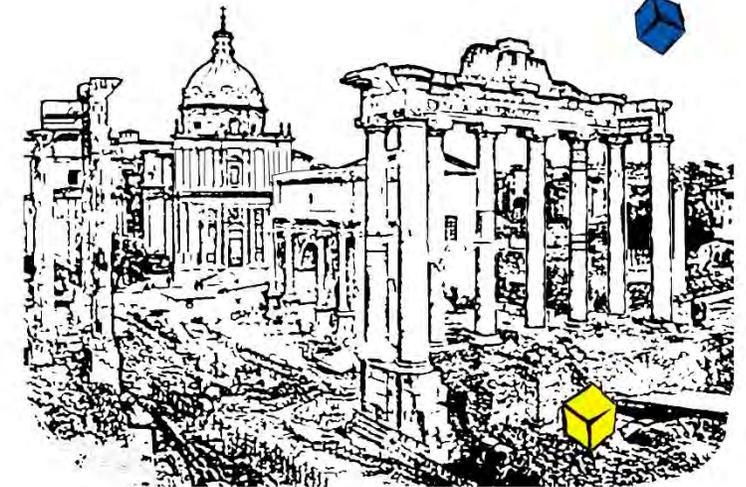


⇐ This call for papers was circulated at IAC Bremen this year.

5TH IAA CONFERENCE ON UNIVERSITY SATELLITE MISSIONS AND CUBESAT WORKSHOP

28-31 January, 2020
Palazzo Rospigliosi
Roma, Italy

gaussteam.com
conference@gaussteam.com



23. Accessing Space with the ISS Bartolomeo Platform

The United Nations Office for Outer Space Affairs (UNOOSA) is partnering with Airbus Defence and Space GmbH to offer United Nations Member States the opportunity to accommodate a payload on the Airbus Bartolomeo external platform on the International Space Station. The mission will be open to all Member States of the United Nations, and developing countries are particularly encouraged to participate. The platform will accommodate and operate payloads provided by institutions in the participating countries.

The purpose of this Call for Interest (CFI) is to provide a summary of the proposed mission opportunity and to solicit information from Member States' entities interested in providing payloads that could be flown on this mission. The CFI also has the objective of gathering information on the interested countries so that UNOOSA may better understand the demand for this type of mission.

Call for Interest

Applications from: 6 December - 31 January 2019 - **OPEN NOW**

For additional information, please have a look at the [CFI document](#)

For full details:

<http://www.unoosa.org/oosa/en/ourwork/psa/hsti/orbitalmission/bartolomeo/index.html>



UNITED NATIONS
Office for Outer Space Affairs



About Us ▾

Our Work ▾

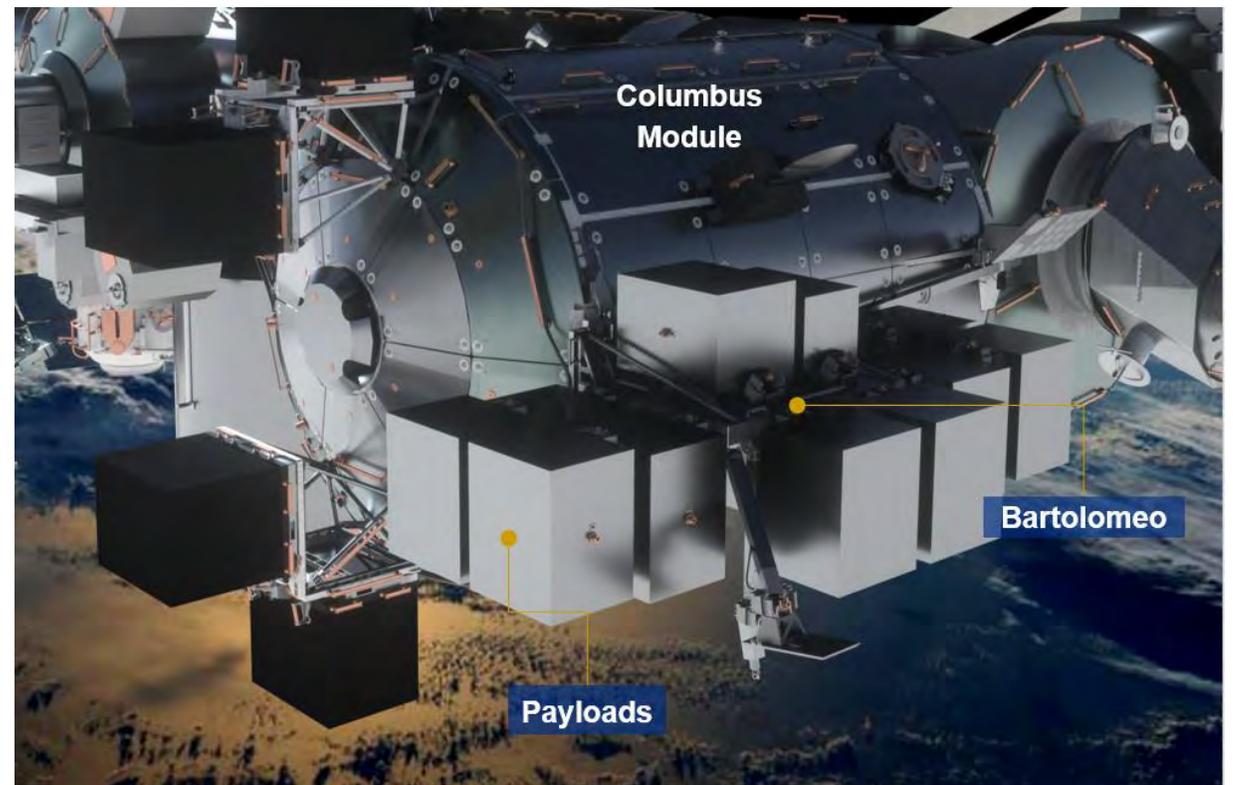
Benefits of Space ▾

Information for... ▾

Events ▾

Space O

[Our Work](#) > [Programme on Space Applications](#) > [Human Space Technology Initiative \(HSTI\)](#) > [Orbital Opportunities](#) > [Bartolomeo](#)



24. BIRDS-2: A report about ground station operations



Editor's Note:
Adrian is wearing the blue shirt.

Kyutech Ground Station (GS) Operation Report for BIRDS-2 (August-November 2018)

Prepared by: Adrian C. Salces, 19 Dec. 2018
(BIRDS-2 member from the Philippines)

Typical BIRDS-2 Operation Scenario in Kyutech GS

- A weekly operation schedule is announced to all operators before the start of the week. An operation schedule is prepared by selecting the satellite passes with elevation greater than 10° (using Orbitron software). Usually, there are 4 valid passes per day.
- The project manager assigns team members in preparing the operation schedule on a rotational basis.
- Two members usually cover a pass. They arrive 10 minutes before the start of satellite pass for preparation. The 3 CubeSats arrive in this sequence: Bhutan-1, Maya-1, UiTMSat-1. During a pass, CW beacon signals are received, command is sent to a particular satellite and testing of APRS-DP/S&F mission is done.
- After the pass, the Morse code characters from CW signals are processed to extract the basic housekeeping data from each satellite (battery voltage, current, temperatures, etc.). All data are saved in an online spreadsheet.
- Overall, an operation takes about 45-60 minutes, from preparation to making a report.
- An operation report is sent on a daily basis to all concerned through an email group. This is done by the last operators of the day.

List of GS Operators in Kyutech

Names	Period Covered
Kiran Kumar Pradhan (Bhutan)	August 10, 2018 to present
Cheki Dorji (Bhutan)	August 10, 2018 to present
Yeshey Choden (Bhutan)	October 18, 2018 to present
Pooja Lepcha (Bhutan)	August 10, 2018 to present
Syazana Basyirah (Malaysia)	August 10-16 and October 15, 2018 to present
Hasif Azami (Malaysia, has graduated)	August 10 to November 7, 2018
Joven Javier (Philippines, has graduated)	August 10 to September 27, 2018
Adrian Salces (Philippines)	August 10, 2018 to present
Daiki Yamaguchi (Japan)	August 10, 2018 to present
Tomoki Uemura (Japan)	September 18, 2018 to present
Makiko Kishimoto (new operator, BIRDS-3 member)	November 14, 2018 to present
Yukihisa Otani (new operator)	November 13, 2018 to present

Sample of Weekly Operation Schedule (August 20-26, 2018)



BIRDS-2 Ground Station Operation Initial Operation Phase Schedule August 20-26, 2018

Date (YYYY-MM-DD)	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-08-20	08:55:21	09:02:12	45.1	7	Joven, Kiran, Azami
	15:26:07	15:32:32	29.4	6	Yamaguchi, Pooja, Cheki
	17:02:54	17:08:16	19.2	5	Kiran, Yamaguchi, Cheki
Date (YYYY-MM-DD)	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-08-21	08:02:26	08:09:34	78.4	7	Azami, Joven, Cheki
	09:41:02	09:44:30	12.1	3	Kiran, Cheki, Yamaguchi
	14:33:49	14:38:57	16.9	5	Syazana, Pooja, Azami
	16:09:32	16:16:21	41.3	7	Pooja, Joven, Yamaguchi

Sample of Weekly Operation Schedule (August 20-26, 2018)

Date (YYYY-MM-DD)	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-08-22	07:09:58	07:16:36	32.5	6	Kiran, Azami, Cheki
	08:46:55	08:52:36	19.7	5	Kiran, Cheki, Yamaguchi
	15:16:36	15:23:48	79.9	7	Pooja, Joven, Azami
Date (YYYY-MM-DD)	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-08-23	06:18:15	06:23:02	15.6	5	Yamaguchi, Joven, Kiran
	07:53:23	08:00:14	35.8	7	Kiran, Cheki, Yamaguchi
	14:23:56	14:30:46	35.6	7	Cheki, Pooja, Azami
	16:01:09	16:05:53	15.2	4	Pooja, Joven, azami

Date (YYYY-MM-DD)	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-08-24	07:00:17	07:07:36	80.1	7	Joven, Kiran, Azami
	13:31:31	13:37:16	19.6	6	Yamaguchi, Pooja, Cheki
	15:07:30	15:14:12	32.3	7	Pooja, Joven, Cheki
Date (YYYY-MM-DD)	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-08-25	06:07:38	06:14:41	41.3	7	Pooja, Joven, Cheki
	07:45:01	07:50:24	17.0	5	Kiran, Cheki, Yamaguchi
	12:39:30	12:43:08	12.0	3	Yamaguchi, Pooja, Azami
	14:14:25	14:21:45	78.4	7	Kiran, Joven, Azami
Date (YYYY-MM-DD)	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-08-26	05:15:35	05:21:18	18.9	6	Kiran, Cheki, Yamaguchi
	06:51:18	06:58:05	29.6	7	Pooja, Azami, Joven
	13:21:38	13:28:48	43.8	7	Cheki, Yamaguchi, Kiran
	14:59:25	15:03:08	12.1	4	Joven, Azami, Pooja



Sample of Weekly Operation Schedule (October 15-21, 2018)



BIRDS-2 Ground Station Operation
Initial Operation Phase Schedule
October 15 - 21, 2018

