



According to Bryce Space & Technology Co., among academic operators, Kyutech is No. 1 in number of small satellites launched

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.

Acknowledgment of support: This newsletter is supported, in part, by *JSPS Core-to-Core Program, B. Asia-Africa Science Platforms.*

ISSN 2433-8818

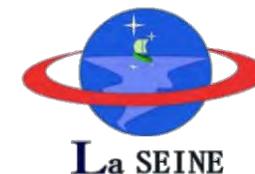
BIRDS Project Newsletter

Issue No. 44
(19 Sept. 2019)

Edited by:

G. Maeda

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



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.

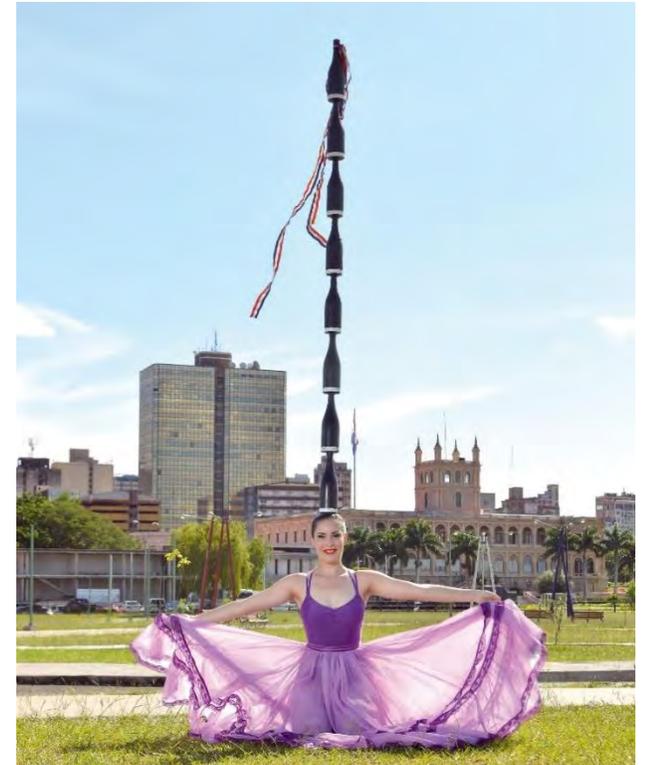
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From Paraguay

The Guest Box



(Image Source: <https://www.abc.com.py/>)

Explanation on the next page

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17. Blank
18. BIRDS-4: Critical Design Review (CDR)
19. Finalists of the 6th Mission Idea Contest
20. Family of Adolfo (BIRDS-4) has arrived in Kyushu
21. Kyutech has created “SEIC YouTube Channel”
22. BIRDS-2: Preliminary images
23. Report from the Philippines (BIRDS-4 CDR is mentioned)
24. BIRDS-4: Frequency coordination news

END

Erratum of Page 71 of Issue No. 40:

The uplink and downlink frequencies are reversed. Downlink is 437.375 MHz.

Explanation of the Guest Box

The ***Dance of the Bottles*** is a dance belonging to the Paraguayan folklore, currently the only one that is danced individually, and the dancer is always a woman. The bottles are carried on the head with great skill and balance. The number of bottles can vary, the most traditional is to dance with a bottle or with two, one over the other, but currently this dance is danced by adding more bottles as the dance progresses, usually six or more. They are slightly embedded in each other forming a tower. Women dance this dance showing a great balance and wearing their best traditional costumes, and the bottles are often adorned with colored ribbons or the flag of Paraguay.



-- by Adolfo Jara, BIRDS-4 Member



This helps us with funding.

JSPS Reminder

When you publish a paper on a topic related to BIRDS, please include this acknowledgement in the paper:

This work was supported by JSPS Core-to-Core Program, B. Asia-Africa Science Platforms.

01. Applications are now being accepted for UNOOSA/Kyutech PNST



The screenshot shows the UNOOSA website header with the United Nations logo and the text "UNITED NATIONS Office for Outer Space Affairs". A red starburst graphic with the text "HOT NEWS" is overlaid on the page. Below the header is a navigation menu with items: "About Us", "Our Work", "Space4SDGs", "Information for...", "Events", and "Space Object Register". The breadcrumb trail reads: "Our Work > Programme on Space Applications > Basic Space Technology Initiative (BSTI) > Fellowship Programme". The main heading is "Basic Space Technology Initiative Fellowship Programme". Below this is the text: "United Nations/Japan Long-term Fellowship Programme 2020 Post-graduate study on Nano-Satellite Technologies (PNST) (Kitakyushu, Japan)". A red box highlights the text: "Updated 23 August 2019. Applications are now accepted!". To the right of this box, red text states: "Applications are accepted until 19 January 2020 (Sunday, 23:00 JST)".

**Cont'd
on the
next
page**

Apply for PNST here: <http://www.unoosa.org/oosa/en/ourwork/psa/bsti/fellowships.html>

United Nations/Japan Long-term Fellowship
Programme on Nano-Satellite Technologies
Hosted by Kyushu Institute of Technology, Japan

Post-graduate study on Nano-Satellite Technologies



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

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

The selected candidates will each receive a grant under Japanese government (Monbukagakusho: MEXT) scholarship (Research Students) of approximately 144,000 JPY per month for the duration of their fellowship study (2 or 3 years) to cover housing, food, local transportation, and other expenses.

Each candidate will be provided, according to his/her itinerary and route as designated by MEXT, an economy class air ticket between an international airport in the country of his/her nationality and Narita International Airport or Fukuoka International Airport. Fees for matriculation, tuition and entrance examinations will be paid by Kyutech.

If you are an engineer under age 35 living in a non-space-faring nation and you are *passionate* about space, then you have a good chance at PNST; you should apply.

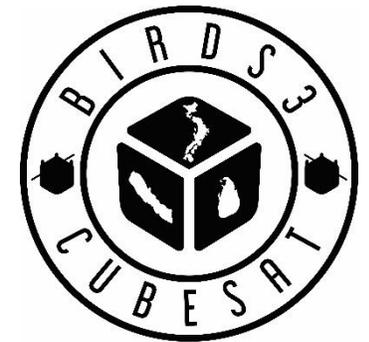
02. BIRDS-3 flight review



BIRDS-3 Flight Review was held on Monday, 26 Aug. 2019, 11:30 AM through 2:00 PM, in the Cho Lab Seminar Room. This was a review of the various missions of BIRDS-3 (Japan, Nepal, and Sri Lanka), which is working well on orbit.



BIRDS-3 students took to the podium turn by turn; here you see Tharindu.



Anibal (BIRDS-4, Paraguay) makes a point.

03. Two T shirts have been designed for BIRDS-4



Front



Back

Design One



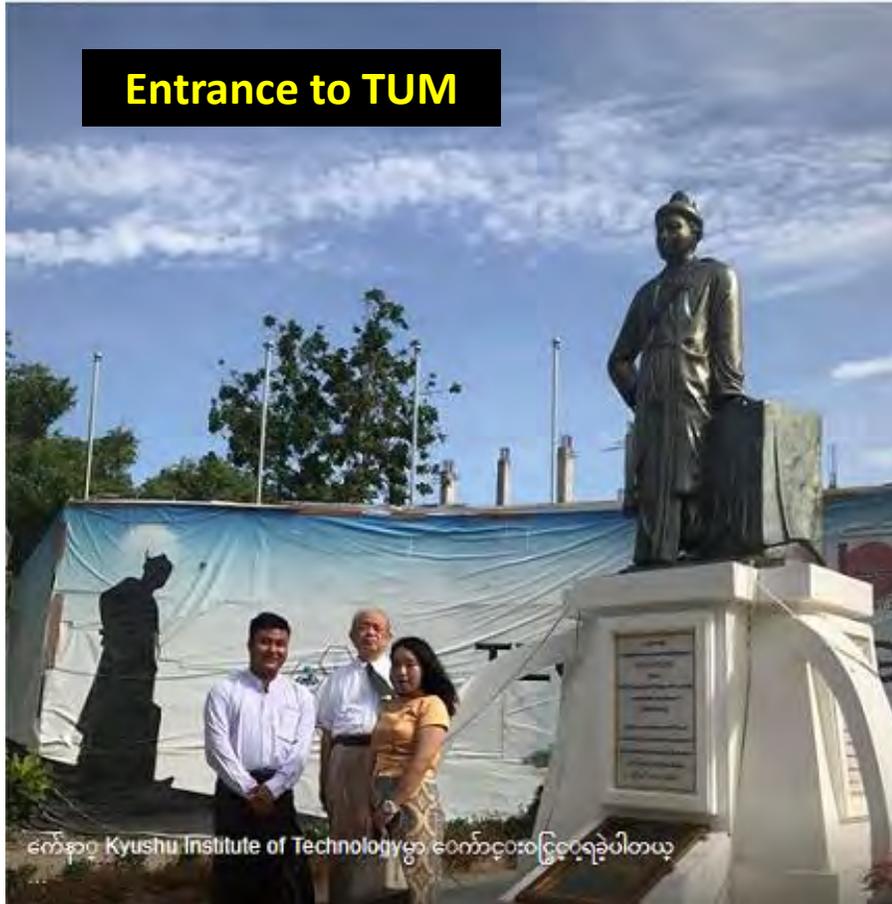
Design Two



04. Kyutech visited TUM, “Technical Univ. Mandalay” in Myanmar

Zwe Thiha
July 21 · 🌐 · 🌐

Entrance to TUM



During 20-22 July 2019, G. Maeda visited **Technical University Mandalay (TUM)** in Myanmar. His contact person was Mr Zwe (he will join SEIC in Oct. 2019). These photos are from his Facebook.



Members of the meeting to talk about BIRDS-5; see the next page.

Facebook: <https://www.facebook.com/endavour/posts/2796032867077018>

Meeting inside of TUM



Kyushu Institute of Technology vs TUM



Facebook: <https://www.facebook.com/endavour/posts/2796032867077018>



A warm welcome at the airport of Mandalay



Meeting the family of Zwe

2019.07.20



Myanmar has a lot of temples and shrines

2019.07.20

End of the TUM Report

05. 2019 Laboratory Summer Camp at Sasebo



This summer camp is an annual event. It is attended by many members of BIRDS and SEIC.

Venue

長崎県



長崎県立佐世保少年の天地
Nagasaki Prefecture Seishonen no Tenchi
(see next page for location map)



**Our camp was near
Sasebo City
of Nagasaki Prefecture**

**Location of
2019 LaSEINE Summer Camp
(near Sasebo City)**

Why?



- Receive lectures from staff and other students
- Socialize with staff and other students in informal atmosphere
- Talk shop (discuss engineering issues)
- Discover the pleasures of onsen 温泉
- Enjoy BBQ – a really big one
- Enjoy the natural beauty of Kyushu
- Get away from classrooms/labs/campus



DISCOVER A DIFFERENT ASPECT OF JAPAN

Prof. Dianne De Turris

This year: Three special guests from Cal Poly



Kent



Bobby



幹事さん、苗崎祐真さん
Camp Leader, Mr. Yuma Nozaki.
He did a good job.



Departure from Kyutech: Monday, 9:00 am, 19 August 2019



Lunch enroute to the camp site



The menu

The famous Sasebo Burger



海軍カレー ... very very delicious



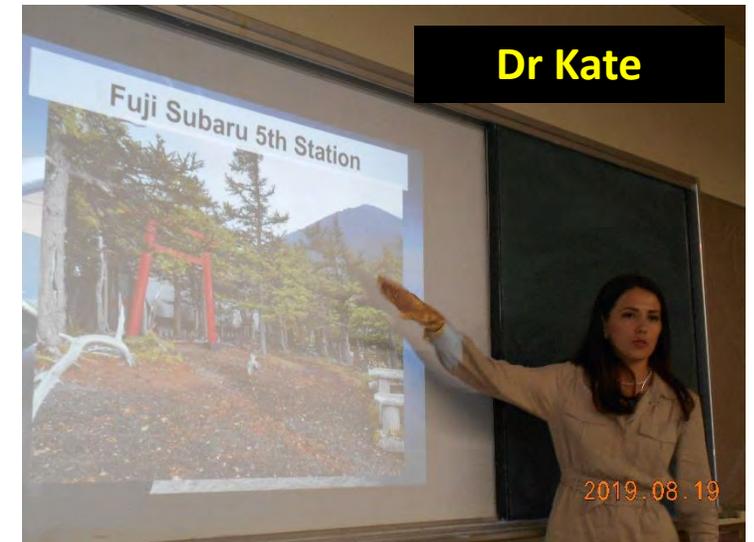
Prof. Dianne tries youza and Nagasaki ちゃんぽん