Date (YYYY-MM-DD)	Target Sat for Uplink CMD	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-10-15	UiTMSat-1	9:31:15	9:41:44	30.3	10	Adrian and Syazana
		11:07:46	11:17:59	20.9	10	Adrian and Syazana
		16:01:40	16:10:41	10.3	9	Azami and Yeshey
		17:37:33	17:48:30	74.1	11	Azami and Uemura
Date (YYYY-MM-DD)	Target Sat for Uplink CMD	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-10-16	BHUTAN-1	8:38:02	8:47:27	39.6	11	Pooja and Yamaguchi
		10:13:27	10:24:11	25.8	11	Pooja and Yamaguchi
		16:43:42	16:54:23	54.1	10	Cheki and Kiran
		18:20:16	18:30:07	17.2	8	Cheki and Kiran

Sample of Weekly Operation Schedule (October 15-21, 2018)

Date (YYYY-MM-DD)	Target Sat for Uplink CMD	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-10-17	MAYA-1	9:19:24	9:30:17	87.4	11	Azami and Syazana
		10:56:59	11:06:13	11.5	9	Azami and Syazana
		15:49:53	15:59:57	18.2	10	Uemura and Yeshey
		17:26:02	17:36:44	38.2	10	Uemura and Yeshey
Date (YYYY-MM-DD)	Target Sat for Uplink CMD	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-10-18	UiTMSat-1	8:25:39	8:36:14	34.8	11	Adrian and Yamaguchi
		10:02:19	10:12:25	19	10	Adrian and Yamaguchi
		14:56:05	15:05:16	11.1	9	Kiran and Syazana
		16:31:59	16:42:56	85.5	11	Kiran and Syazana

Date (YYYY-MM-DD)	Target Sat for Uplink CMD	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-10-19	BHUTAN-1	7:32:17	7:41:55	15.7	9	Pooja and Yeshey
		9:07:54	9:18:33	35	11	Pooja and Yeshey
		15:38:03	15:48:47	37	10	Cheki and Uemura
		17:14:43	17:24:20	15.1	10	Cheki and Uemura
Date (YYYY-MM-DD)	Target Sat for Uplink CMD	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-10-20	MAYA-1	8:13:43	8:24:36	80.9	11	Adrian and Kiran
		9:51:26	10:00:29	10.6	9	Adrian and Kiran
		14:44:10	14:54:20	19.8	10	Pooja and Yamaguchi
		16:20:21	16:30:57	33.2	10	Pooja and Yamaguchi
Date (YYYY-MM-DD)	Target Sat for Uplink CMD	AOS (UTC+9)	LOS (UTC+9)	Elevation (deg)	Duration (minutes)	Operator
2018-10-21	UiTMSat-1	7:19:51	7:30:29	40.1	9	Azami and Cheki
		8:56:40	9:06:37	17.4	9	Azami and Cheki
		13:50:17	13:59:37	16.7	10	Uemura and Yeshey
		15:26:13	15:37:08	44.3	11	Uemura and Yeshey

Distribution of Covered Passes

Months	Number of Passes Covered for Different Time Periods (time expressed in military time)								
	[00:00 to 03:00)	[03:00 to 06:00)	[06:00 to 09:00)	[09:00 to 12:00)	[12:00 to 15:00)	[15:00 to 18:00)	[18:00 to 21:00)	[21:00 to 24:00)	Total for all Periods
August 2018	0	5	5	14	17	11	9	1	62
September 2018	22	14	11	6	1	8	13	13	88
October 2018	0	10	15	19	26	15	12	10	107
November 2018	24	18	13	10	0	10	12	17	104
Total for all Months	46	47	44	49	44	44	46	41	361

- In Kyutech GS, we operate around-the-clock, whenever there is a scheduled pass. Usually, there are two passes in AM and another two passes in PM but the actual time of passes shift as can be noted in the table. Overall, all time periods are roughly equally distributed.

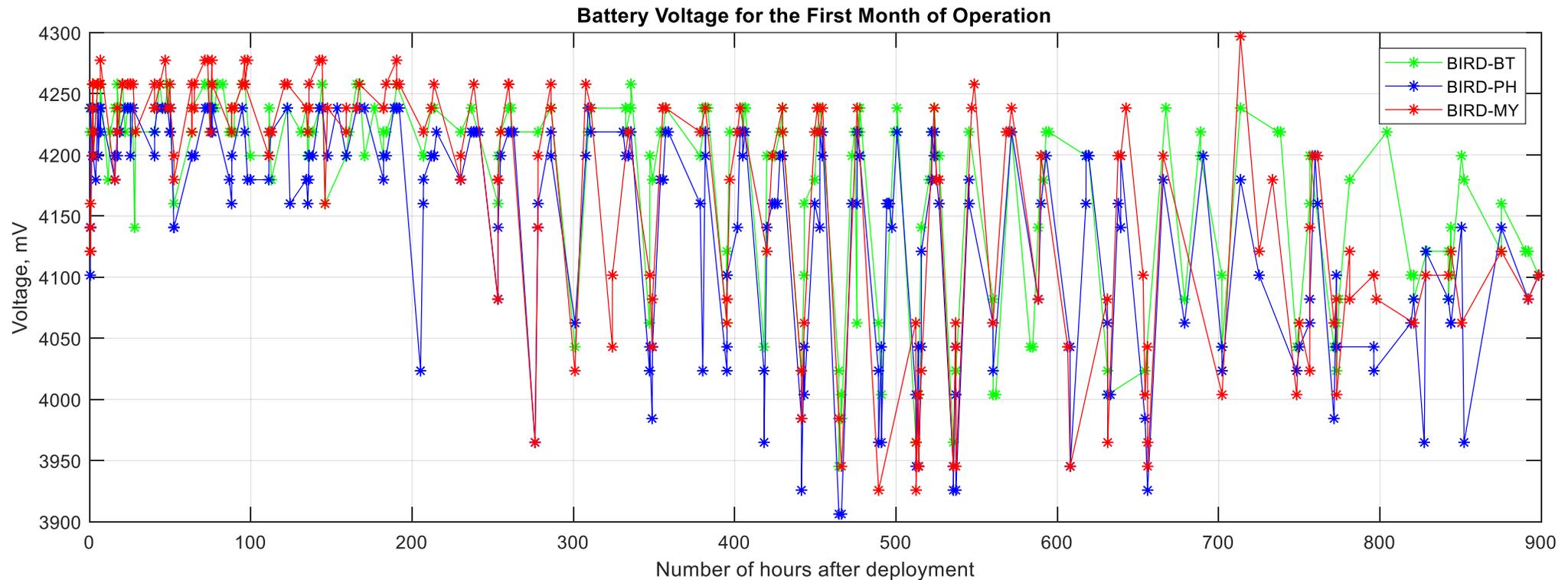
Distribution of Covered Passes

Months	Number of Passes Covered by Different Operators											
	Kiran	Cheki	Yeshey	Pooja	Syazana	Azami	Joven	Adrian	Yamaguchi	Uemura	Kishimoto	Otani
August 2018	36	31	-	19	8	22	35	17	8	-	-	-
September 2018	33	22	-	10	-	23	20	23	9	12	-	-
October 2018	31	22	12	20	13	28	-	16	18	22	-	-
November 2018	25	19	20	16	21	6	-	23	20	16	12	12
Total for all Months	125	94	32	65	42	79	56	79	55	50	12	12

- Note: The imbalance in distribution is due to the fact that some team members undertook internships, attended conference overseas, went on leave, or graduated from Kyutech.

Battery Voltage for First 900 Hours of Operation

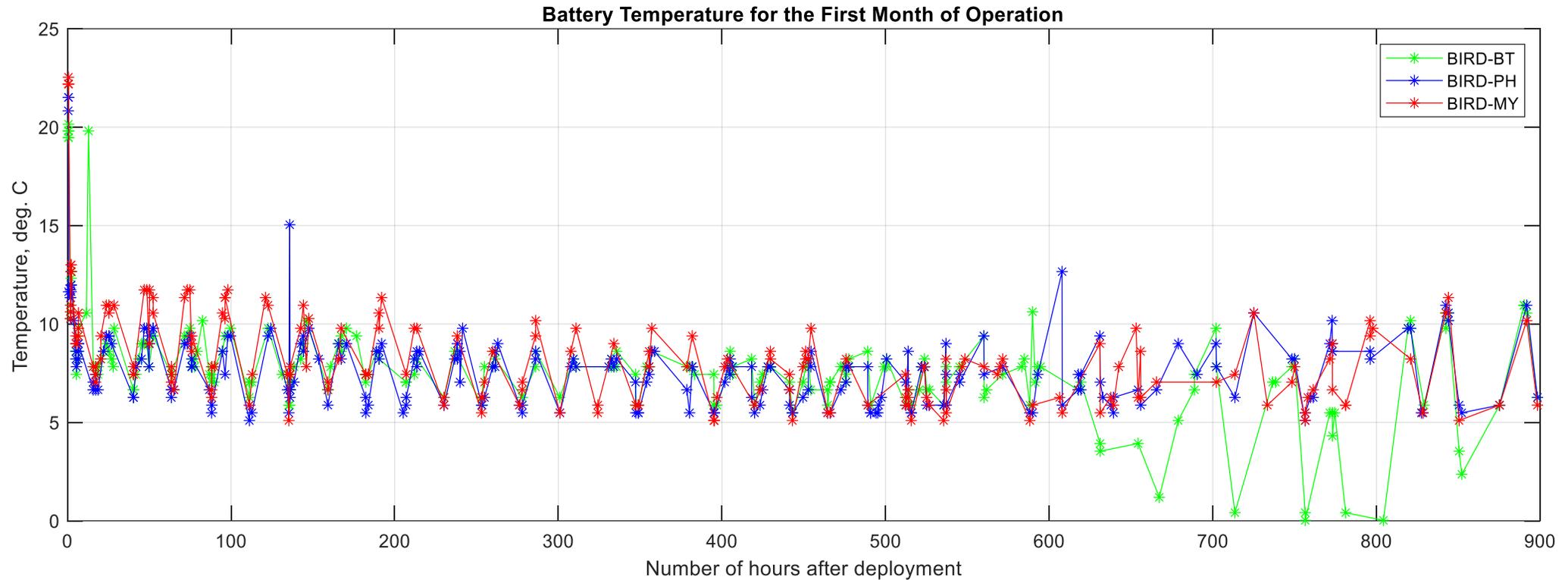
Note: The following CW beacon data include contributions from other BIRDS ground stations and international amateur community.



- Battery is charging properly and satellite is well-powered at its operation condition.
- Battery voltage is maintained within 3.9 V to 4.3 V, with average of about 4.1 V.

Battery Temperature for First 900 Hours of Operation

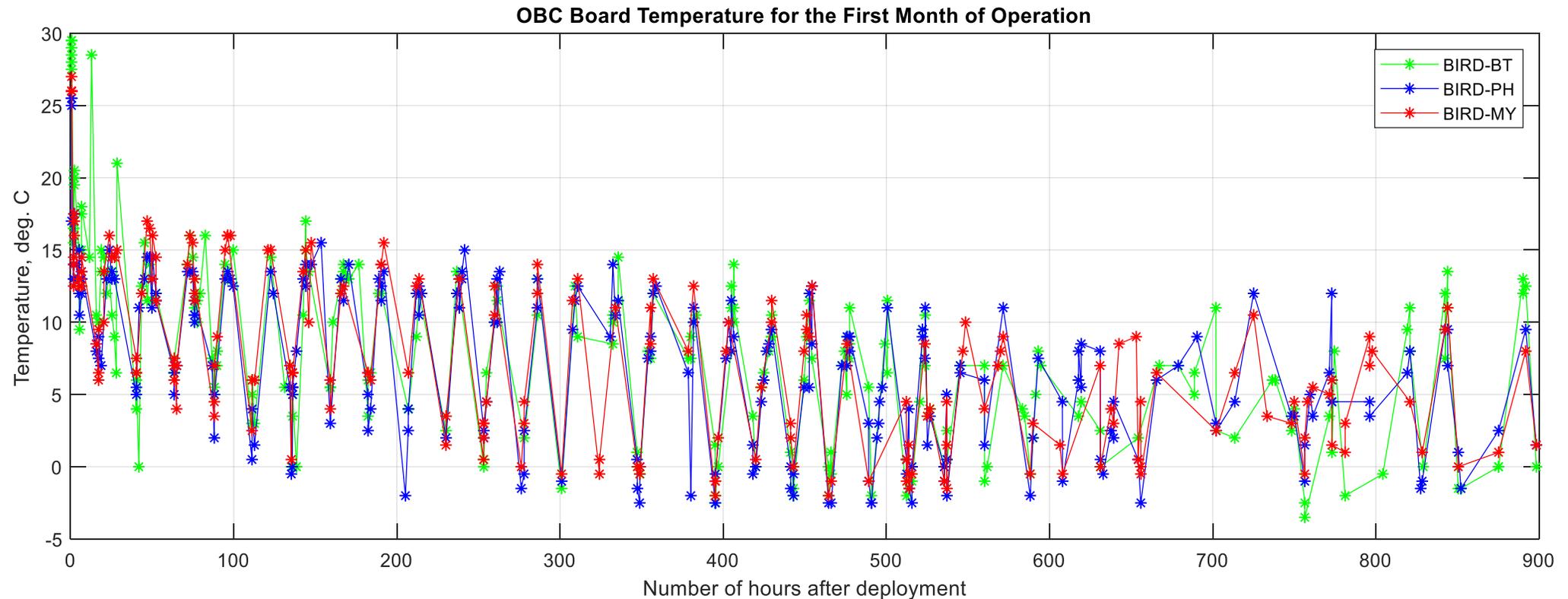
Note: The following CW beacon data include contributions from other BIRDS ground stations and international amateur community.



- Battery heater is expected to maintain the battery temperature above 5°C.
- Worked most of the time and temperature > 0°C
- Average temperature is stable.

OBC Temperature for First 900 Hours of Operation

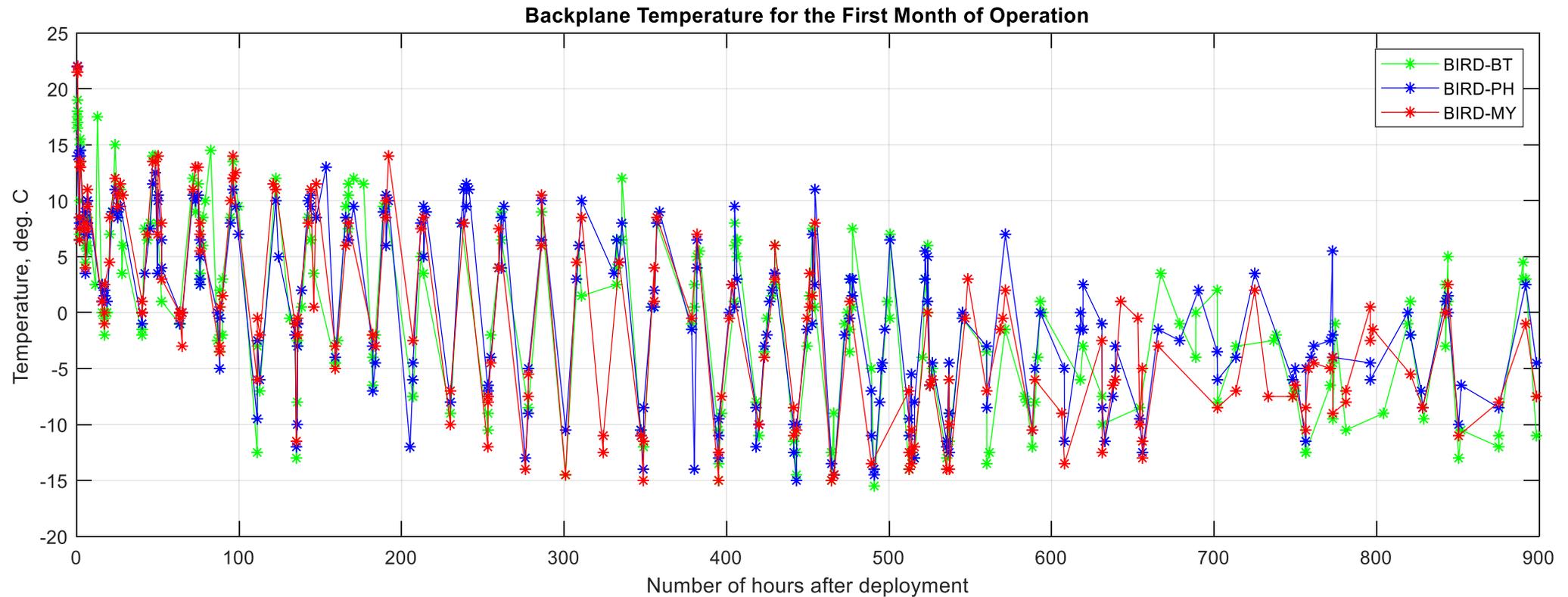
Note: The following CW beacon data include contributions from other BIRDS ground stations and international amateur community.



- OBC temperature range is about -4°C to $+17^{\circ}\text{C}$.

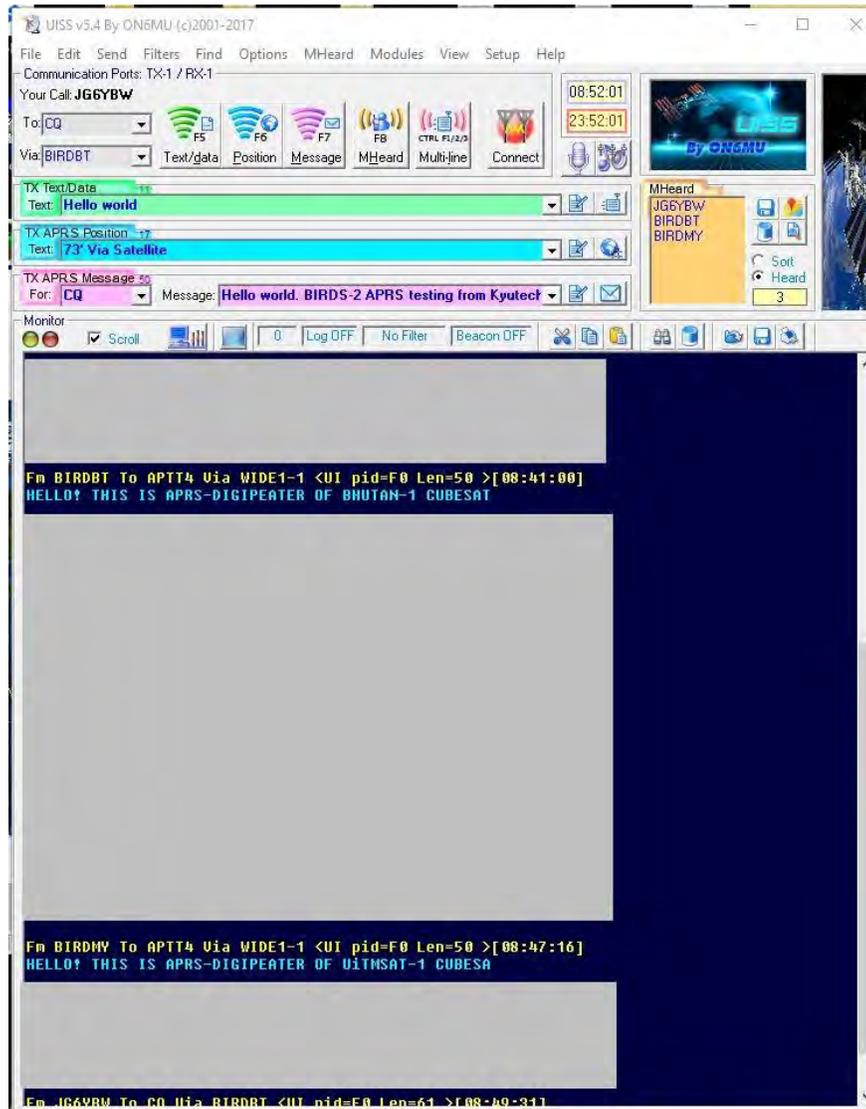
Backplane Temperature for First 900 Hours of Operation

Note: The following CW beacon data include contributions from other BIRDS ground stations and international amateur community.



- o Backplane temperature range is about -16 °C to +16°C.

Received Beacon Messages from APRS-Digipeater Payloads



Note: This is a screenshot of the APRS software running on the ground station PC in Kyutech. It shows reception of APRS beacon messages from BHUTAN-1 and UiTMSAT-1.

End of Adrian's Report

25. BIRDS-2: Video of ground station operations

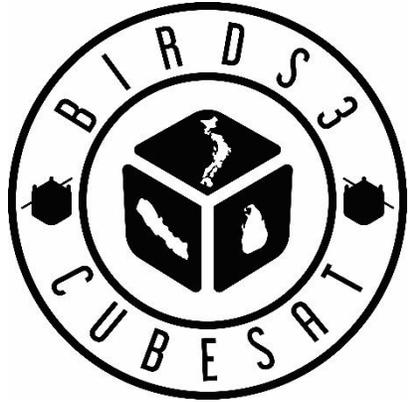


What BIRDS-2 team members do for each satellite pass – around the clock



<https://www.youtube.com/watch?v=L4mdhZmaeB8&feature=youtu.be>
[8:20 minutes long]

26. BIRDS-3: Monthly activities report by Abhas



BIRDS-3
Nov-Dec 2018
Monthly Report



BIRDS-3 Activities on Nov-Dec 2018

Structure Assembly Practise



Team Sri-Lanka



Team Nepal



Team Japan

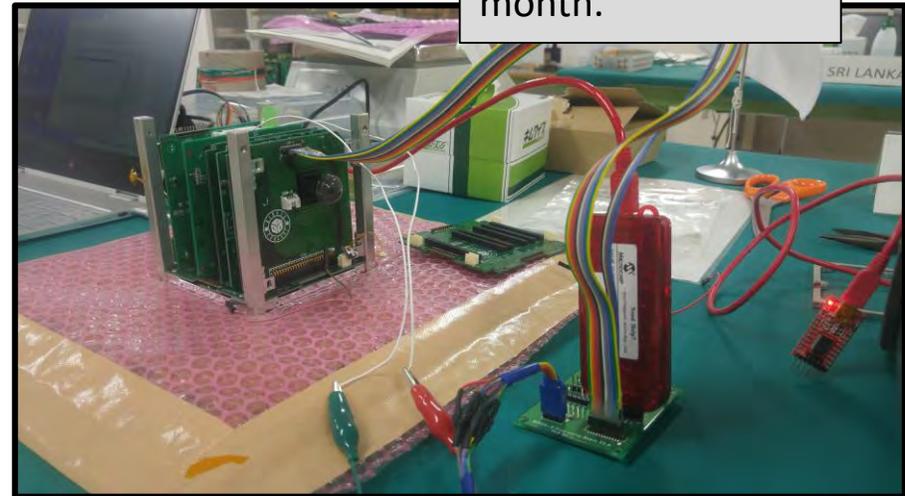
BIRDS-3 Team is currently in Deep Flight Model (FM) Stage and will assemble all three satellites by the end of the December. Thermal Vacuum and Long Range Tests are also scheduled to take place this month.