Arrival at the camp site

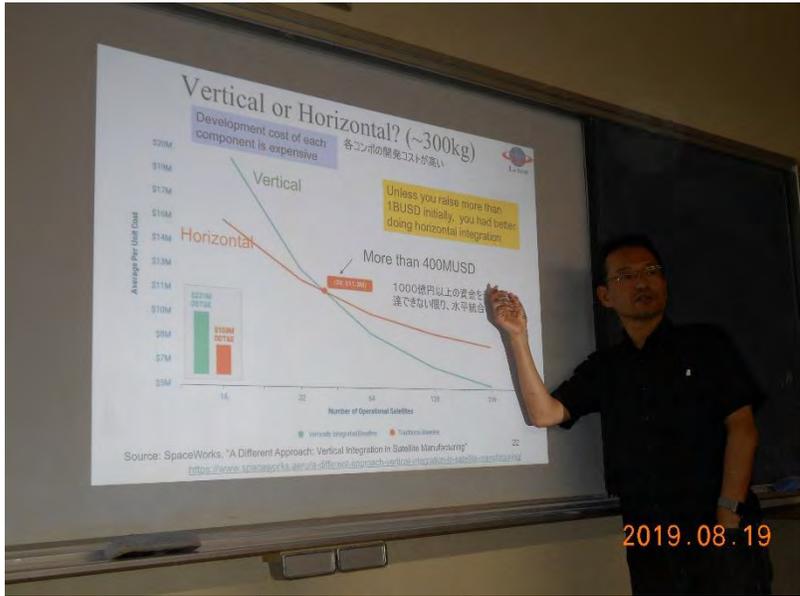


Presentations by staff





2019.08.19



2019.08.19

“Vertical Integration of Constellation Production” by Prof. Mengu Cho



2019.08.19



2019.08.19



2019.08.19

Recreation at night





朝の体操

**Morning
exercises**

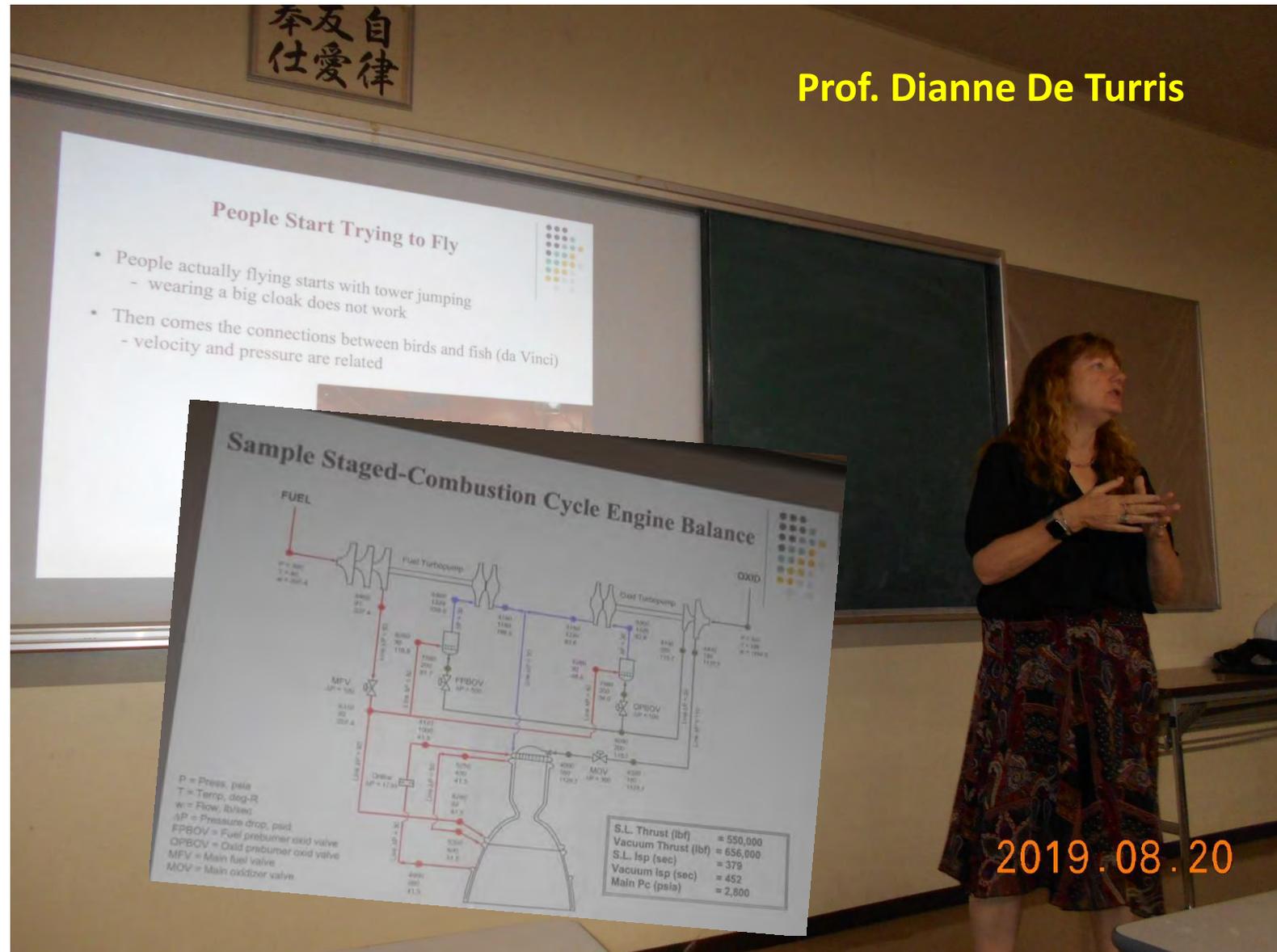
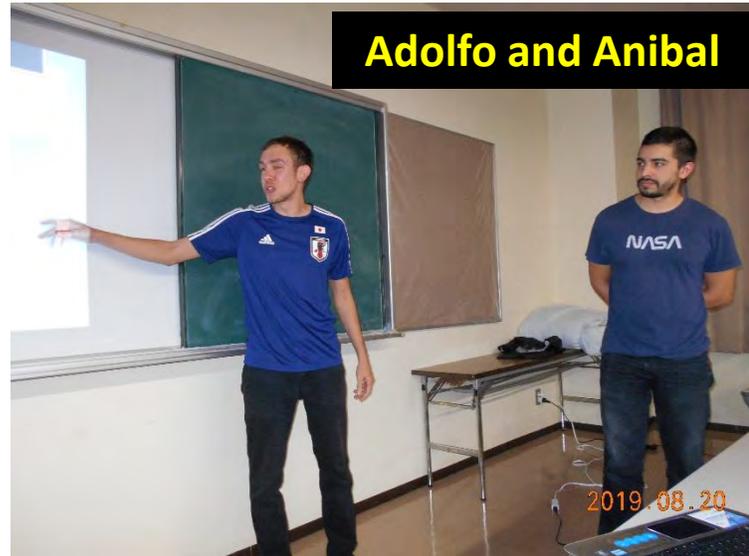
7:00 AM

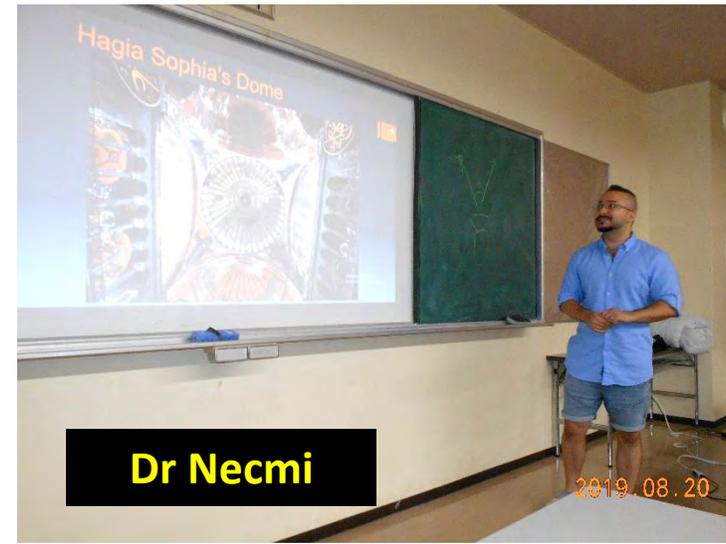
**Day 2
20 August**

Lunches

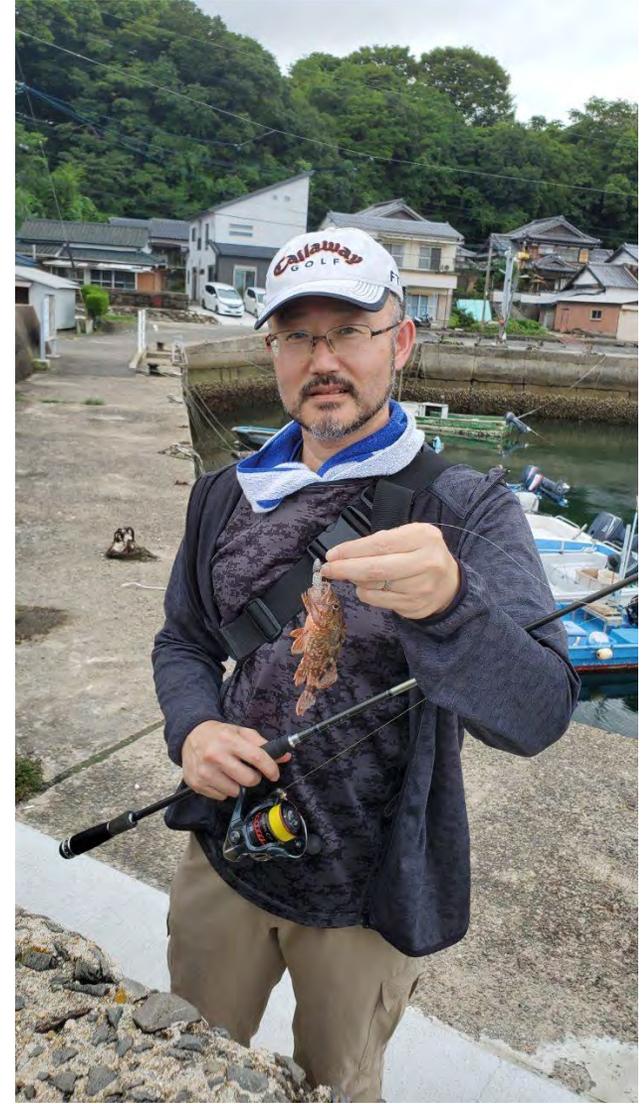
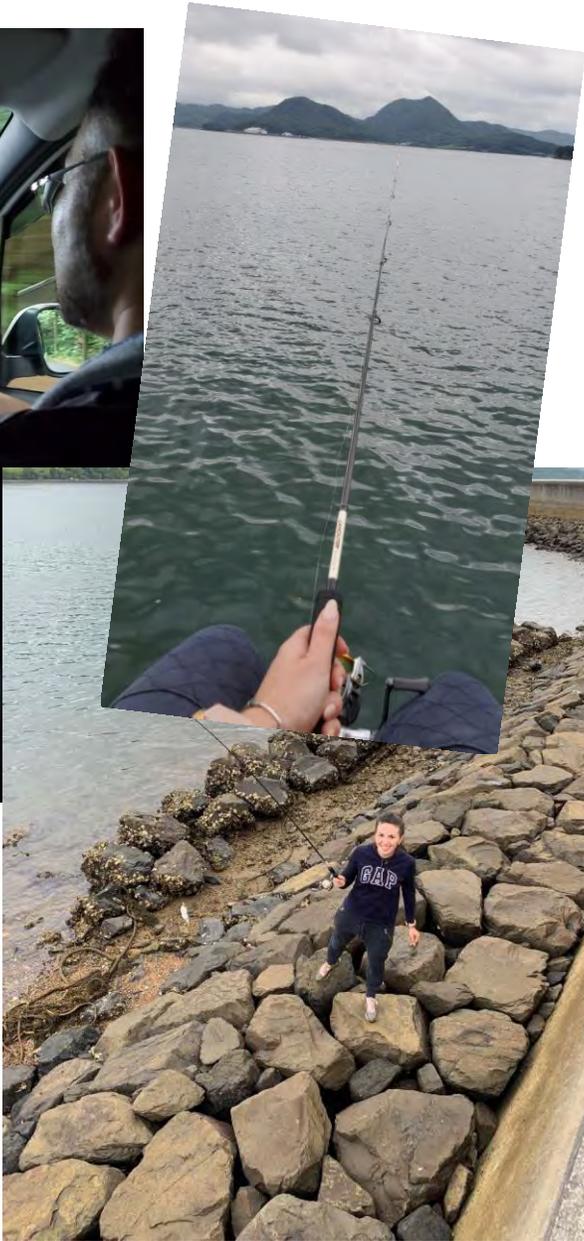


Presentations continued . . .





... End of presentations



Fishing at the sea



BBQ of Day 2 (20 Aug. 2019)





End of Summer Camp Report

06. The 7th UNISEC-GLOBAL meeting

Dear UNIGLO-POC,

The registration website for UNIGLO7 is ready!