FM Session



Automated Mission Testing



FM Backplane Functionality Test

Reports for the BIRDS Project Newsletter

BIRDS-4 contributions – Issue No. 35

December 15, 2018



New Clean Room at SVBL Building

Marloun Pelaya Sejera

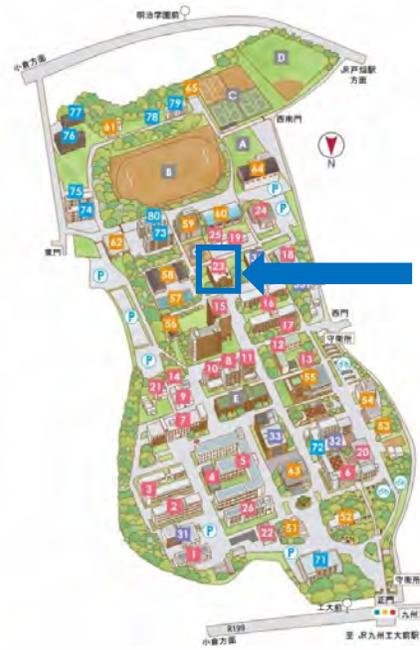
BIRDS-4

December 11, 2018

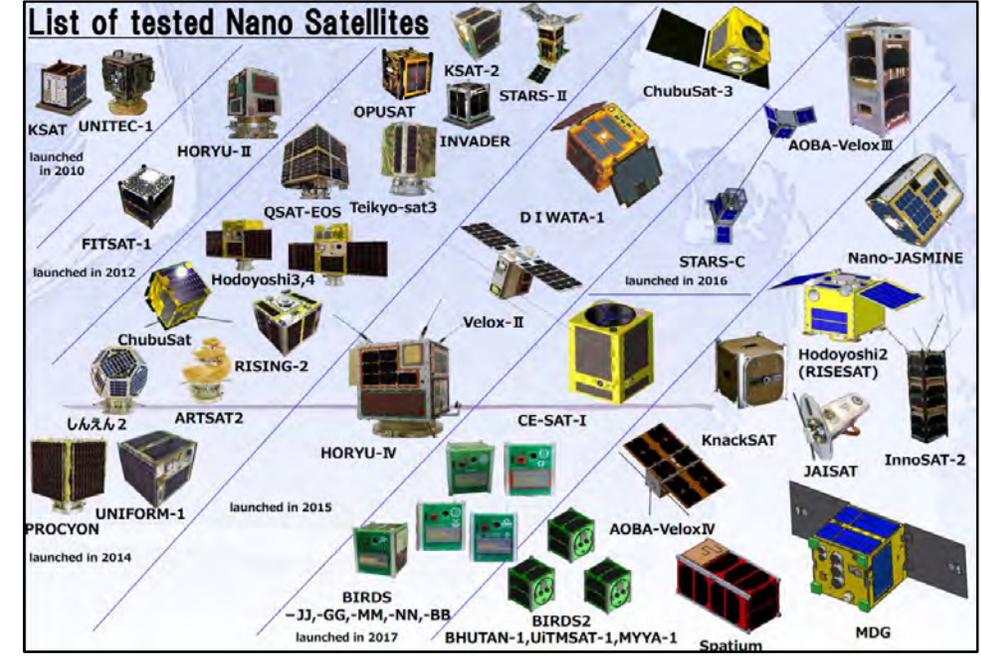
New Cleanroom at SVBL Building

Written By: Marloun P. Sejera

The Satellite Venture Business Laboratory or SVBL, located at the south side of KyuTech Tobata Campus, houses some of the best facilities in Kyutech. In 2010, the Center for Nanosatellite Testing (CeNT) was established inside the SVBL which is specialized in space environmental testing of nanosatellites up to 50 cm and 50 kg. CeNT accommodates tests such as thermal shock, out-gas measurement, thermo-optical measurement, vibration, antenna pattern, thermal vacuum, and thermal cycle.



KyuTech Tobata Campus map. SVBL Building No. 23 is at the south side.



List of nanosatellites tested at CeNT since 2010.



SVBL Building where CeNT is located.

Since its inauguration, a number of satellite projects have used its facilities for space environment testing. One of the notable projects is the BIRDS project which aims to help non-spacefaring countries to build their first satellite. In order to accommodate the increasing demand in satellite testing, SVBL has put up its second cleanroom.



New Cleanroom at SVBL Building

Written By: Marloun P. Sejera

A cleanroom is a facility which maintains an extremely low level of particulate matter like dust and other particles. As most satellite components are sensitive to such, cleanrooms are used during satellite assembly and encapsulation to prevent these particulates to affect the satellite's functionality and performance.

The new cleanroom is located on the second floor of SVBL building while the first cleanroom is at the third floor. The new cleanroom's size, equipment and other specifications is exactly the same as the first cleanroom. The construction was finished at the end of November 2018 and will be operational after its qualification in particle measurement.

For more information about CeNT, visit the website:
https://kyutech-cent.net/index_e.html



Center for Nanosatellite Testing ,
Kyushu Institute of Technology

Spacecraft Assembly and Encapsulation Facility



General view

No.	Item	Spec
1	Name	Clean booth
2	Manufacturing company	NIPPON MUKI CO.,LTD.
3	Model number	PCC-0552-GGH
4	Filter type	HEPA Filter (ATMC)
5	Airflow rate	55 m ³ /min
6	Particle collection efficiency	99.98% or higher
7	Cleanliness	ISO 14644-1
8	Floor	Antistatic mat
9	Antistatic mat	Surface resistance: $3.2 \times 10^9 \Omega$ Volume electric resistance: $6.1 \times 10^9 \Omega$

Specifications of the Spacecraft Assembly and Encapsulation Facility (Cleanroom)



First cleanroom located at 3rd floor of SVBL Building.



BIRDS-4 Kick-off

Izrael Zenar Casople Bautista

BIRDS-4 Project Manager

November 12, 2018

BIRDS-4 Kick-off

Written By: Izrael Bautista

The BIRDS-4 project officially begun with a kickoff meeting last November 12, 2018. It was held at the seminar room of the General research building 2 of Kyushu Institute of Technology (KyuTech), Tobata Campus.

During the kickoff, BIRDS' project leader, Professor Mengu Cho, discussed about the mission statement and the objectives of the Joint Global Multination BIRDS Project or simply, BIRDS Project. Three (3) cube-satellites will be made by the BIRDS-4 project, 1 for each sponsoring country: Japan, Paraguay and Philippines. The target release date of the BIRDS-4 satellites from the International Space Station (ISS) is in the middle of 2020.



BIRDS Project Leader - Prof. Mengu Cho discussing about the BIRDS Program Objectives

Prof. Cho also discussed how to identify possible missions for the BIRDS-4 project what are the things to consider in planning and time line of the project. Primary concern should be the requirements and objectives of the stakeholders. In this case, the government of Philippines and Paraguay.

The BIRDS-4 members are then instructed to communicate with the stakeholders and to identify their mission ideas for feasibility.

For BIRDS-4, one mission board will be allotted to the winner of the Project Based Learning class (PBL) where they will propose a payload for the BIRDS-4 satellite. This will enable more students to learn from the project.



BIRDS-4 team members listening to Prof. Cho's lecture

BIRDS-4 Kick-off

Written By: Izrael Bautista

To close the kick-off, Prof. Cho reminded the group about the Ten rules of the laboratory: No excuse, Be on time, Respect others, Be responsible, Watch schedule, Act as a team player, Don't be short sighted, Be clean, Work hard and finally, Have fun!



Countries sponsoring the BIRDS-4 project: Japan, Philippines and Paraguay



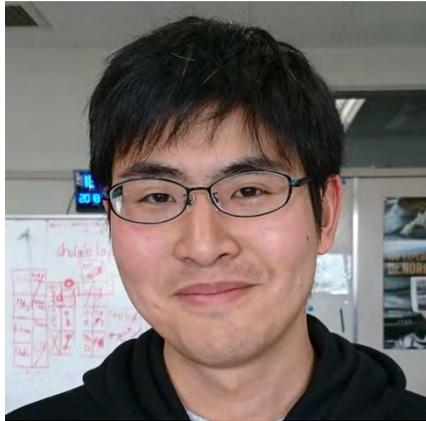
The BIRDS-4 kickoff was also attended by previous BIRDS project members and students

Aside from Prof. Cho, Asst. Prof. Sangkyun Kim, Asst. Prof. Hirokazu Masui and Asst. Prof. George Maeda were also present in the event to give their opinion and suggestions on the project for the BIRDS-4 members. Members from BIRDS-1,-2 and -3 also witnessed the event.

The BIRDS-4 team is composed of four (4) members from Japan, three (3) from Philippines, two (2) from Paraguay, one (1) from Nepal and one (1) from Turkey, all taking their undergraduate and graduate degrees in KyuTech.



BIRDS-4 team members after the kick-off



Amateur Radio

Daisuke Nakayama

BIRDS-4

November 16, 2018

Amateur Radio and Satellite Operation

Written By: Daisuke Nakayama

It is very difficult to answer in a few words the question, “What is the Amateur Radio?”. To put it simply, “Amateurs” or “Hams” are people who are interested in wireless technology for non-commercial applications.

The Amateur radio community does various things. Some of them install large-scale facilities in their homes while another operate on their mobile portable machines. Occasionally, communication contests are held all over the world to see who can contact the most amateurs outside of their countries. Other hams make or “homebrew” their own antennas and radios. Although making a simple radio is already a difficult process, some hams are too crazy to make radios using a vacuum tube!

There are many people interested in amateur radio and some are interested in satellite communication using amateur radio.

Hams are all over the world and we can get their cooperation if we transmit information properly. In using amateur radio, it is essential to disclose the contents of communication.



IC-9100 (Transceiver for BIRDS)

All amateur radio transmitter in Ground Station are registered in amateur radio station license.



IC-R9500 (Receiver for HORYU-IV S-band) with demodulator. This is the biggest amateur radio machine in KyuTech.

An amateur radio club is established in KyuTech called “Kyushu Institute of Technology Satellite Development Project ” with 29 people registered in it, including 7 international students. In order to operate the BIRDS satellite, it is necessary to be registered with the local amateur association since the satellites are operating in the amateur band. That is why members of BIRDS 4 were instructed take the amateur radio licensure exam.

“Amateur Radio” increased BIRDS-4 members

Written By: Daisuke Nakayama

During this summer, I decided to make a handheld Yagi antenna and tried to receive signals from amateur satellites. It was more difficult and interesting than I expected.



Trying to receive satellite radio waves

At first, I thought that I cannot receive a signal with such a small antenna unlike the big antennas installed at the rooftops. I had to try many times, but fortunately I succeeded in the end. I was only receiving signals, so I didn't need an amateur radio license, but I understood the spirit of amateur radio.

After that, we helped BIRDS-3 in the radio anechoic room testing and this piqued my interest in wireless technology. So at the end of summer vacation, I talked to Prof. Cho and said “I want to join BIRDS-4 project”, he accepted and I am now part of the BIRDS 4 project.