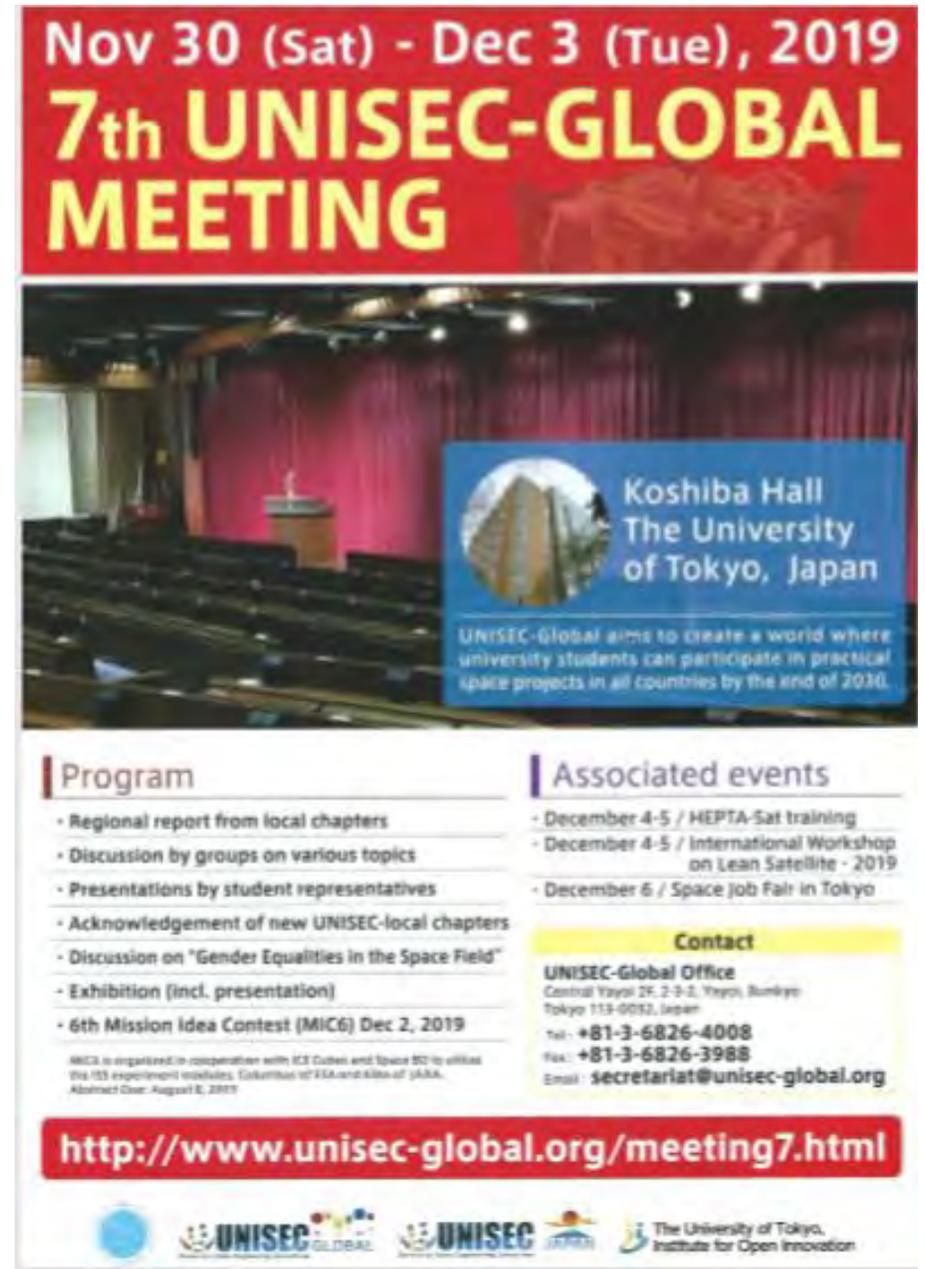
<http://unisec-global.org/meeting7.html>

(Please wait for a bit for the payment site....)

Depending on your status, the registration fees are different.

Also, if you need visa, please send the request form to us.
(Please download the template from the website.)

With warm regards,
Rei Kawashima
7 Sept. 2019



Nov 30 (Sat) - Dec 3 (Tue), 2019
7th UNISEC-GLOBAL MEETING

Koshiba Hall
The University
of Tokyo, Japan

UNISEC-Global aims to create a world where university students can participate in practical space projects in all countries by the end of 2030.

Program

- Regional report from local chapters
- Discussion by groups on various topics
- Presentations by student representatives
- Acknowledgement of new UNISEC-local chapters
- Discussion on "Gender Equalities in the Space Field"
- Exhibition (incl. presentation)
- 6th Mission Idea Contest (MIC6) Dec 2, 2019

MIC6 is organized in cooperation with ICE Cubes and Space BC to utilize the ISS experiment facilities. Co-sponsors of ESA and AIAA of JAXA. Abstract Due: August 8, 2019

Associated events

- December 4-5 / HEPTA-Sat training
- December 4-5 / International Workshop on Lean Satellite - 2019
- December 6 / Space Job Fair in Tokyo

Contact

UNISEC-Global Office
Central Yoyoi 2F, 2-2-2, Yoyoi, Bunkyo
Tokyo 113-0032, Japan
Tel: +81-3-6826-4008
Fax: +81-3-6826-3988
Email: secretariat@unisec-global.org

<http://www.unisec-global.org/meeting7.html>

07. Pre-TICAD report: Ghana minister (MESTI) visits Kyutech



Ministry of Environment, Science, Technology and Innovation (“MESTI” for short) is the ministry of Ghana responsible for the development of environment & science in the country.

-- from *Wikipedia*

Minister responsible:

Prof. Kwabena Frimpong-Boateng

Headquarters: Accra, Ghana

Jurisdiction: Ghana

Founded: 1993

On 26 August 2019, the Hon. Minister of MESTI (Prof. Kwabena Frimpong-Boateng, shown with neck tie below) paid a courtesy call to Kyutech. He met Prof Cho of LaSEINE and Prof Ohno of Kyutech administration.





The objectives of this visit by the Hon. Minister:

- 1. Facility tour of LaSEINE**
- 2. To take a look at Mr Bonsu’s research project which is called “PeTT Vacuum Chamber: An affordable thermal vacuum chamber for Cubesat testing targeted for emerging space economies”**

26 August
2019



Above: from the left,

- Prof Mengyu Cho
- Prof. Teruhisa Ohno, Executive Vice President for International Affairs and University Evaluation, Kyutech
- Prof Kwabena Frimpong Boateng, Hon. Minister of MESTI, Ghana
- Mr Oliver Boachie, advisor to the minister





26 August 2019



Prof Cho leads the facility tour



End of Ghana report

08. Workshop on space radiation interaction, Greece

14th Geant4 Space Users Workshop

21-23 October 2019

Europe/Athens timezone

General Information

Geant4 Space Users' Workshop –G4SUW– is focused on new results on space radiation interaction with components, sensors and shielding analysis, as well as on Geant4-based tools and developments applicable to space missions. The particular topics of interest for this workshop include:

- Effects on space electronics and science instruments
- Shielding simulations and optimisation
- Software interfacing Geant4 with space environment and/or effects tools (*e.g.* SPENVIS, FASTRAD)
- Microelectronics micro- & nanodosimetry:
 - Single Event Effects (SEE) simulation.
 - Geant4-TCAD coupling
- Simulation of astronaut radiation hazards, including biological micro- & nanodosimetry
- Planetary exploration applications
- Magnetospheric and atmospheric propagation of galactic cosmic radiation and solar energetic particles
- Geant4 toolkit improvements of significant benefit to space applications (*e.g.* in physics models, simulation speed, geometry treatment)

Main web site: <https://indico.esa.int/event/304/>

Location

Sikyon Coast Hotel And Resort
Xylokastro 20400, Korinthia, Greece

More info at :

<https://tinyurl.com/ybjz8r4a>

<https://www.sikyoncoast.com/en>

09. Myanmar holds its first space conference in at Tech. Univ. Mandalay (TUM)



1st Space Conference Myanmar 2019

Technological University (Mandalay)
Mandalay, Myanmar

14-page report by Mr. Zwe Thi Ha (TUM)
-- issued on 7 Sept. 2019

The 1st Space Conference In Myanmar

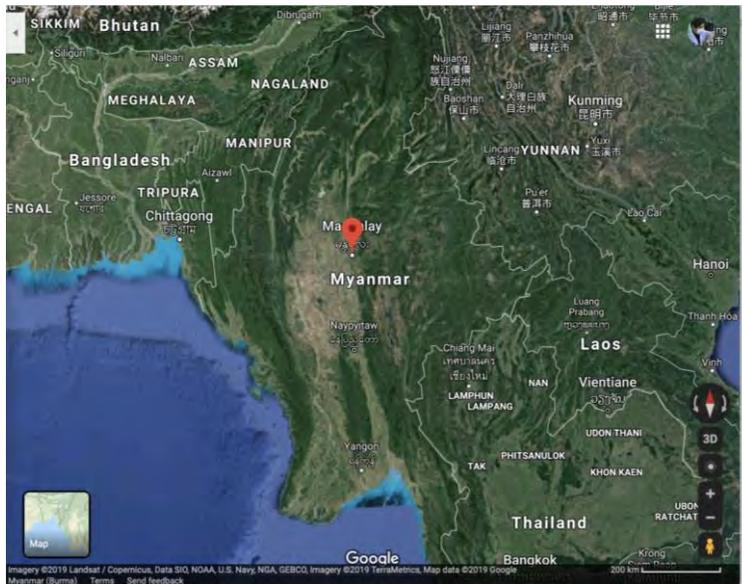
Written by Mr. Zwe Thi Ha

To be uniform space environment in which engineering, astronomy, chemistry, physics, astrophysics, and geography, planetary science, and so on, the first space conference of Myanmar was held in Technological University (Mandalay) in August 22, 2019. This conference was held due to meeting between Asst. Prof. George Maeda and Dr. Sint Soe who is the rector of Technological University (Mandalay). The BIRDS 5 project will be discussed and let people know widely in the space conference. In fact, according to BIRDS 5 project, every universities can benefit the satellite technology. Because of participating different science fields, Myanmar people can discuss the opinion upon the satellite technology and this way can provide further space development.



Mandalay City

Mandalay is the second largest city in Myanmar. It is located in upper Myanmar. Mandalay is one of the historical places in Myanmar because the city was built by Myanmar Royal Kings. Mandalay Palace from the Konbaung Dynasty, surrounded by a moat. Mandalay Hill provides views of the city from its summit, which is reached by a covered stairway. At its foot, the Kuthodaw Pagoda houses hundreds of Buddhist-scripture-inscribed marble slabs.



Technological University (Mandalay)-TUM



Acknowledgements

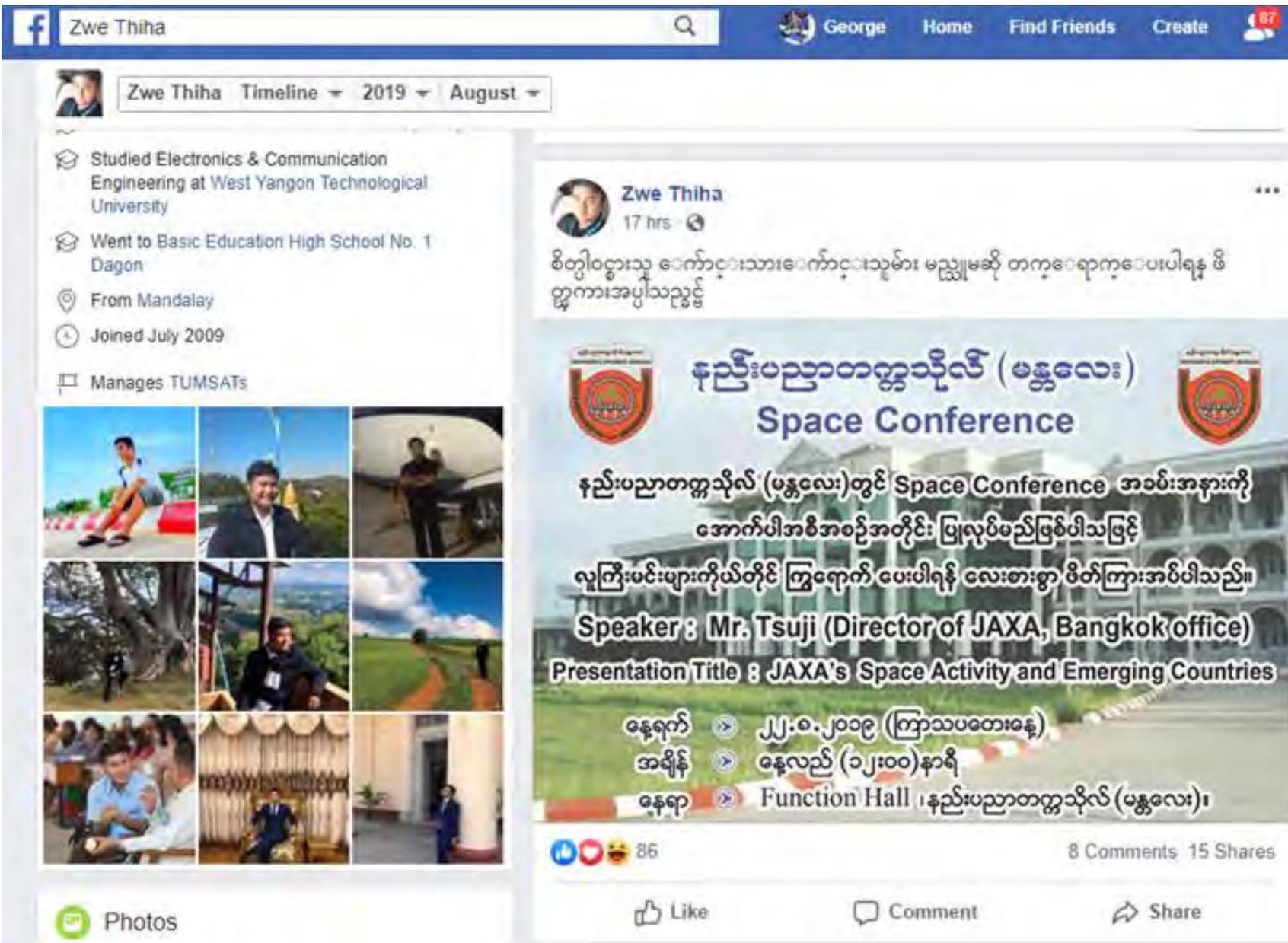
I would like to very thankful to the following respectful persons,

- Dr. Sint Soe (Rector of TUM) who gave permission to host this conference in TUM.
- Dr. Aung Myint Wai (Head of HR department and Metallurgical Department who managed for the function hall, invitations, procedure, and conference process.
- Ms. Myat Thin Zar Naing who did as a presenter in the whole conference.
- Students from TUM made the lighting, speakers, projector, and so on.
- Teachers from HR department who helped in registration desk and fresh meal.
- Dr. Lwin Lwin Htay (Head of EC department) who helped for the conference and suggestions.
- Dr. Kyin Thwin (Rector of Myanmar Aerospace Engineering University) who give the presentation of Myanmar satellite series processes.
- Dr. Thida Wint (Associate Professor of Physics Department, Mandalay Distant Education University) who gave the presentation of Astronomy and Astrophysics.
- Dr. Win Saw Hein (Professor of Electronic Department, Mandalay Technological University) who gave the presentation of GPS satellite development.
- Mandalay Astronomy Club and Yadanobon Astronomy Club which explained the their activities and progress.
- All invited guests and other technical fields attended to the conference.