I continued to try receiving radio waves from satellites using the current antenna I made shown on the right.



Mini Ground Station System



FCC Ham Radio Licensure Examination

Mark Angelo Cabrera PURIO

BIRDS-4

December 12, 2018

FCC Ham Radio Licensure Examination

As part of their preparation for the CubeSat's ground station operations, BIRDS-4 members with other students from Kyushu Institute of Technology took the Federal Communications Commission (FCC) Ham Radio Licensure Examination last December 8, 2018 at Saga Nakahara Government Building, Saga Japan. Since this is a US license, the said examination was facilitated by Japanese volunteer examiners serving as a liaison between the exam applicants and the FCC.

*Why get a license?**

Before you can get on the air, you need to be licensed and know the rules to operate legally. US licenses are good for 10 years before renewal and anyone may hold one except a representative of a foreign government.

In the US there are three license classes, namely: Technician, General and Extra.

- *Technician class license* is the entry-level license of choice for most new ham radio operators. To earn the Technician license requires passing one examination totaling 35 questions on radio theory, regulations and operating practices. The license gives access to all Amateur Radio frequencies above 30 megahertz, allowing these licensees the ability to communicate locally and most often within North America. It also allows for some limited privileges on the HF (also called "short wave") bands used for international communications.

- *General class license* grants some operating privileges on all Amateur Radio bands and all operating modes. This license opens the door to world-wide communications. Earning the General class license requires passing a 35 question examination. General class licensees must also have passed the Technician written examination.
- *Amateur Extra class license* conveys all available U.S. Amateur Radio operating privileges on all bands and all modes. Earning the license is more difficult; it requires passing a thorough 50 question examination. Extra class licensees must also have passed all previous license class written examinations.

*Information taken from: ARRL website, <http://www.arrl.org/getting-licensed>

FCC Ham Radio Licensure Examination

All The BIRDS-4 members who took the licensure exam passed and they are as follows:

- Adolfo Jara
- Daisuke Nakayama
- Hari Ram Shrestha
- Izrael Zenar Bautista
- Mark Angelo Purio
- Marloun Sejera
- Yigit Cay

Other Kyutech students also took the exam with them and passed , namely:

- Femi Ishola
- Lakhdar Limam
- Malmadayalage Tharindu Lakmal Dayarathna
- Senior Shimhanda
- Yukihiisa Otani

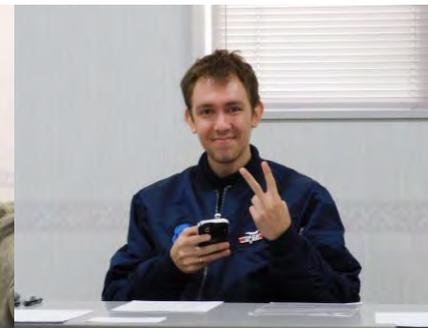


BIRDS-4 members with other KyuTech students group photo after successfully hurdling the FCC Ham Radio Examination

FCC Ham Radio Licensure Examination



(Top & bottom photo) We arrived early at the venue and still had enough time to enjoy and witness a Christmas-inspired program from the local community.



Proper examination. Examinees are on focus because every point counts.

Group photo before going back home.



BIRDS-4 members trying to keep calm and relax minutes before the examination



Experiencing Life in Japan

Adolfo Jara

BIRDS-4

November 23, 2018

Experiencing Life in Japan

Written By: Adolfo Jara

Leaving your country with the intention of studying in another country for a few years is not an easy decision to make. However, in most cases, these are enriching experiences that provide the opportunity to learn new knowledge, experience a different culture, create friendships and good memories. In this article, I will answer the questions asked to me about my experience for my first month in Japan.

How is the culture?

The answer to this question can vary from person to person, for me, one of the things that impressed me was the culture, which is totally different from what I am used to. Japan has a different way of living, a different way of working and respect is a fundamental part of the life here. It's a very interesting country.

How is the food?

Japanese cuisine stood out for its variety and delicious taste. Japanese cuisine is a reflection of the culture of this country. Those who enjoy the food of this country will delight in a true paradise of unusual and varied combinations of flavor in one dish and even different dishes in the same menu.



A collage of meals offered from the Japanese cuisine.

How is the environment?

The Kyushu Institute of Technology is located in the city of Kitakyushu, a fairly quiet, pleasant, orderly and clean city. Because of these qualities, it earned the title of Eco-model city in the Eco-model cities program of the Government of Japan, thanks to its outstanding improvements and future plans in relation to the environment and the reduction of emission of greenhouse gases.



Photo taken walking along one of the main avenues of Kitakyushu.

Experiencing Life in Japan

Written By: Adolfo Jara

Where are your colleagues from?

A pleasant surprise for me was to meet students from many countries here in KyuTech, to name students from countries such as Nigeria, Bhutan, France, Brazil, Mexico, Sri Lanka and Costa Rica, Philippines, Turkey, Nepal and Japan. Without a doubt, an added value to all the technological and scientific knowledge that is acquired will be learning from the different cultures and the network of international friendships formed.



Group photo with my new friends.

Where are you living?

I am currently living in the Global Cultivation Center where I share a room with a Japanese student (Takuya-san) and another French student (Alexis-san).

Living in a different place than you are used to is always difficult, but thanks to my new roommates this process of change became much easier.



Building of the Global Cultivation Center

Studying abroad is one of the most enriching experiences a student can have. Therefore, do not be afraid to leave your country, arm your bag and go live the experience of studying here.



The day of my arrival in KyuTech with my tutor Eijo-san.



Space Labs in ITU, Turkey

Yiğit Çay

BIRDS-4

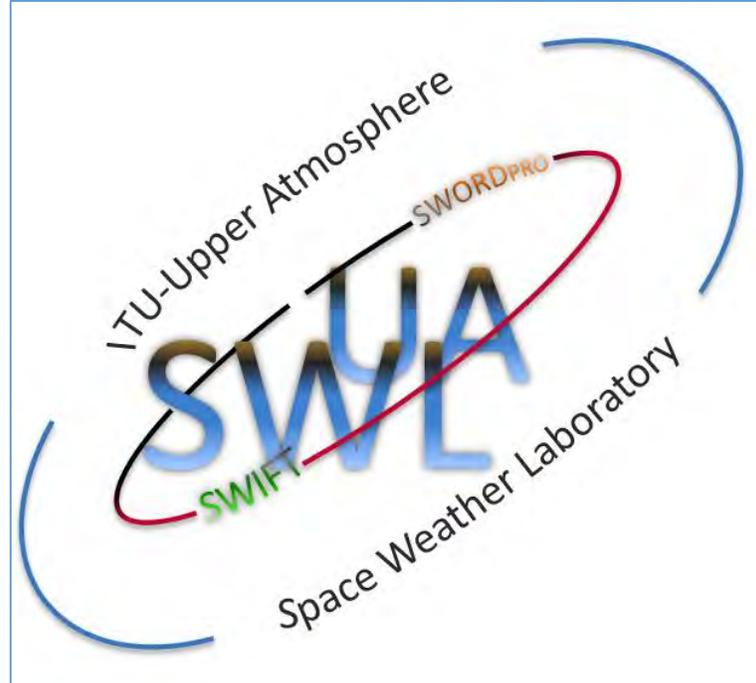
November 29, 2018

Space Labs in ITU, Turkey - SWL

Written By: Yiğit Çay

In this issue, I'd like to introduce one of the space laboratories of Istanbul Technical University (ITU), Faculty of Aeronautics and Astronautics (FAA) in Turkey, at which I studied for my Bachelor's degree in Astronautical Engineering. Turkey is my homeland, which is the country that bridges European and Asian continents.

The FAA has four laboratories that are actively working on space-related studies. However, this newsletter focuses on the activities in the Upper Atmosphere and Space Weather Laboratory (UASWL). Before coming to KyuTech, during my Bachelor's in Astronautical Engineering Department, I worked as a student researcher in the UASWL for three years.



UASWL Logo

The UASWL is led by Prof. Dr. Zerefşan Kaymaz and it aims to investigate the consequences of space weather on the terrestrial environment and spacecraft.

The UASWL's activities include space weather forecasting in collaboration with NASA/CCMC as well as data generation and processing related to the changes in the terrestrial environment associated with space weather. Space weather models are run from local computers for the purpose of understanding the interactions between the solar wind, magnetosphere and ionosphere.



Dr. Emine Ceren Kalafatoğlu Eyigüler is giving briefing during the sunspot observation

Space Labs in ITU, Turkey - SWL

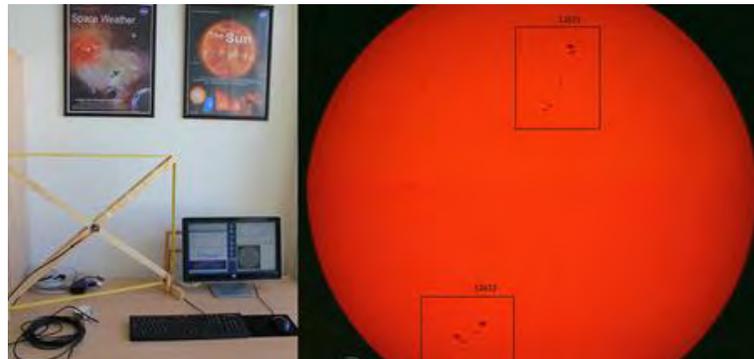
Written By: Yiğit Çay

UASWL also works on raising public awareness about space weather via boot camps, lectures and presentations. The space weather boot camps are also carried out in collaboration with the NASA/CCMC.

UASWL has had limited number of students since its launch in 2010. However, six projects have been completed and the projects generated more than 47 publications in the worldwide respected journals and conferences. Project subjects ranged from the ground level, ionospheric and magnetospheric variations under various solar wind conditions to producing prototypes for magnetospheric spacecraft and planning of magnetospheric missions.



ITU SWL Space Weather Data Processing Center. For laboratory's website: [[click here](#)] Small SID antenna and a screenshot from the daily sunspot observations are below.



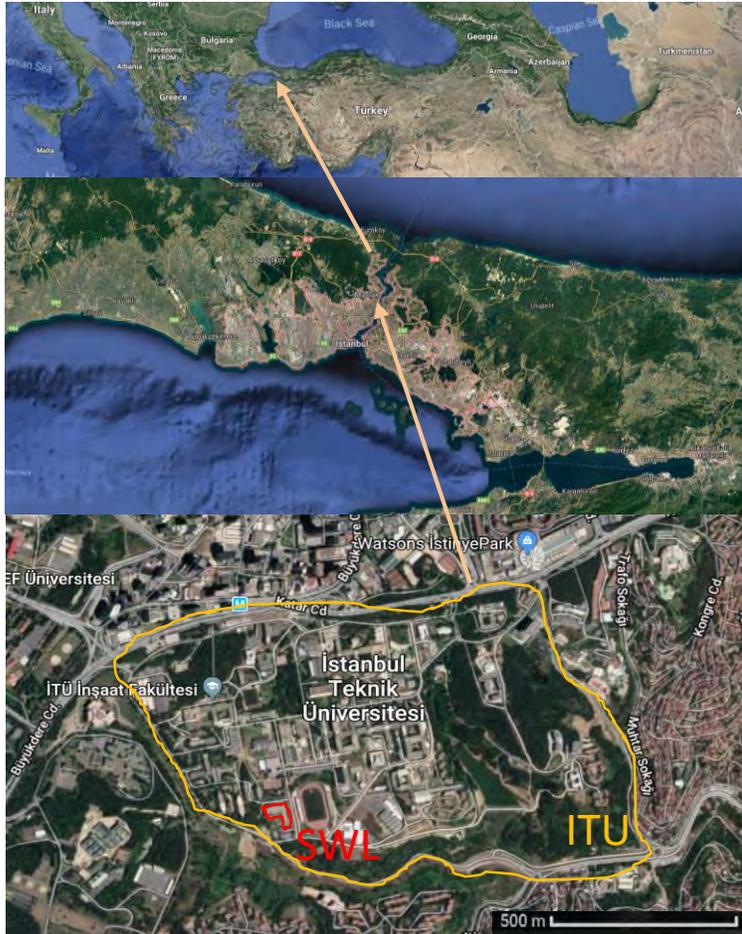
UASWL provides data from various measurement sites: 1) magnetotelluric station situated in Bozcaada, Turkey and 2) at ITU, the Ionospheric Observatory (Dynasonde HF Radar), and Sudden Ionospheric Disturbance (SID) antenna. For sunspot detection correlated with the solar activity and student encouragement in space studies, the laboratory also conducts annual sunspot observation with a dedicated telescope after 2014. Additionally, daily sunspot observations are conducted via a telescope and a solarscope when the weather permits.



From the last Sunspot observation event I attended in 2016.

Space Labs in ITU, Turkey – SWL Photos

Written By: Yiğit Çay



Locations of Turkey, Istanbul, ITU and SWL from Google Maps.



Dr. Zheng came from USA and she was lecturing Space Weather Boot Camp held in ITU in collaboration with NASA/CCMC in 2015.



HF Ionosonde VIPIR in ITU –on left- and the fluxgate magnetometer –on right- installed in Bozcaada by SWL members.



Dr. Filiz Türk Katırcioğlu was making arrangements of the telescope for the sunspot observation.

First Nanosatellite of Nepal in Nepali Media

Hari Ram Shrestha

BIRDS-3, BIRDS-4

December 9, 2018

BIRDS-3 in Nepali Media

Written By: Hari Ram Shrestha

On September 2018, The Nagarik Dainik media from Kathmandu published the article entitled “Nepal’s first nanosatellite deployment in one year” to announce that Nepal is also going to set the space route 62 years after the news regarding to the launch of the first satellite in space by USSR (today’s Russia).

The Nepal Academy of Science and Technology (NAST) and Kyushu Institute of Technology (KyuTech) from Japan are already preparing for the launch of the CubeSat (standardized nanosatellite) in August 2019 from the US or Japan. According to the Chief of Faculty of Technology, Nepal Academy of Science and Technology (NAST), this will be a historical achievement in the science and technology.



BIRDS-3 covered by The Nagarik Dainik Nepal [\[link\]](#)

Dr. Dhakal said “The structure of the satellite is ready although its mechanical and environmental tests are still ongoing”. He also mentioned that two students have been selected for Space Engineering International Course (SEIC) of Kyushu Institute of Technology in Kitakyushu, Japan, to represent Nepal for the nanosatellite project. Mr. Abhas Maskey, PhD student and BIRDS 3’s project manager and Mr. Hari Ram Shrestha, Masters student are the Nepalese students who are part of this satellite project. KyuTech has provided PNST scholarships to them for studying SEIC course. According to Dr. Dhakal, 7-member team composed of students from participating countries (Nepal, Japan and Sri Lanka) is working to build up 3 satellites.

BIRDS-3 in Nepali Media

Written By: Hari Ram Shrestha

KyuTech's Senior academic advisor are monitoring the construction of these 3 satellites, respectively named as, NepaliSat-1, Uguisu and Raavana-1.

The government of Nepal has already sent required budget to KyuTech to purchase the hardware components and the essential equipment for Nepal's Satellite. Dr. Buddhi Ratna Khadge has said that "the ongoing Nepal's first nanosatellite project will be accomplished in time and Nepal has been working for Nepal's nanosatellite along with Japan and Sri Lanka where a Nepalese student is taking the lead on".

The secretary of NAST highlighted that the total cost of Nepal's nanosatellite is 20 million Rupees (19.7M ¥), which NAST had already sent to KyuTech for this project. The weight of the nanosatellite is 1.33 kg.



Dr. Buddhi Ratna Khadge, Secretary of Nepal Academy of Science and Technology (NAST)

Image analysis is one of the missions of nanosatellite. Images taken from the sky could provide useful information about floods, snow, fires and many other natural disasters. Dr. Dhakal stated that "the trend of the growing urbanization tree line shifting in Himalayas and fire prevention in forest can be identified with these images." They are, in fact, very useful for research purposes, too.

For this project, Nepal had signed on the Cooperative Research Program (CRA) in 2017 by Prof. Dr. Jib Raj Pokharel, former Vice-chancellor of NAST.



Dr. Rabindra Prasad Dhakal, Chief of Faculty Of Technology (NAST), during the interview on National Television at NTV NEWS [LINK](#)



Murase's Birthday

Hiroki Hisatsugu

BIRDS-4

December 11, 2018

Murase's Birthday

Written By: Hiroki Hisatsugu

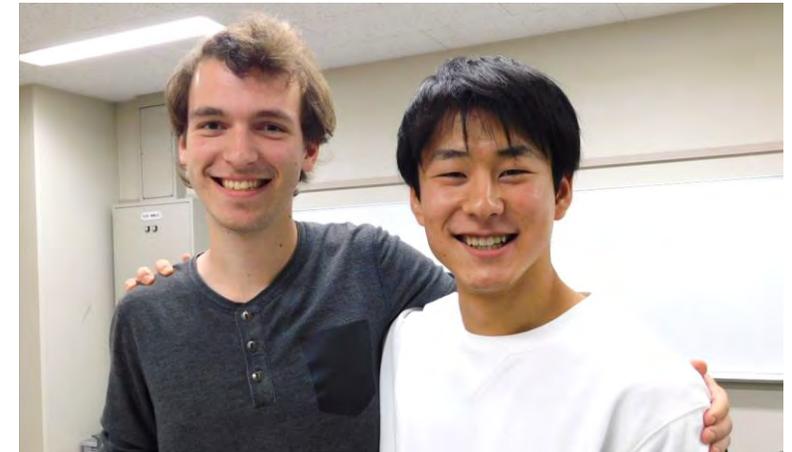
BIRDS-4 members are composed of Japanese, Filipinos, Nepalese, Turkish and Paraguayan citizens. As diverse as it is, regular parties are the way of deepening friendship among members. These can be as simple as a potluck gathering or a birthday celebration.

His actual birthday is November 24, but after the meeting in November 22, BIRDS-4 members surprised their Japanese member, Tomoaki Murase, with a birthday celebration. After the meeting, the light of the room was turned off, and a surprise cake appeared! Murase turned 23 years old and the team was glad that he was looking very happy with the surprise.

Last month, we also celebrated the birthday of Daisuke Nakayama, our another Japanese member.



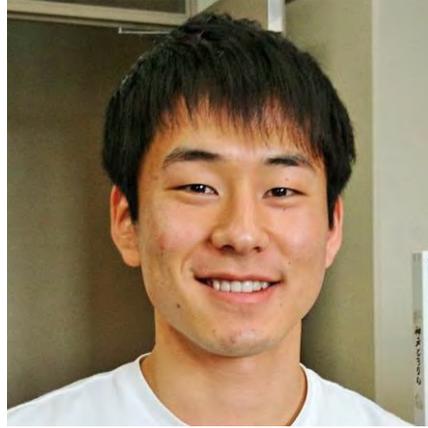
Murase with the cake



Alex, an exchange student in LaSEINE Murase is tutoring, came to celebrate.



Chocolate birthday cake



My Hobby: Trekking

Tomoaki MURASE
BIRDS-4
December 9, 2018

About Japanese Mountains

Written By: Tomoaki MURASE

What do you imagine when you're asked about the Japanese mountains? You might answer as Mt. Fuji. Of course, it is a good answer. If Japanese people were asked the same question, probably they would answer the same because Mt. Fuji is the highest and the most famous mountain in Japan as well as being its symbol. However, Japan has many other mountains. There are many nature-rich, beautiful and unique mountains all around Japan.



Famous mountain of Japan, Fuji (Honshu) [[image source](#)]

The 70% of the land of Japan is occupied by mountains and there are many volcanoes because the Japan is located on the Pacific Ring of Fire. Natural disasters sometimes occur due to eruption of these volcanoes.

The Japanese mountains are not as high as overseas mountains. Almost all of them are below 3,000 m. The highest mountain in Japan, Mt. Fuji, is 3,776 m. The mountains have great individuality on the nature and shape. Because the Japan have four seasons, for example, a heavy snow on winter and a heavy rain on summer may occur occasionally, the land is covered by many beautiful flowers and plants. Also the mountains help people to get close to the nature and feel their life, in terms of the Japanese religion where some people worship mountains.

Once upon a time, people thought that gods live in the steep mountains. The mountains were perceived as holy places. People got blessings from the gods by training on and climbing those mountains. The custom remained till today and many people are still climbing the mountains to worship.

A well known training mountain, Mt. Hiko, lies at the boundary Fukuoka and Ōita. There is a shrine at top of Mt. Hiko, and many people go there to pray.



Mt. Hiko (Ōita) [[image source](#)]

My experience

Written By: Tomoaki MURASE

My hobby is to climb mountains. Since climbing the mountains is not only good for your health and body, but also a great way to enjoy the landscape.

I have climbed the mountains many times. Some of them are Sarakura in Kitakyushu, and Aso in Kumamoto.



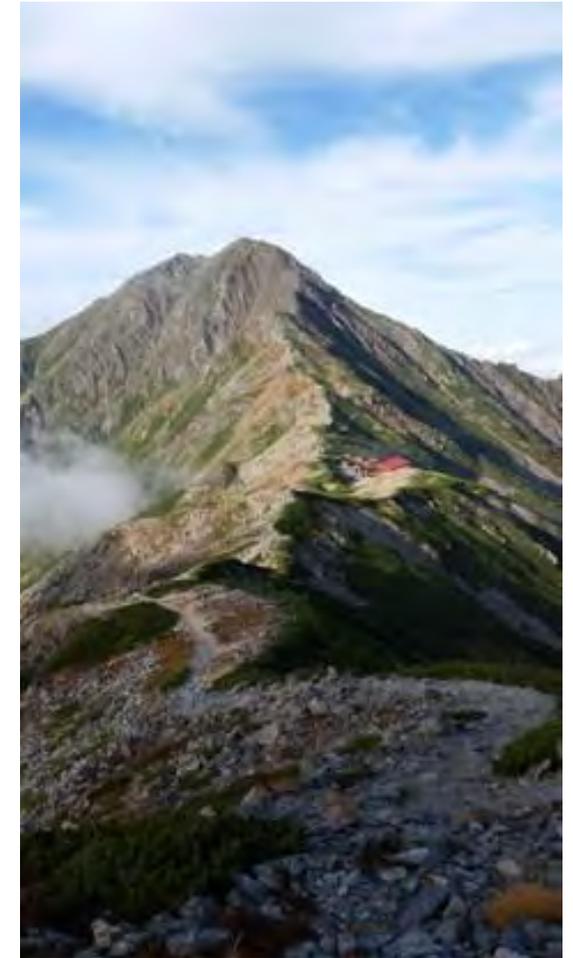
On the top of Mt. Kitadake

However, the most memorable mountain climb for me was Mt. Kitadake in Yamanashi prefecture, located in the middle of Japan. Kitadake is the second highest mountain in Japan.