Special Thanks

I would like give special thanks to the following persons:

- ◆ Mr. Masanobu Tsuji (Director of JAXA, Bangkok Office) who came and visit to Mandalay. He truly gave a splendid presentation for our first Space Conference Myanmar. Thank you very much for his attending and effective suggestions.
- ◆ Mr. Ye Thi Ha (my brother) who truly help everything and human resource support for the conference.
- ◆ Dr. Thein Zaw and Ms. Aye Aye Mon (my parents) who helped for the financial support for the conference and support for everything.
- ◆ Mr. Kaung Khant (Photographer and friend of Mr. Ye Thi Ha) who record the best photo imaging.

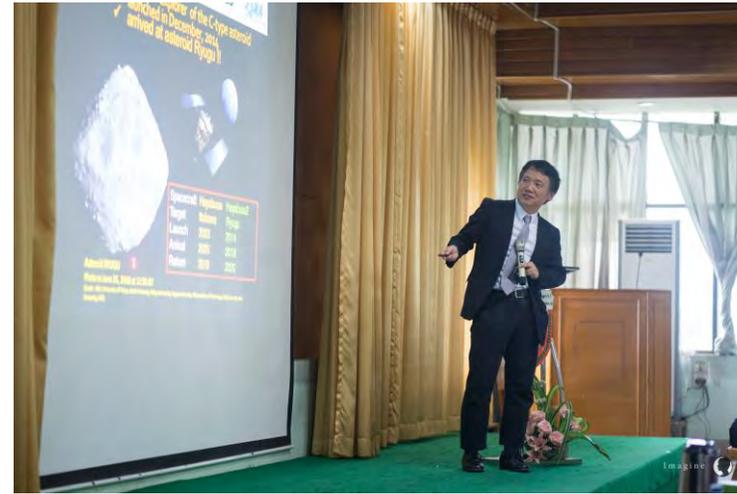


Zwe's
FaceBook
before
the
space
conference

(FB of 18 Aug., 2019)



Dr. Sint Soe (TUM rector) gave opening speech



Mr. Tsuji (Director of JAXA, Bangkok Office) gave the presentation of JAXA Activities



Mr. Tsuji and Mr. Ye Ye (Translating to English while other professors are talking in Burmese)





Discussion between Dr.Kyi Thwin and Dr. Thida Wint for the future process



Discussion between Mr. Tsuji and guests (Translations by Mr. Ye Thi Ha)



Conference time was not enough for Tea break and lunch due to weather. Therefore, we served and delivered fresh foods and tea in conference hall.



Professor from astrophysics field asked Mr.Tsuji for JAXA collaboration programs



Dr. Kyi Thwin (The Rector of Myanmar Aerospace Engineering Univ.) explained Myanmar's satellite development programs



Dr. Thida Wint (Associate Professor of Physics Department, Mandalay Distant Education University) gave the presentation of Astronomy



Mr. Zwe Thi Ha gave the presentation of Space Technology and BIRDS 5 project



The BIRDS-5 Proposal



Dr. Win Zaw Hein (Professor of Mandalay Technological University) gave the presentation of GPS satellite system



Mandalay University Astronomy Club explained astronomy activities



Yadanarbon University Astronomy Club explained astronomy activities

Giving Certificates of Appreciation to Speakers



Mr. Tsuji (JAXA)



Dr. Thida Wint
(Associate Professor of Astrophysics)



Dr. Kyi Thwin (MAEU Rector)



Dr. Win Zaw Hein (Professor in Electronic Department, MTU)
His research is radio communication between Mandalay and Yangon in which distance is over 400 miles and GPS location technology



Mr. Tsuji, Dr. Kyi Thwin (Rector of MAEU) and his family, Dr. Thin Thin Kywe (Physics Department, MAEU), Mr. Zwe Thi Ha (TUM Alumni)after conference



Mr. Saw Kyin Sein (American Jefferson Center, American Embassy)



Dr. Thida Wint (Associate Professor of Physics Department, Mandalay Distant Education University)
She is one of the famous astrophysics person in Myanmar

The 1st Space Conference Myanmar produced the following good results:

- ❑ 2nd Conference will be held by **Myanmar Aerospace Engineering University** next year.
- ❑ Universities are united for space development.
- ❑ Include Mandalay University and other universities interested in **BIRDS 5** missions.
- ❑ The **BIRDS 5 project proposal** is making progress inside the government of Myanmar.



Myanmar Aerospace Engineering University (MAEU)



Myanmar Aerospace Engineering University is located in Meik Htila city, Mandalay Division, Myanmar. That is 90 miles away from Mandalay city.

It offers

- B.E. (Aerospace- Propulsion and Flight Vehicles)
- B.E. (Aerospace Fuel and Propellant Engineering)
- B.E. (Aerospace – Space Systems Engineering)
- B.E. (Aerospace – Electrical Systems and Instrumentations)
- B.E. (Aerospace – Avionics)



Photo credit: Mr. Aung Bhone Pyae

In fact, Master and Ph.D degree are also available to study in MAEU. Now, currently MAEU is planning to build a micro satellite with Hokkaido University and Tohoku University. That program is organized by the satellite steering committee, leaded by the vice president of Myanmar. It will launched in the end of 2020.

Next year, MAEU will host 2nd Space Conference more success internationally.

End of Myanmar report by Mr. Zwe

10. A new 2-minute video from JAXA Washington DC



https://www.facebook.com/watch/?v=309993833256558&external_log_id=a36dfff4ebd84b7009fec02d52576bbd&q=jaxa%20washington%20dc%20office

11. G. Maeda is invited to see a small bit of HEPTA-SAT training

HEPTA-SAT Training Program – summer of 2019



For details: http://forth.aero.cst.nihon-u.ac.jp/HEPTA/top_en.html



Entrance to Nihon University





7 Providing Space Systems Engineering Hands-on Practices Pico-satellite Training Kit HEPTA-Sat
UNISEC
University Space Engineering Consortium

2019.08.27



Dr. Cheki Dorji of Bhutan

2019.08.27

| Team Name | Team |
|--|--|
| C { A { Giovanna Ramirez Mirna Ampuero Lara | E { Stoil Ivanov |
| A { B { Michael Siddal & Tandin Wangchuk | F { Zaid Sanchez Escate Muharenayo Gedon |
| { Ei Thandar Phyo Deborah Grace Gasize | G { Yves Ndayishimiye Sopagna Ath |
| D { Mustapha Fagir | { Cheki Dorji Timothy Kuhamba |
| B { Meshack Kinyua Ndiritu | |

Names of the participants

Near the end of two weeks of HEPTA SAT training



27 August 2019

UNISEC GLOBAL
University Space Engineering Consortium

2019.08.27

2019.08.27



Sopagna of Cambodia

27 August 2019



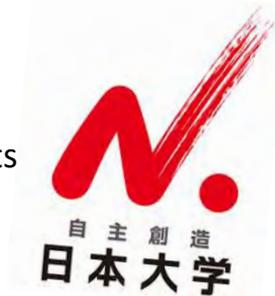
Dinner with all the participants

-- many thanks to Rei Kawashima for inviting me as an observer

魚民 restaurant near 日大 campus



With one of students from Rwanda



End of HEPTA SAT Report / 終わり

12. TICAD report: The Africa Space Forum

This forum took place as a side event of TICAD on 28 August 2019; it was well-attended. Space is no longer a pipe dream. Africans are taking advantage of new space opportunities; this forum covered some of these new exploits.

The poster for the Africa Space Forum event is set against a background of a satellite view of Earth at night, showing city lights and the African continent. The text is as follows:

OFFICIAL SIDE EVENT OF TICAD VII

AFRICA SPACE FORUM

Space Inclusion by Applying Space Technology

THIS FORUM explores the potential of enhancing Japanese-African space cooperation, focusing on the examples of space utilization familiar to African people such as the use of micro-satellites and the application of space technology to solve social challenges in such areas as global health, forestry, agriculture and infrastructure monitoring.

<https://www.africaspaceforum.org/>

The logo for TICAD Yokohama Japan 2019 features a green map of Africa with a yellow number '7' overlaid on it. Below the map, the text "TICAD YOKOHAMA JAPAN 2019" is written in a red, sans-serif font.

DATE AND VENUE

Date: Wednesday,
28th August 2019

Time: 18:00 – 19:30 (90
minutes)

** Registration starts at 17:30*

Venue: Rm. F203, Annex Hall,
Pacifico Yokohama, 1-1-1
Minatomirai,
Nishi Ward, Yokohama,
Kanagawa 220-0012, Japan

ORGANIZERS

Cabinet Office (CAO), Ministry
of Internal Affairs and
Communication (MIC), Ministry
of Foreign Affairs (MOFA),
Ministry of Education, Culture,
Sports, Science and
(MEXT), Ministry of Economy,
Trade and Industry (METI),
Japan Aerospace Exploration
Agency (JAXA)

**The first TICAD forum
dedicated to space**

AUDIENCE

Open Event for all the delegations
and participants of TICAD VII,
Japanese and African media,
business persons, researchers,
students, civil societies, etc.
(approx. 80 people attended)



**Banner at
the venue,
会場**

THE PROGRAM

- “Africa Space Forum” @Room F203, Annex Hall, was opened at 18:00
- Opening Remarks: **Mr. Takuya Hirai**, Minister of State for Space Policy, and **Mr. Tetsuro Yano**, President, AFRECO
- Keynote Presentation: **H.E. Prof. Khalid Atef Abdul Ghaffar**, Minister of Higher Education and Scientific Research, the Arab Republic of Egypt
- Introductory presentations by speakers:
 - ① **Prof. Shinichi Nakasuka**, University of Tokyo
 - ② **Dr. Koichi Wakata**, Japanese Astronaut and Director General, Human Spaceflight Technology Directorate, JAXA
 - ③ **Dr. Chiaki Mukai**, Senior Advisor to the Director General, JAXA
 - ④ **Mr. Kenichi Shishido**, Director General of Rural Development Department, JICA
- Roundtable discussion, moderated by Prof. Cho; Prof. Mohamed Bayoumy AbdelKader Zahran, President of NARSS, Egypt, joined as a member of this roundtable
- Closing Remarks: **Prof. Mengyu Cho**, Kyushu Institute of Technology





H.E. Prof. Khalid Atef Abdul Ghaffar of Egypt



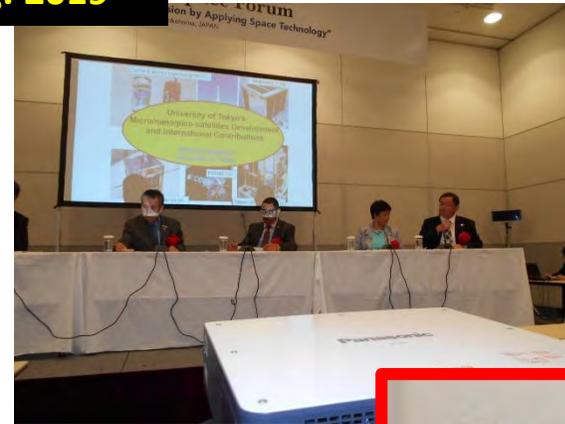
28 Aug. 2019



Above: Prof. Cho moderated the roundtable discussion.

Left: Cosmas (Kenya, PNST, Kyutech) and Yasir (Sudan, PNST, Kyutech).

Right: Hind (Sudan, ABE Fellow, Kyutech).



Kyutech Group Photo

Ministers from Africa sat in the front row

At the left is the Kyutech poster designed by Femi (SEIC, Phd candidate, Nigeria). It was displayed at the JAXA booth (below) during TICAD.