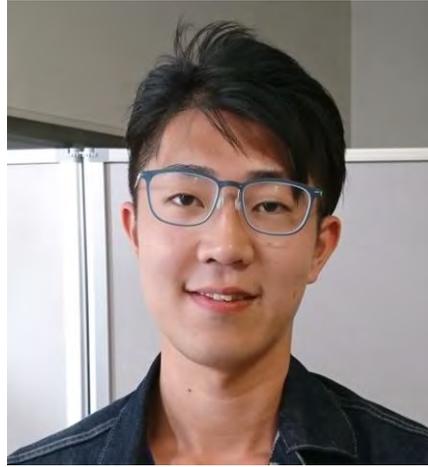
I went there three years ago and I climbed the mountain in two days. There were many craggy places and it was very difficult to climb, but at the top I saw a magnificent landscape that I will never forget.



Cloud sea and Mt. Fuji



The shape of Mt. Kitadake



My Experiences from Project Based Learning Class

Yuma Nozaki
BIRDS-4
December 10, 2018

HACK U Competition Experience

Written By: Yuma Nozaki

Last August, my friend and I joined an event called HACK U where we developed a smartphone application.

Our app's name was 'Chikoku-checker'. This app tells you if you will be late or not. For example, if you get up at 8:45 AM, but you must attend a meeting at 9:00 AM, you can check using the app if you will be late in the meeting if you walk, jog or run.

We developed the app using Google Maps API and JavaScript. My friends and I won a Happy hacking award at HACK U. This competition honors the students for developing an app and it is sponsored by Yahoo-Japan.



Application Screen



HACK U 2018 Fukuoka Competition Banner



A group picture from HACK U

Agile Training Camp

Written By: Yuma Nozaki

Our team went to Shizuoka prefecture to join a training camp during the summer vacation. We learned agile software development which is a way to efficiently develop apps and software. It was very useful for us during the development of the app. Aside from KyuTech, other schools were also participating such as Sendai Technical College, Kaetsu University, Hiroshima University and Ryukyu University. The total number of students who joined this camp was 47!



A beautiful scenery from Shizuoka [[image source](#)]



The first time I saw Mt. Fuji



Team discussing how to develop the application.



Team developing the application.



A group picture at agile training camp.

Challenge Caravan 2018

Written By: Yuma Nozaki

We developed a web application called 'Hello Idea' on PBL class. This application enables users to easily come up with ideas for idea generating competitions or personal projects using tools such as 'mandal-art' and 'random-word'.



Web application to the 'Hello Idea'

We utilized Ruby on Rails, HTML, CSS, Bootstrap, JavaScript, SQLite and Git. We released 'Hello Idea' as beta version on September 10.

With this application, we won the outstanding performance award at app Challenge Caravan 2018 which was held in December 8. Finally, I would like to introduce the members of our team: from left to right in the photo on the right side: Masatoshi Osugi, Ryuto Kawano, Daiki Tanaka, Yuma Nozaki and Yuji Koga. We all came from the same department in KyuTech and I was happy to be a part of this group.



Team developed the application



If you interested in this application, you can access it using [this link](#) or the QR code above. You can reach us through this e-mail address: myday.info@gmail.com

28. Report from the Philippines



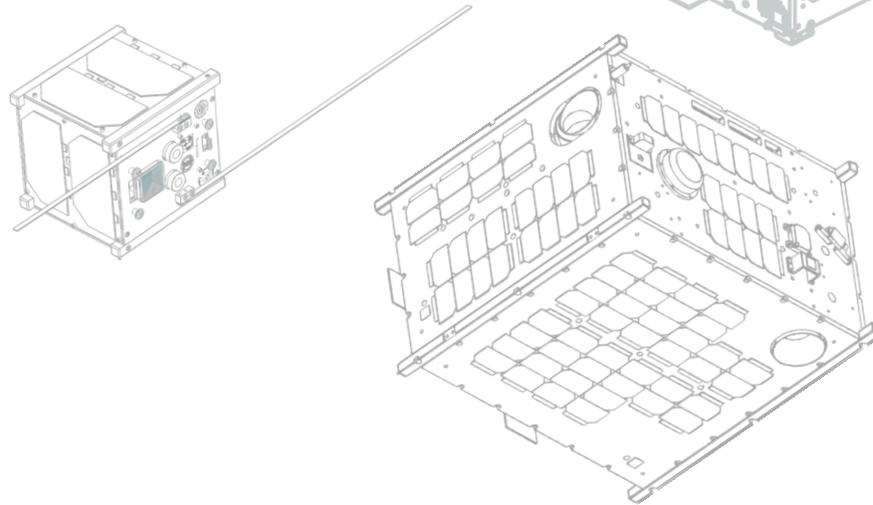
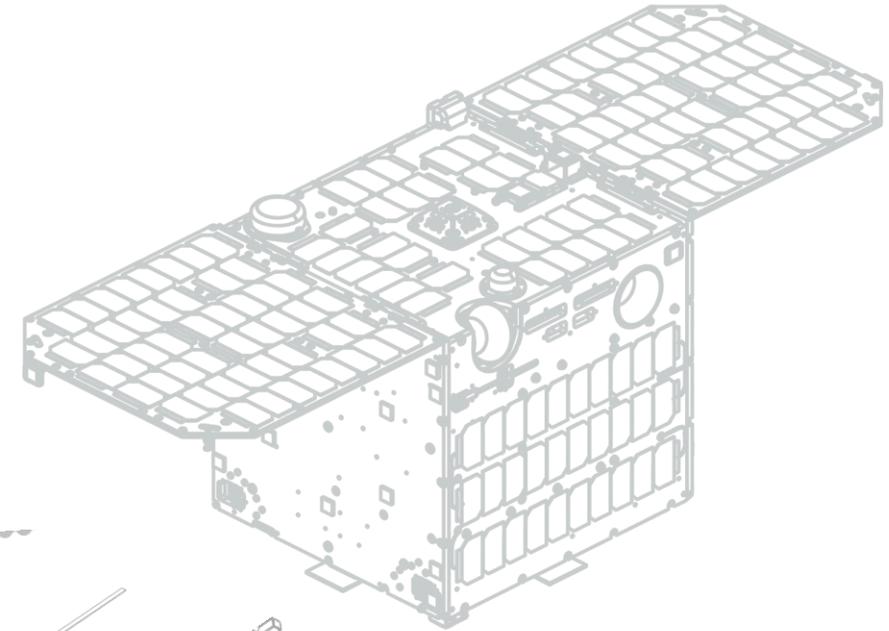
UPDATES FROM THE PHILIPPINES

December 15, 2018

University of the Philippines-Diliman
Quezon City, Philippines

Prepared by:

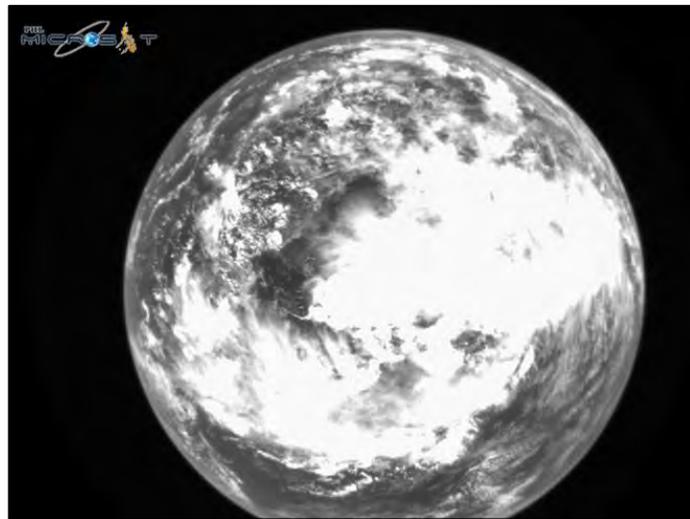
*Nicole V. Ignacio and Mae Ericka Jean C. Picar
(PHL-Microsat Communications Team)*



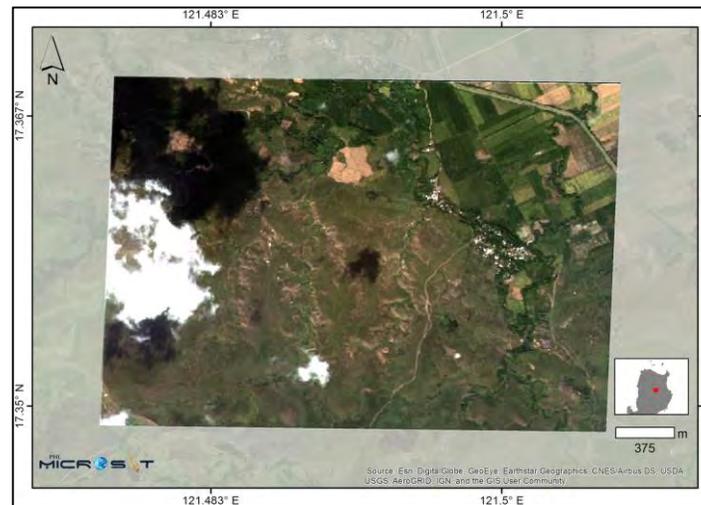
Diwata-2's first images of the Philippines



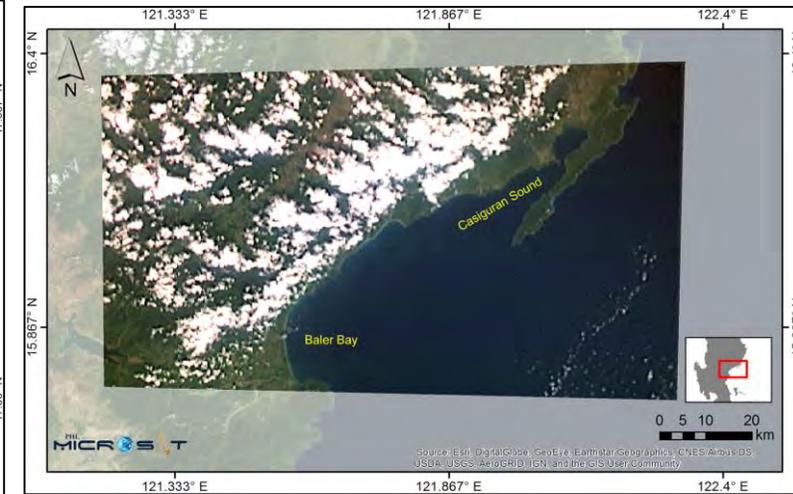
The Philippines' microsatellite Diwata-2 has successfully captured images of some areas in the Philippines, less than a month after its launch. These images are part of the initial tests and calibration phase of Diwata-2's cameras. Having a sun-synchronous orbit will enable the microsatellite to have fixed revisit intervals - a vital feature that allows for repeated monitoring of targeted areas for assessment of crops, coastal areas and on demand image acquisition on areas hit by disasters. Its higher altitude (initial altitude at 621 km) also enables a longer lifespan.



A portion of Earth. Captured on November 6, 2018 at 13:36:02 PHT using the Wide Field Camera (WFC).