BIRDS Satellites Deployment from International Space Station

SEIC Space Engineering International Course

Ibukun Adeboju
PhD Student (Nigeria)

Benjamin Bonsu
PhD Student (Ghana)

Hind Mahmoud
ABE MSc Student (Sudan)

Hoda Awmy
PNST MSc Student (Egypt)

Pemi Isibola
PhD Student (Nigeria)

Yasir Abbas
PNST PhD Student (Sudan)

Senior Shinaanda
ABE MSc Student (Namibia)

"Kyutech is the foremost small satellite educational operator in the world. Top-notch facilities and leading experts providing the best learning and research experience"

"Kyutech gives African students the chance to participate in the emerging growth of their countries in the near Future"

"PNST made it easy for African engineers to seek space knowledge and experience at Kyutech. I am now getting the necessary potentials and great opportunities to build a satellite. Thus I consider myself a direct endorsement for the world's SDGs"

"Kyutech is the ultimate incubator for young professionals with aspirations to become all-round space engineers. Comprehensive lectures are complemented by hands-on project-based learning. This wouldn't be possible without the enabling ABE Initiative"

Vibration Test Equipment

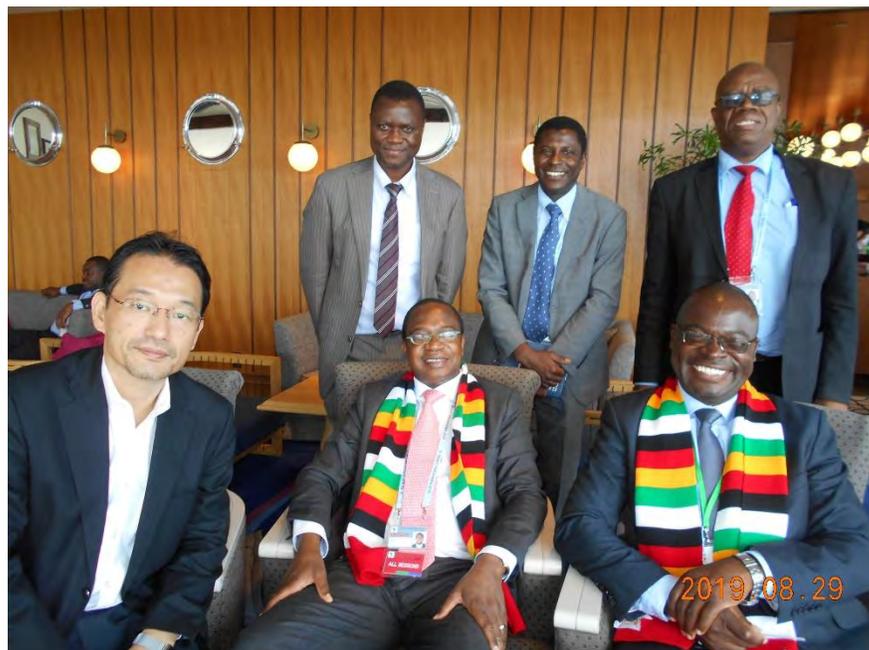
Large Vacuum Chamber for Satellite Testing

Satellite Charging, Docking Test Equipment

Cleanroom for Payload Testing (CANT)



13. TICAD report: Meeting with a delegation from Zimbabwe (29 Aug.)



Back row from left:

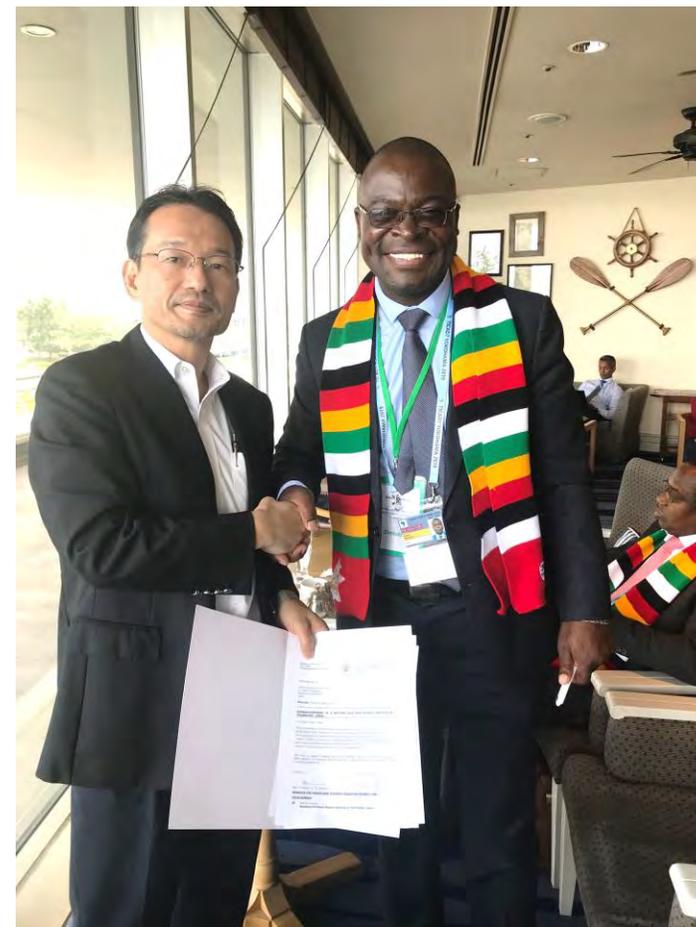
1. Jonah Gamba, engineer living in Japan
2. Courage Kamusoko (Phd)
3. Caleb Maguranyanga, assistant to Hon. Minister

Front row from left:

1. Prof. Mengu Cho
2. Prof. Mthuli Ncube , Hon. Minister of Finance
3. Prof. A. Murwira, Hon. Minister, Ministry of Higher Education & Tertiary Education, Science & Technology Development, Zimbabwe



Near the main lobby of the Intercontinental Hotel, Yokohama



Prof. Cho and the Hon. Minister Murwira signed a *Letter of Intent* (LOI)

14. TICAD report: Meeting with a delegation from Uganda (29 Aug.)

JAXA booth during TICAD



From the left:

1. Dr. Elioda Tumwesigye, Hon. Minister for Ministry of Science, Technology and Innovation (MoSTI)
2. Dr Wakata (JAXA)
3. Maxwell Otim Onapa, Director of Science and Research, MoSTI

The Uganda delegation (shown above) visited the JAXA booth on 28 August.

G. Maeda visited MoSTI (Uganda) on 25 June 2019.



MoSTI website: <https://mosti.go.ug/>



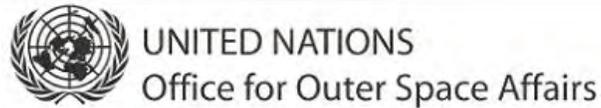
Prof. Cho chats Dr. Elioda, Hon. Minister of MoSTI.



Ugandans at TICAD



15. UN/Austria Symposium on Space



About Us ▾ Our Work ▾ Space4SDGs ▾ Information for... ▾ Events ▾ Space Object Register ▾ Document

Our Work > Programme on Space Applications > Schedule of Activities > 2019



United Nations/Austria Symposium: "Space: a Tool for Accessibility, Diplomacy and Cooperation"

UN/Austria Symposium - 25th Anniversary

GRAZ, AUSTRIA, 2-4 SEPTEMBER 2019

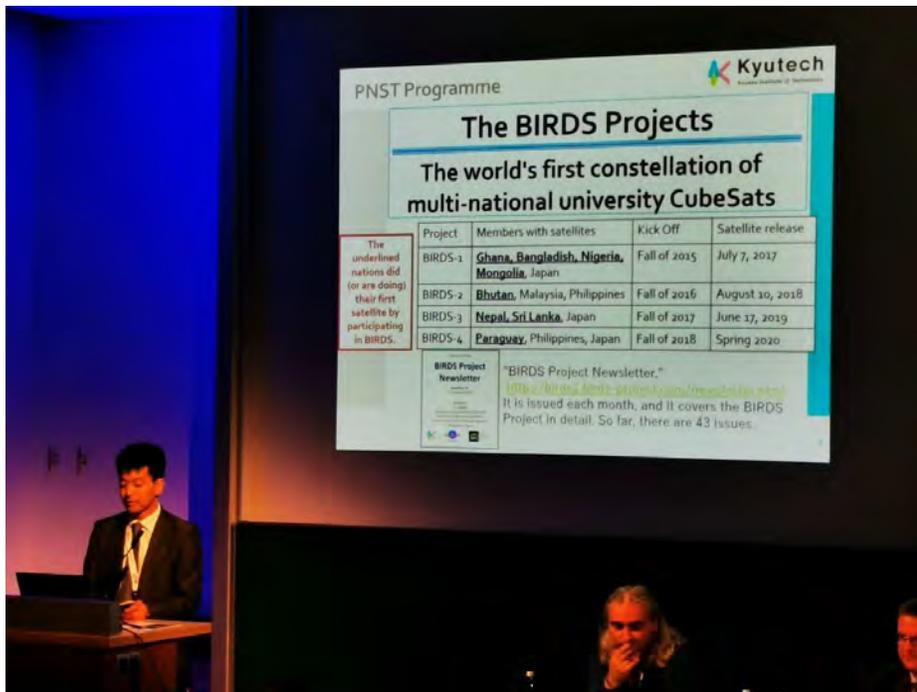
Find symposium details here: <http://www.unoosa.org/oosa/en/ourwork/psa/schedule/2019/2019-un-austria-symposium.html>

OVERVIEW

The UN/Austria Symposium is one of the long-standing activities that are performed under the Programme of Space Applications of the United Nations Office for Outer Space Affairs. It has been organized in Graz since 1994, marking this year the 25 th anniversary of the first Symposium entitled "Enhancing Social, Economic and Environmental Security through Space Technology". The topic proposed for this year is "Space: A tool for Accessibility, Diplomacy and Cooperation". It will build upon the past 24 years of UN/Austria Symposia, using some of the four pillars developed during the preparatory process for the UNISPACE+50 anniversary event in June 2018 to structure the sessions, in particular, Space Diplomacy and Space Accessibility:

- Space Diplomacy will aim at providing a view of how space is a tool for cooperation and diplomacy. Therefore, a session focused on those aspects will be included. This session is an opportunity for the diplomatic community to provide examples of how space is used in their respective countries and showcase this use for development and cooperation, and how cooperation with other countries or international organizations has contributed to the development of space activities.
- Space Accessibility relates to the use by all communities of space data and technology. Space Accessibility is a two-way avenue, on one hand, it requires the availability of systems and that can be accessed by of user communities. It is quite common that users are not aware of the availability or the capabilities space-based services. On the other hand, Space Accessibility requires understanding the needs and capabilities of the people who will be using space-based services, the design of these services, requires understanding of what users need. will aim at providing a view on user needs and solutions. The block devoted to solutions will be split in two subtopics, namely space derived services for development and global solutions for local problems.

The main objective of this symposium is to foster dialogue between the diplomatic community and those communities using space, exploring ways to utilize space related activities and services as a tool for diplomacy, and cooperation, stimulating access to space related services that are available and accessible by different countries.



At this symposium, Mr Iwaki (member of the Permanent Mission of Japan in Vienna) presented this talk → *Kyutech's role was mentioned a lot.*

Japan's Contribution to "Access to Space for All"

-Cooperation with UNOOSA-

Akihiro Iwaki
 Permanent Mission of Japan
 to the International Organizations in Vienna

Cooperation with UNOOSA



PNST Programme

*Learning Basic
Technology on Nano-
Satellite Development*

**More PNST slides presented by Mr Iwaki of
MOFA, Japan**

PNST Programme



The purpose of PNST is to help non-space-faring nations become space-faring nations by developing human resources.



PNST SYMPOSIUM OF 2017
held on the Tobata Campus of Kyutech in Japan
– many PNST graduates attended

The call for Year 2020 Intake



UNITED NATIONS
Office for Outer Space Affairs



About Us - Our Work - Space4SDGs - Information for... - Events - Space Object Register

Our Work > Programme on Space Applications > Basic Space Technology Initiative (BSTI) > Fellowship Programme

Basic Space Technology Initiative Fellowship Programme

United Nations/Japan Long-term Fellowship Programme 2020
Post-graduate study on Nano-Satellite Technologies (PNST)
(Kitakyushu, Japan)

Updated 23 August 2019. Applications are now accepted!

Please apply through the UNOOSA website:

<http://www.unoosa.org/oosa/en/ourwork/psa/bsti/fellowships.html>



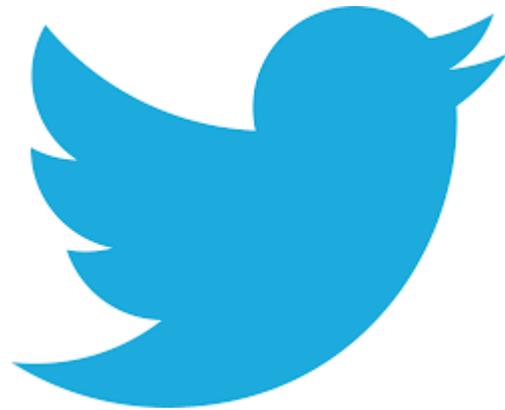
Space Potentials for Bhutan



Mr Iwaki, Prof. A. Roman (AEP), Yeshey (Bhutan)



Photos of the Graz workshop



Twitter (at the right) of Permanent Mission of Japan at Vienna



PMissionJapan Vienna

@JapanMissionVie

4日, #オーストリア の #グラーツ で開催中の @UNOOSA・政府共催シンポジウム"Space: a Tool for Accessibility, Diplomacy and Cooperation"にて, 当代表部・岩城陽大書記官が, と #UNOOSA の協力等に関するプレゼンテーションを行いました🌸



Mr. Iwaki is about to start his talk; G. Maeda

You can download most of the symposium presentations by going here:

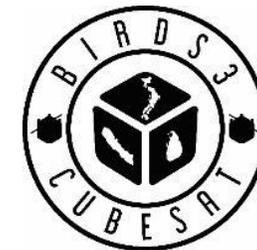
http://www.unoosa.org/documents/pdf/psa/activities/2019/UNAustria2019/UN_Austria_Symp_Program_final.pdf



Click on talk titles to download the pdf of the talk you wish to view.

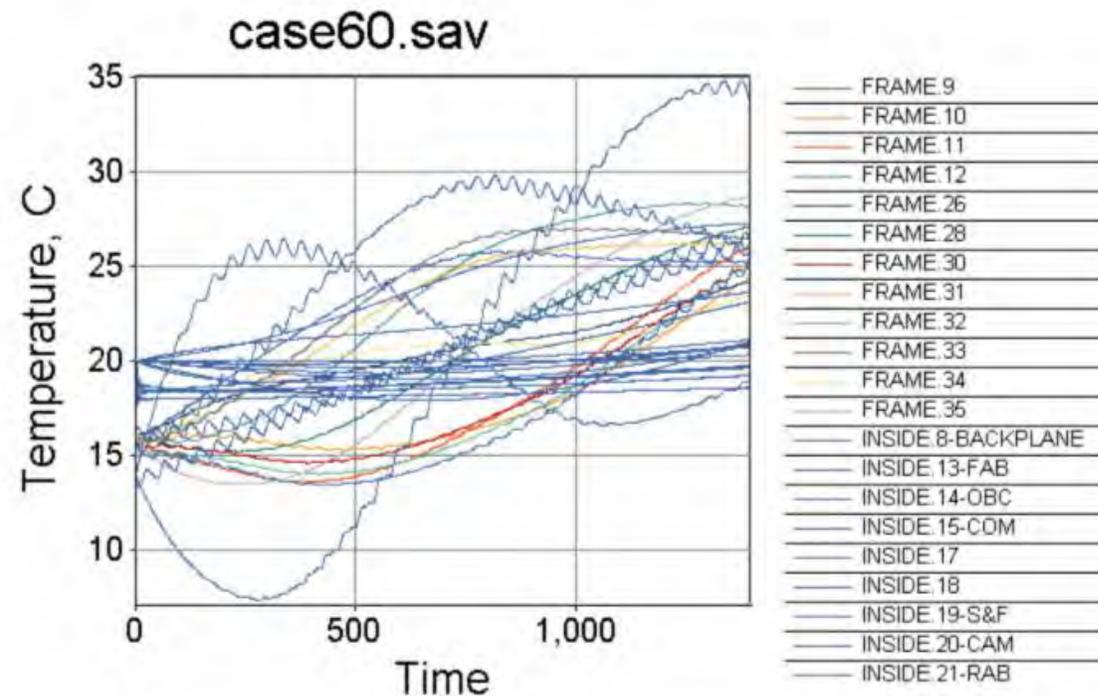
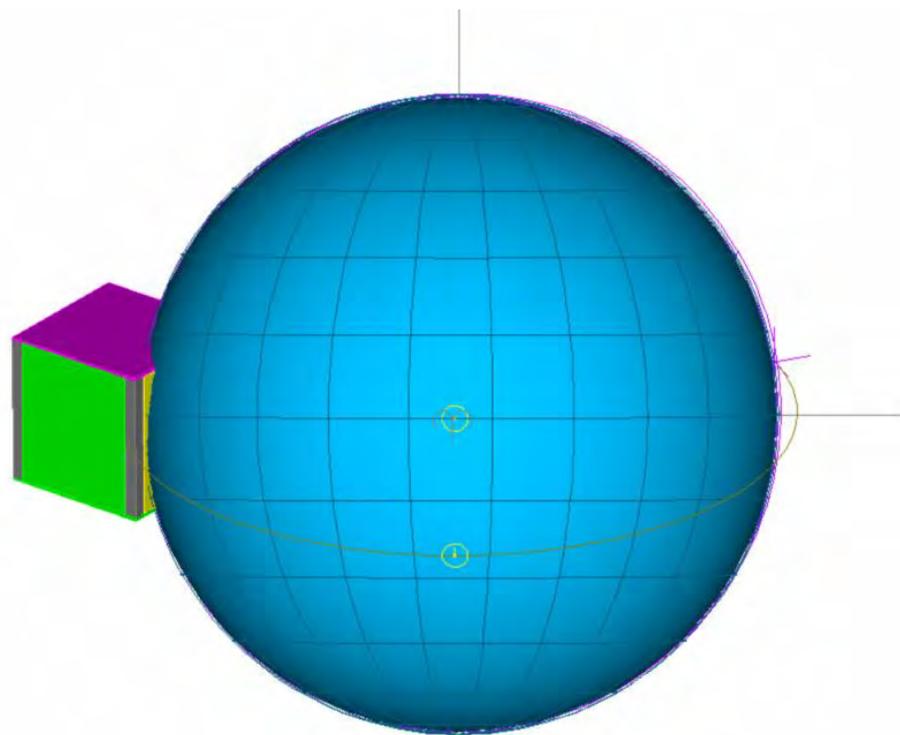
You can download the talks by Mr Iwaki (Japan), Prof. Roman (space agency of Paraguay), and Ms. Yeshey (Bhutan, BIRDS-2 member), who are shown two pages earlier in this newsletter.

End of Report about the Graz Symposium



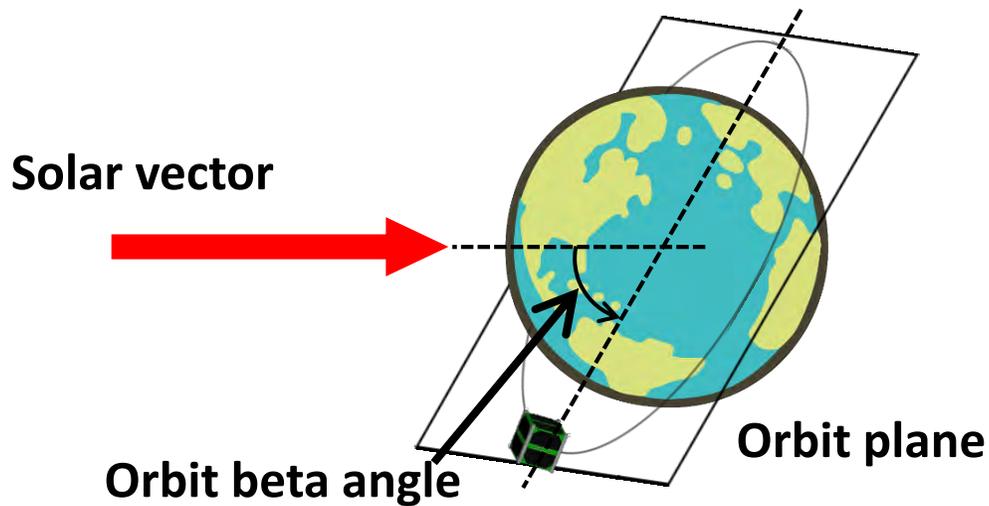
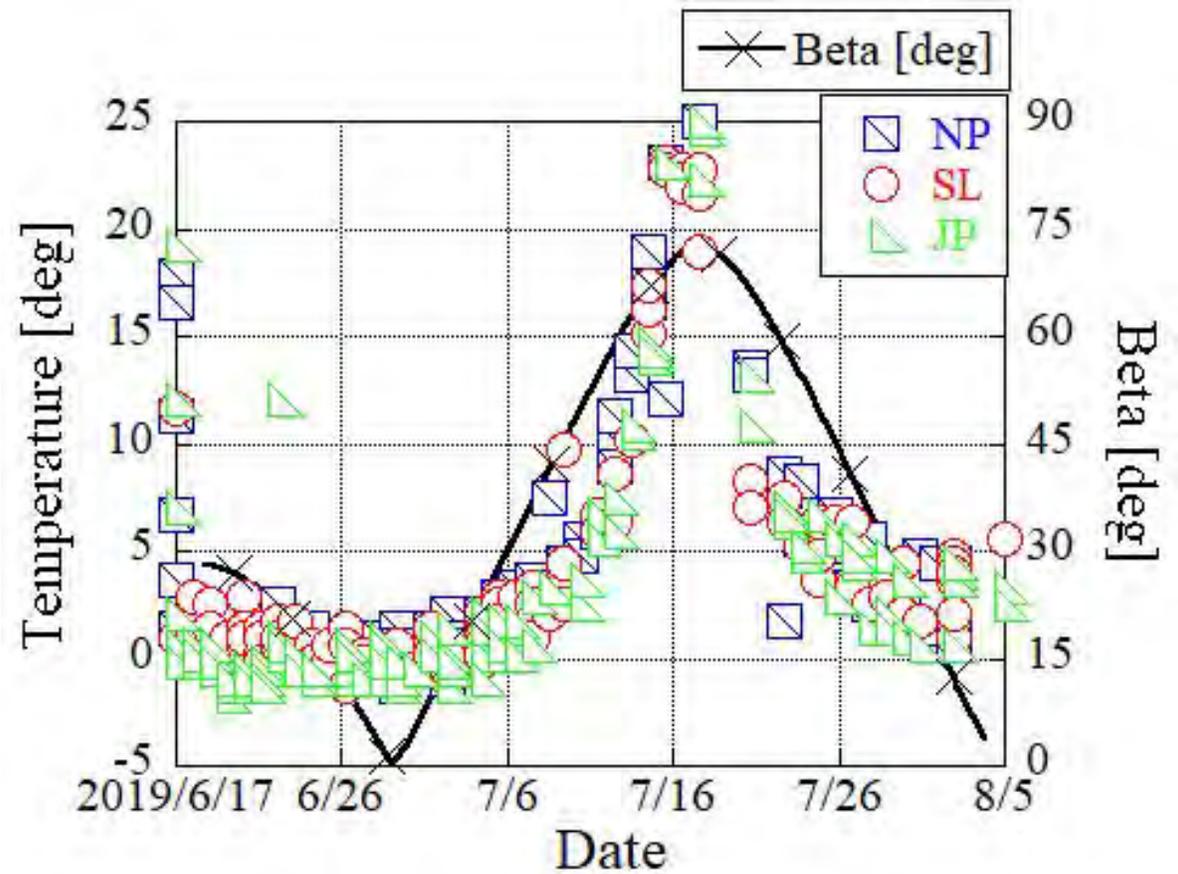
BIRDS-3 On-Orbit Temperature Data

by Yuta Kakimoto



The right figure shows the battery temperature of BIRDS-3 satellites from released date to 5th August, 2019.

The black line in the figure, we call orbit beta angle, is the angle between the solar vector and the orbital plane. In case of BIRDS-3, the orbit of satellite is same as ISS and the orbit beta angle can reach from 0 to 75 degree. The higher the orbit beta angle is, the higher satellite temperature will be because the time satellite is exposed by sunlight is longer in higher beta angle. If orbit beta angle is more than 70 degree, satellite will be exposure to the sunlight and internal temperature will be also increase.

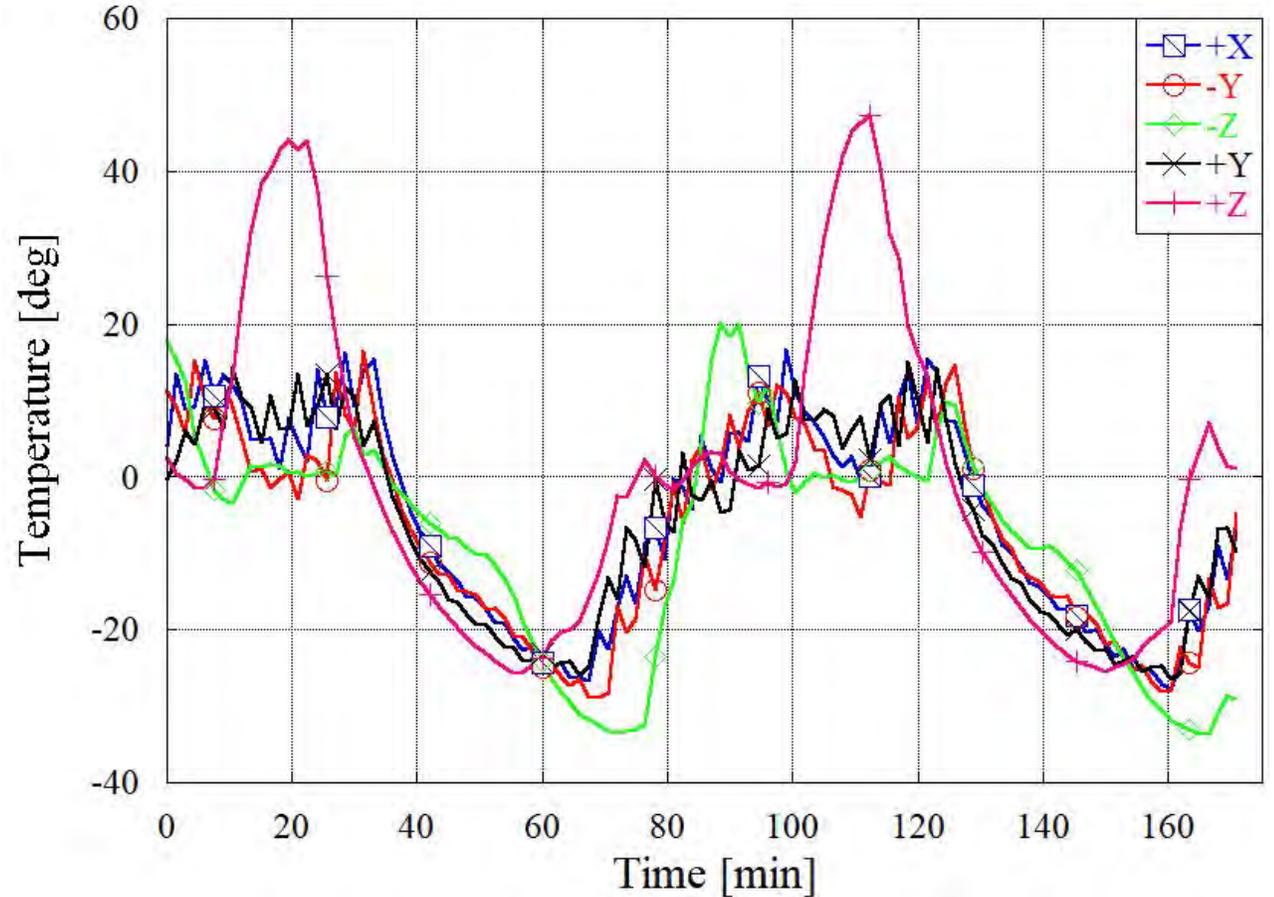
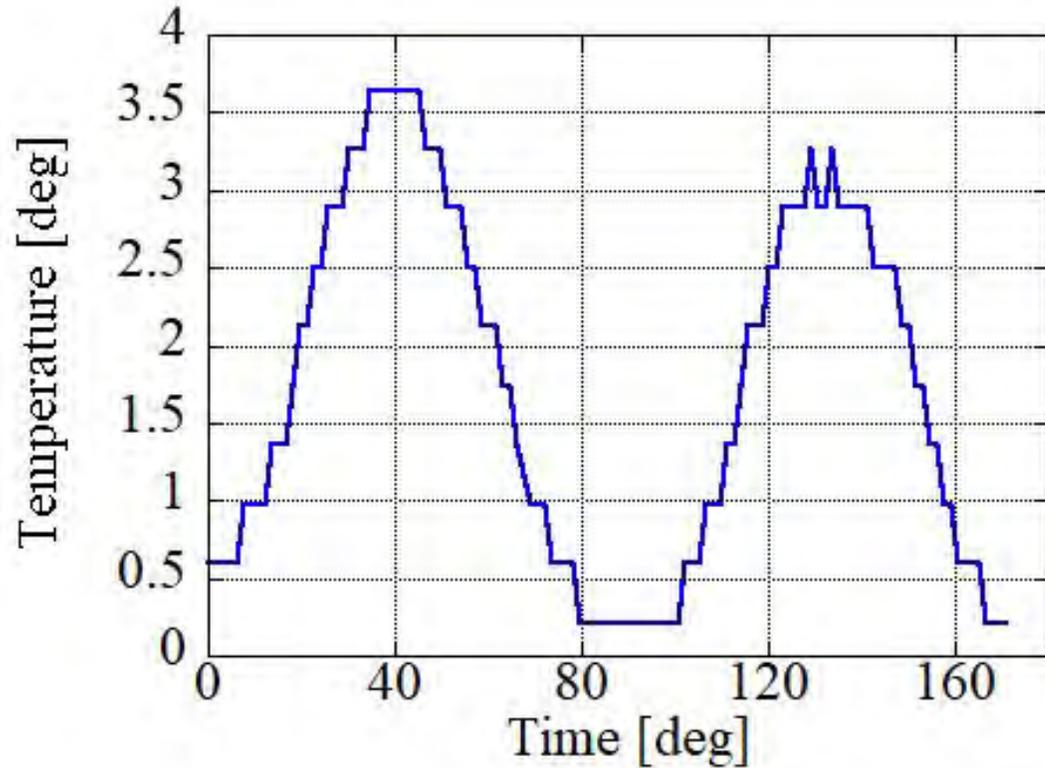