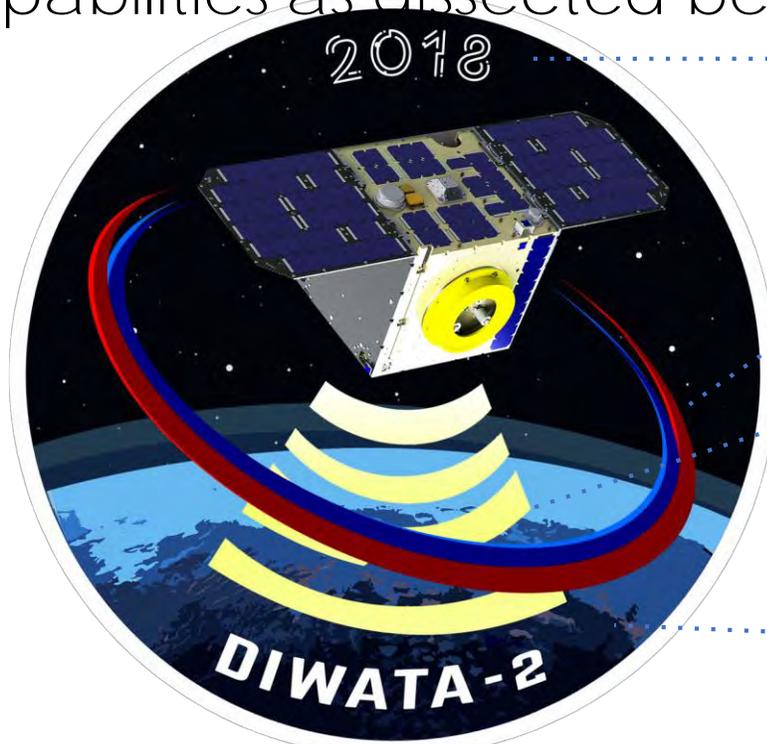
Tabuk, Kalinga, Philippines. Captured on November 14, 2018 13:09:18 PHT using the High Precision Telescope. Basemap from ESRI.



Aurora, Philippines. Captured on November 15, 2018 13:18:32 PHT using the Spaceborne Multispectral Imager. Basemap from ESRI.

Diwata-2's Mission Emblem (H- IIA Flight Version)

As with all mission emblems, the Diwata-2 design's elements highlight the Philippine microsatellite's key features and capabilities as dissected below.



2018 - Diwata-2's year of launch (exact date: October 29, 2018)

Blue and red rings: Colors of the Philippine flag; symbolizes the Filipino engineers and scientists who took part in the microsat's development

Yellow waves: Another dominant color in the PH flag; highlights Diwata-2's added communication feature

Earth - Represents what type of microsatellite Diwata-2 is (Earth-Observing)

DOST Regional Science and Technology Week



As part of the regional leg of the Philippines' Department Of Science and Technology (DOST)'s s&t roadshow, the PHL-Microsat team during the Regional Science and Technology Week (RSTW) held in different Philippine regions.



Antipolo City, Rizal (Ynares Center) and Lucena City, Quezon Province, Philippines



The PHL-Microsat Team participating the 4th National Convention 2018 hosted by the Mechatronics and Robotics Society of the Philippines (MRSP) with the theme:

“Shaping the future through Innovations in Mechatronics, Robotics and Automation”

November 28 to 29, 2018

Titanium Auditorium MIRDC Compound, Gen. Santos Ave. Bicutan, Taguig City, Philippines

Team Member Feature: Engr. Joven Javier



Engr. Javier with the identical BIRDS-2 satellites (from left to right) BHUTAN-1 (Bhutan), Maya-1 (Philippines) and UiTMSat-1 (Malaysia).

Engineering improvements for the next generation

Engr. Joven Javier was the Project Manager for the BIRDS-2 Project and he is now back in the Philippines to share his earned knowledge during his stay in Kyushu Institute of Technology, Japan.

We sat down with Joven to give us a glimpse of his experience with the BIRDS-2 Project, how it feels to be back home, and to know more about the person behind the astronomical (literally!) achievements.



Joven is an Electronics Engineer and currently employed as Science Research Specialist II at the Department of Science and Technology-Advanced Science and Technology Institute (DOST-ASTI)

How does it feel to be back? What are your plans?

It's nice to be back although i really miss Japan :) I plan to give back every detailed knowledge that I gained to help proliferate space technology education and help our country to establish our own space agency.

What sparked your interest to pursue a career in science and technology?

It's the Humanities quality of life improvement for the next generations that made me interested to pursue a career in science and technology specifically engineering.

What is the most valuable lesson from your BIRDS experience that can be applied in real life (especially to aspiring engineers)?

The BIRDS Project has so much diversity. We were composed of different nations brought together to form a team. The experience taught me to be confident, working along with the other nations, through a friendly competition for the common goal of building your own satellite.

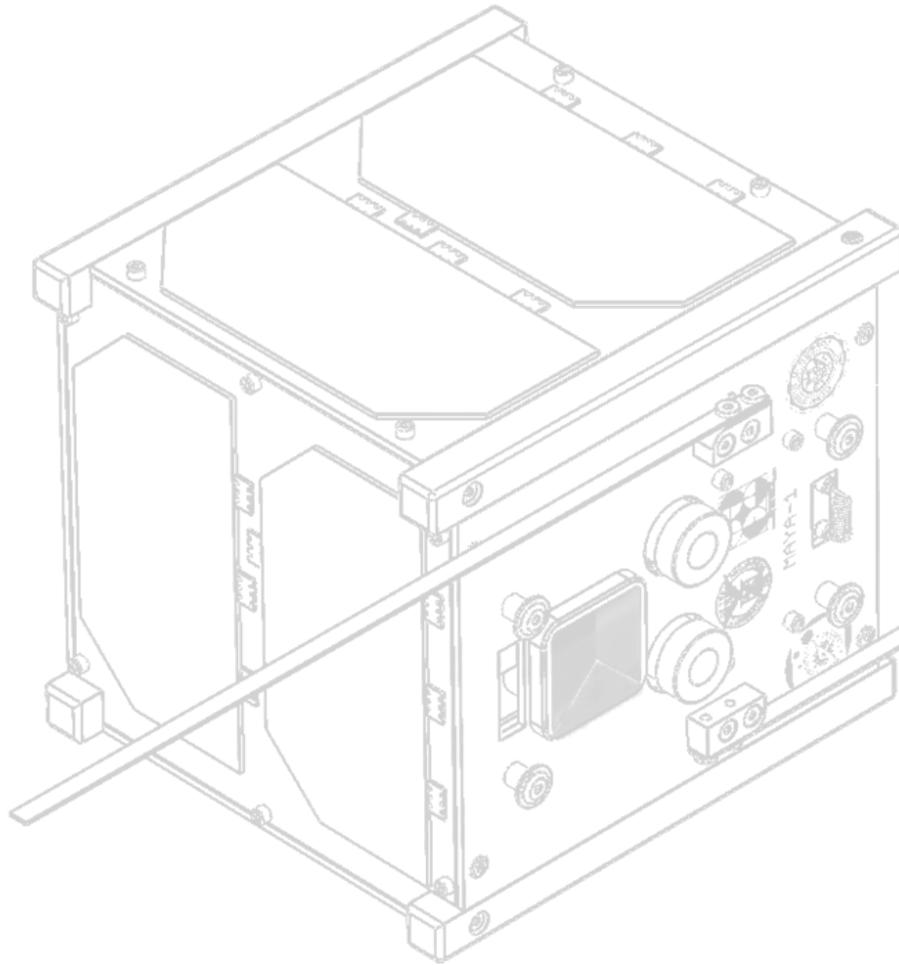
How do you deal with challenges and setbacks?

Challenges and setbacks are real and relative. The best thing to do when problem arises is to set a timeout, step back for a while, and see the problems from a bigger picture then analyze. After that, make a plan and go back to the battlefield again.

From your experience, what can you share with our space and technology community?

The Philippine Space Program's efforts and our participation to explore space for use in many applications such as climate monitoring, military, disaster risk reduction planning, remote sensing, etc., will prove to be a beneficial investment. The Community should understand that space technology is just like mobile/smart phones or PC. Before, they thought that this devices is a luxury, but as the time goes by, it becomes a necessity. The Space Program exploration that we are investing in now like launching, operating, and experimenting to build a satellite with our own Filipino talents is like a barometric measurement - that we can stand on our own.





'If you have the shot or chance/opportunity to do things for the country's good, then take the shot.'

- Joven Javier
Message for young Filipinos

Anechoic Chamber

The full anechoic chamber, which will be used for future satellite testing and development, is undergoing construction. The facility was initially tested in October and November 2018 and will be functional within the first quarter of 2019.



Shield Effectiveness Test

2-day Quiet Zone Voltage Standing Wave Ratio(VSWR) Test



ACKNOWLEDGEMENT

The Department would like to express great appreciation and gratitude to the following organizations for the support extended to allow the Department to achieve its vision and take a step closer to becoming a Digital society. We would also like to apologise if we have missed any of our stakeholders.

- » Government Data Center- Government of India(GoI), RGoB agencies and BtCIRT
- » Druk Research and Education Network- Bhutan Telecom, MoH and RUB
- » Satellite Communications- BICMA, BBS, TELCOS, ISRO, MFA and KyuTech
- » National ePayment Gateway Infrastructure- RMA, G2C and Banks
- » Government Intranet System- RGoB agencies, Bhutan Power Corporation (BPC) and ISPs
- » National Enterprise Architecture - RGoB agencies and Thimphu TechPark Ltd (TTPL)
- » e-Gov Policy- ICT heads of agencies and RGoB agencies
- » Implementation of Telecommunication & Broadband Policy- ICT Heads,BICMA, ISPs, RGoB agencies
- » National Broadband Masterplan Implementation Project- BPC, Tashi InfoComm Ltd., Bhutan Telecom, DrukCom, NANO
- » ICT Industry Development- BICTTA, MoLHR, DoI/DoT/MoEA, MoF, Thimphu TechPark Ltd. (TTPL), BITC, World Bank, DoI/MoHCA,GNHC,FDI companies in TTPL, ISPs and techstarts

HIGHLIGHTS

2018

June 29th



Bhutan's first ever satellite, BHUTAN-1 was launched on Friday, June 29, 2018 from Florida, USA, by a Falcon 9 rocket of SpaceX. BHUTAN-1 has been developed by Bhutanese engineers at the Kyushu Institute of Technology as part of their Master's Degree under the BIRDS-2 Project. The BIRDS Project is a cross-border interdisciplinary satellite project for non space faring countries supported by Japan.

June 27th



The Department with support from the College of Science & Technology, Rinchending organised the workshop for the first satellite of the country, Bhutan - 1 indicating the Bhutan's journey in the space quest. The Professor from Kyushu Institute of Technology also attended the workshop along with the officials from the relevant agencies.

March 20th

March 16th -18th

Thanks to Cheki (BIRDS-2, Bhutan) for providing this information.

End of this **BIRDS Project Newsletter**

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Issue Number Thirty-Five

This newsletter is archived at the BIRDS Project website:

<http://birds1.birds-project.com/newsletter.html>

You may freely use any material from this newsletter so long as you give proper source credit (“BIRDS Project Newsletter”, Issue No., and pertinent page numbers).

When a new issue is entered in to the archive, an email message is sent out over a mailing list maintained by the Editor (G. Maeda, Kyutech). If you wish to be on this mailing list, or know persons who might be interested in getting notification of issue releases, please let me know.

This newsletter is issued once per month. The main purpose of it is to keep BIRDS stakeholders (the owners of the satellites) informed of project developments.