↑ Battery temperature of all 3 satellites have similar tendency. When orbit beta angle is high (at around 75 degree in 17th July), satellite is always exposure to the sunlight and temperature reached at 25 °C. It can be seen that the satellites' battery temperature increases and decreases as the orbit beta angle rises and falls.

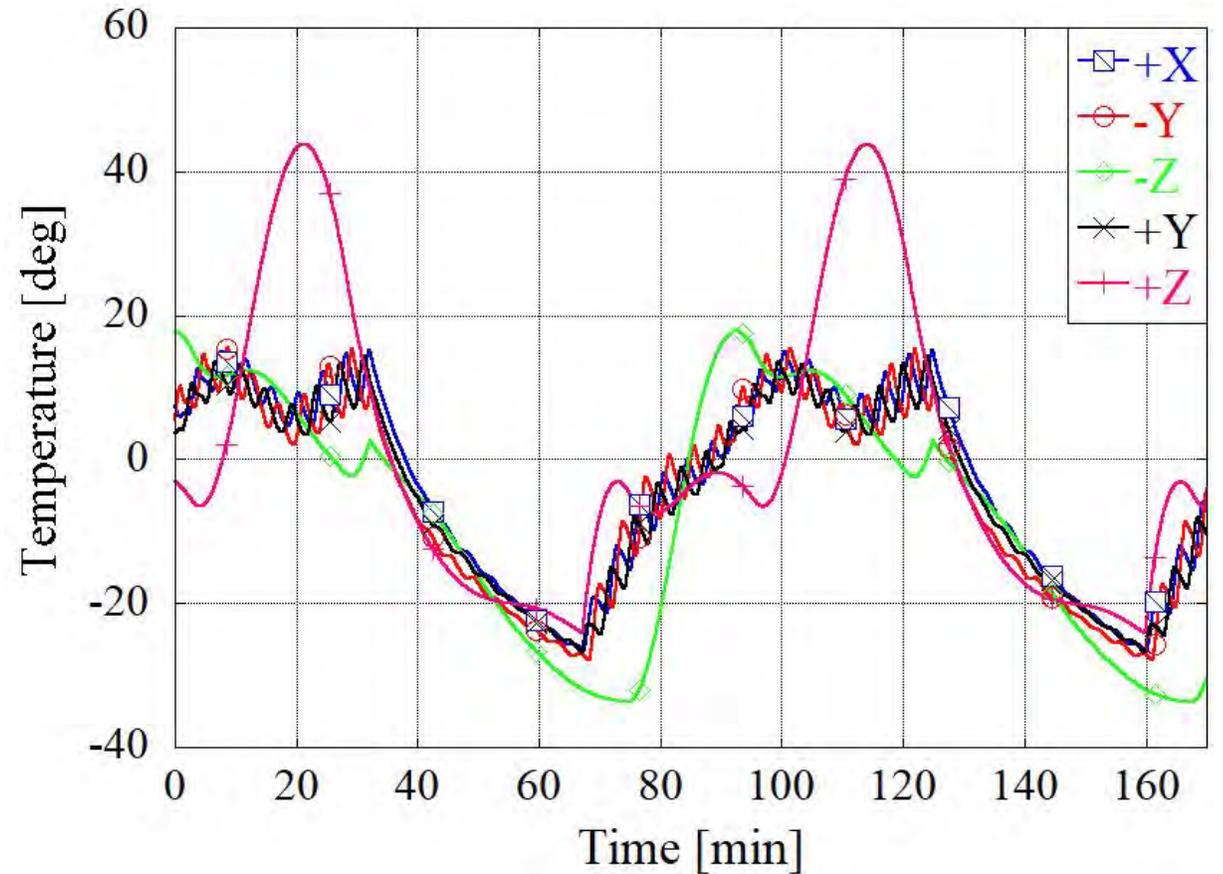
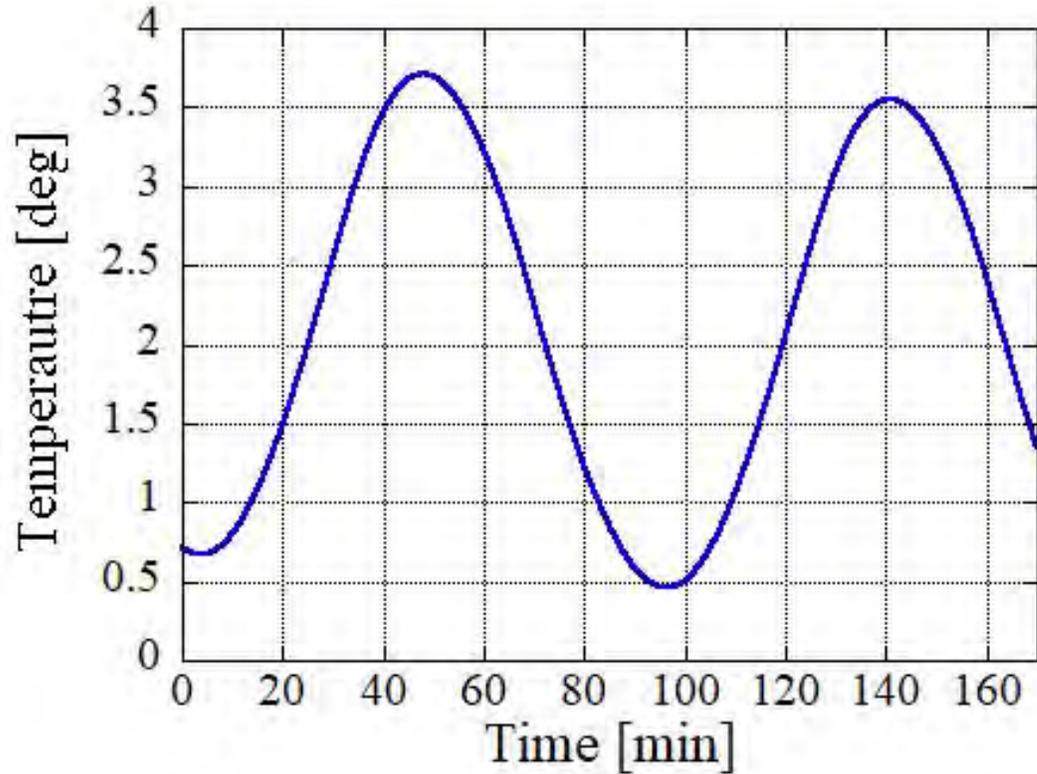
This data shows the temperature of NepaliSat-1's battery and external panels at 5th July, 2019. Satellite collects those temperature data every 90 seconds and save into the flash memory.

At this moment, the orbit beta angle was around 25 degree and battery temperature reached at around 0°C. Using this data, we tried to analyze how satellite reached this kind of temperature by Thermal Desktop.

NepaliSat-1 On-Orbit temperature data



Analyzed temperature data by Thermal Desktop



Finally we could obtained analysis result which is very close to the actual on-orbit data. From this condition, we also obtained roughly satellite orientation (according to this analysis condition, X axis is 0 [dps], Y axis is 0.13 [dps], Z axis is 1.62 [dps]). In this way, now we are trying to guess the satellite orientation. This result would be useful for validating the value of gyro sensor data integrated in ADCS subsystem.

END OF REPORT BY KAKIMOTO OF BIRDS-3























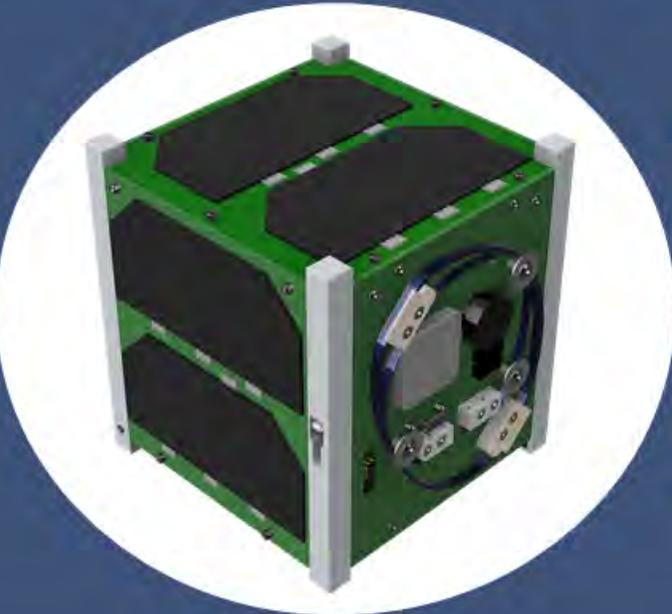






18. BIRDS-4: Critical Design Review (CDR)

Largely by G.Maeda and PM Izrael



Critical Design Review



Kyutech
Kyushu Institute of Technology



La SEINE

MILAiS • 1:00 PM
September 5, 2019

Location Map

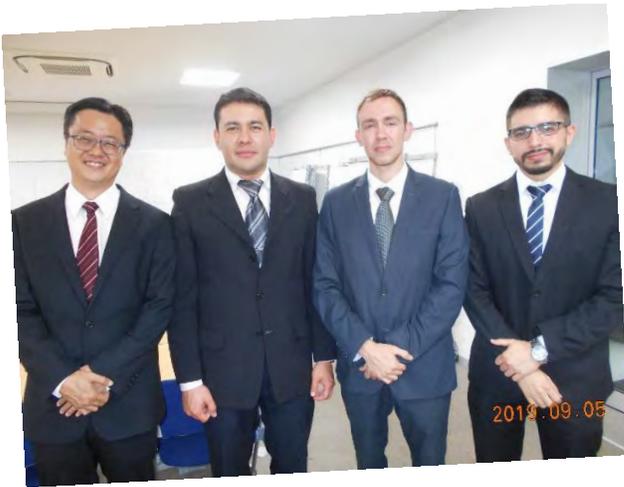
Tobata Campus of Kyushu Institute of Technology (map is inverted: the north entrance is at the bottom)



BIRDS-4 
Critical Design Review
MILAiS • 1:00 PM
September 5, 2019




CDR Venue: MILAiS
Registrations starts at 12:45 PM



Two special guests from Paraguay

[A]

[B]





Where staff sat



Where BIRDS-4 students sat



Where other SEIC students sat



One by one, the BIRDS-4 students delivered their presentations during the CDR (preparation was a lot of work for them)



Dr Kurita (Paraguay) makes a point

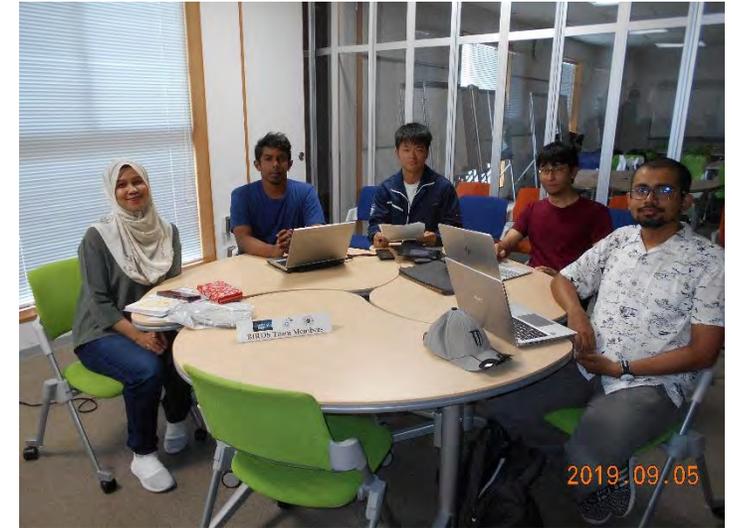
5 Sept. 2019



Philippines participated via Skype



Group photo taken at the conclusion of the CDR



BIRDS 先輩たち (students from BIRDS projects prior to BIRDS-4)



Post-CDR reception at Nakamura Hall

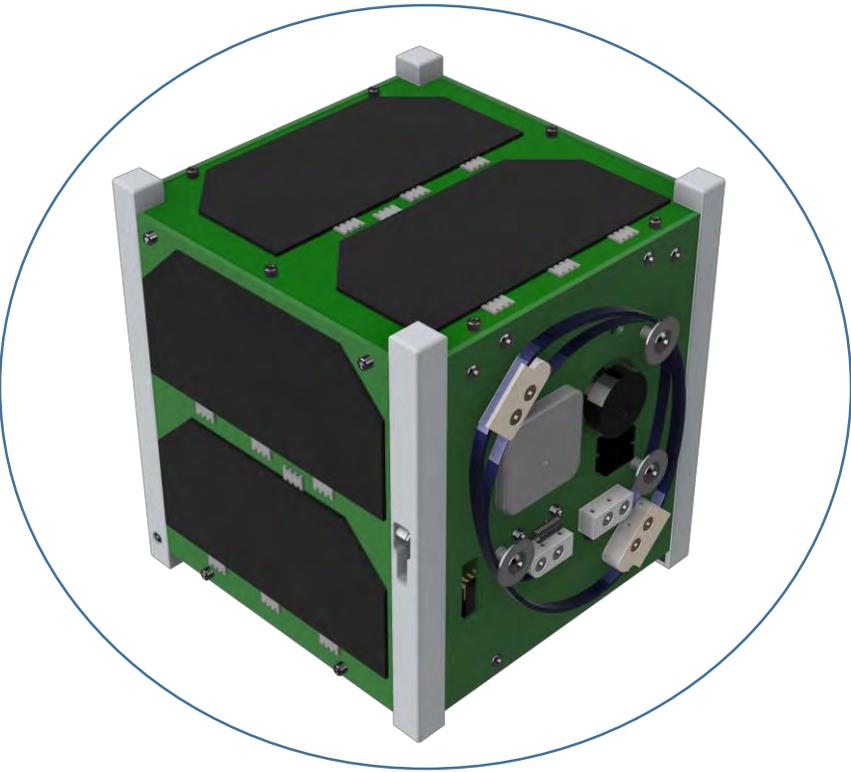
... celebration and relaxation
time ...





The following 17 pages
are from
Project Manager Izrael's
CDR Introduction,
delivered at the start of
the CDR on
5 Sept. 2019.





C
D
R

MILAiS ● 1:00 PM
September 5, 2019



PROGRAM

12:45 – 13:00.....Registration

13:00 – 14:30.....BIRDS-4 CDR Proper

Introduction

Missions Presentation

Question and Answer

14:30 – 14:45.....Break

14:45 – 16:15.....Subsystems Presentation

Question and Answer

16:15 – 16:45.....Conclusion

18:00 – 20:00.....Dinner Reception

(held in Nakamura Hall)

BIRDS-4 Missions

- Camera (CAM)
- Image Classification Unit (ICU)
- Automatic Packet Repeating System – Digital Repeater (APRS-DP)
- Store and Forward of Weather and Re-infestation Data using CubeSats (SF-WARD)
- Hentenna (HNT)
- Total Ionizing Dose Measurement of COTS and Onboard Rad-Hard Components (TMCR)
- NTU Mission
- Perovskite Solar Cell (PSC)
- Attitude Determination and Control (ADCS)
- Glue Mission



BIRDS Overall Mission Statement

Make the first step towards creating an indigenous space program by designing, building, testing, launching and operating, the first satellites for participating nations.

BIRDS-4 Mission Statement

Build Paraguay's first satellite while **improving** the standardized bus system for future missions and give **continuity** to the satellite development of Japan and Philippines, and previous missions from BIRDS-1,2 and 3.



Primary Objective(s)

1. To design, build, test, launch and operate Paraguay's first satellite
2. To give continuity to two missions; Imaging Mission (CAM) and Store & Forward (SF-WARD)
3. To serve the Amateur radio community with APRS-Digipeater mission (APRS-DP)

Secondary Objective(s)

1. To demonstrate active attitude stabilization and control on orbit (ADCS)
2. To demonstrate Perovskite solar cells in space (PSC)
3. To demonstrate CubeSat structure as antenna (HNT)
4. To expand database of COTS components useful in space applications (TMCR)
5. To demonstrate functionality of fabricated Latchup-detection chip (NTU)
6. To demonstrate on-board image processing and classification (ICU)
7. To demonstrate feasibility of COTS glue for solar cell (GLU)

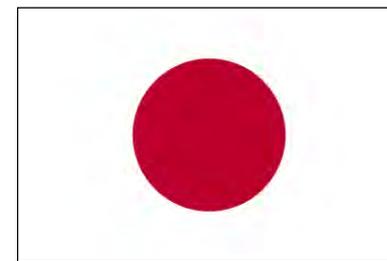




BIRDS-4

JOINT GLOBAL MULTI-NATION BIRDS
SATELLITE PROJECT

*BIRDS-4 Satellite Project
official logo*



Tsuru



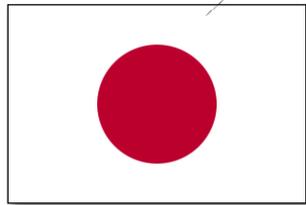
GuaraniSat-1



Maya-2



GuaraniSat-1



Tsuru



Maya-2



*Not in the Photo: Asst. Prof. George Maeda



<https://birds4.birds-project.com>



Birds4SatelliteProjectKyutech







A portrait of Yuma Nozaki, a young man with glasses and a red scarf, standing in front of a brick wall. A Japanese flag is positioned above his head. The background of the entire card is a space-themed image with a starry sky.

YUMA NOZAKI
(JAPAN)
ANTENNA DESIGN AND DEPLOYMENT



A portrait of Tomoaki Murase, a young man with a red lanyard and ID badge, standing in front of a brick wall. A Japanese flag is positioned above his head. The background of the entire card is a space-themed image with a starry sky.

TOMOAKI MURASE
(JAPAN)
TOTAL IONIZING DOSE MEASUREMENT
OF COTS AND ONBOARD RAD-HARD COMPONENTS
(TMCR) MISSION



A portrait of Daisuke Nakayama, a young man with glasses wearing a blue jacket, standing in front of a brick wall. A Japanese flag is positioned above his head. The background of the entire card is a space-themed image with a starry sky.

DAISUKE NAKAYAMA
(JAPAN)
HENTENNA (HNT) MISSION
GROUND STATION



A portrait of Hiroki Hisatsugu, a young man wearing a grey turtleneck and a black jacket, standing in front of a brick wall. A Japanese flag is positioned above his head. The background of the entire card is a space-themed image with a starry sky.

HIROKI HISATSUGU
(JAPAN)
ATTITUDE DETERMINATION
AND CONTROL SYSTEM (ADCS)



YİĞİT ÇAY
(TURKEY)
SATELLITE STRUCTURE AND MECHANISMS



HARI RAM SHRESTHA
(NEPAL)
ELECTRICAL POWER SYSTEM (EPS)







YASIR ABBAS
 (SUDAN)
 STORE AND FORWARD OF WEATHER
 AND REINFORESTATION DATA
 (SF-WARD) MISSION
 IMAGE CLASSIFICATION UNIT (ICU) MISSION






HODA AWNY A. A. ELMEGHARBEL
 (EGYPT)
 AUTOMATIC PACKET REPORTING SYSTEM - DIGIPEATER
 (APRS - DP) MISSION
 IMAGE CLASSIFICATION UNIT (ICU) MISSION






TIMOTHY IVAN LEONG
 (FRANCE)
 IMAGE CLASSIFICATION UNIT
 (ICU) MISSION





A portrait of Adolfo Javier Jara, a young man with short brown hair, wearing a light blue button-down shirt and a brown belt. He is standing in front of a brick wall. Above his head is a small flag of Paraguay. The background of the entire image is a dark blue space scene with a view of Earth from space.

ADOLFO JAVIER JARA
(PARAGUAY)
ON-BOARD COMPUTER (OBC)



A portrait of Anibal Antonio Mendoza, a man with dark hair and a beard, wearing a grey t-shirt with a white dreamcatcher design. He has his arms crossed and is standing in front of a brick wall. Above his head is a small flag of Paraguay. The background of the entire image is a dark blue space scene with a view of Earth from space.

ANIBAL ANTONIO MENDOZA
(PARAGUAY)
THERMAL SYSTEM
SATELLITE STRUCTURE AND MECHANISMS



A portrait of Izrael Zenar Casople Bautista, a man with glasses wearing a white short-sleeved button-down shirt with a small pattern. He is standing in front of a brick wall. A small Philippine flag is positioned above his head. The background of the entire card is a dark blue space-themed image with a satellite view of Earth.

IZRAEL ZENAR CASOPLE BAUTISTA
(PHILIPPINES)
PROJECT MANAGER
PEROVSKITE SOLAR CELL (PSC) MISSION



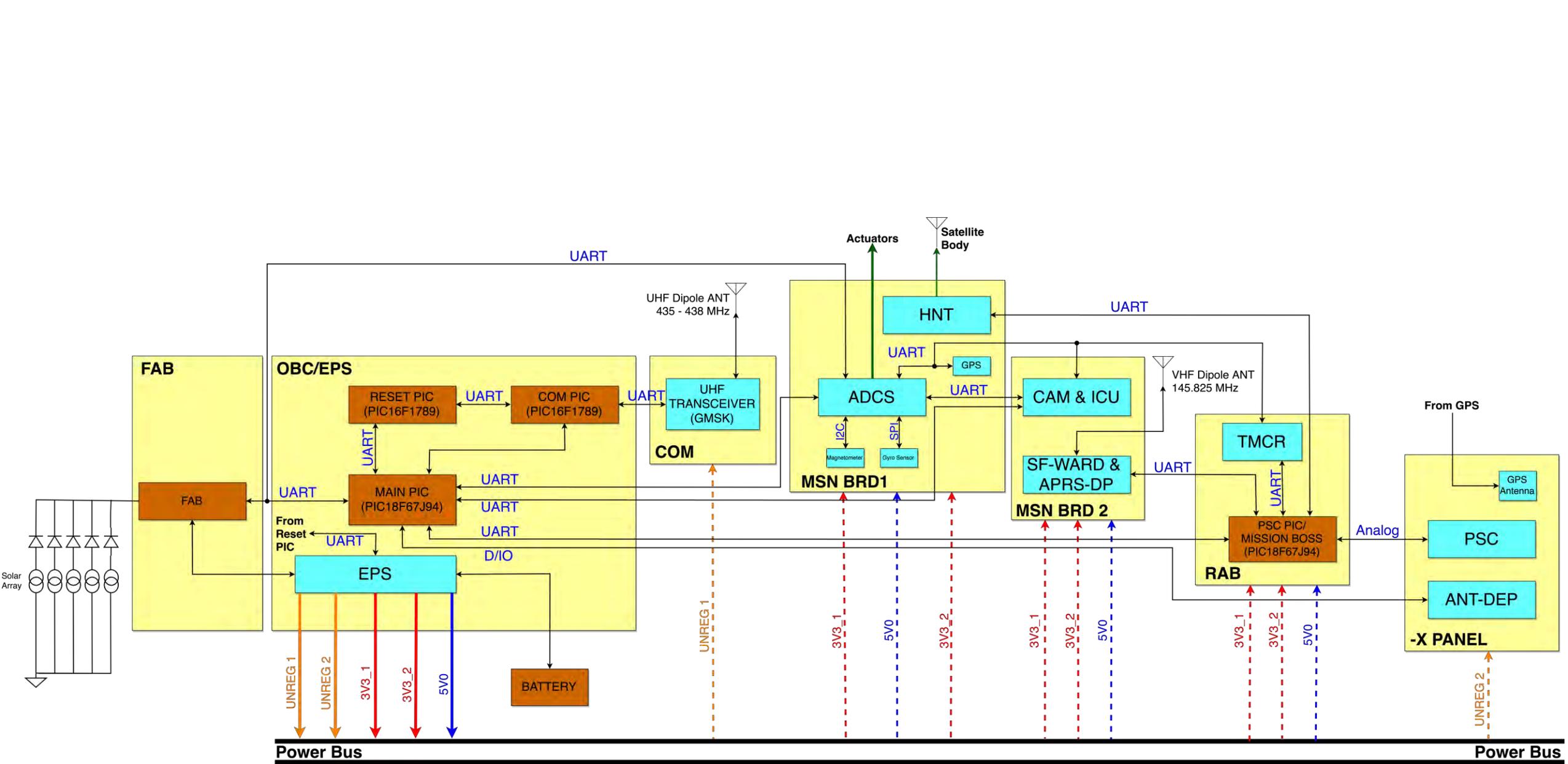
A portrait of Mark Angelo Cabrera Purio, a man wearing a blue patterned cardigan over a blue and white checkered shirt, with a red and black striped scarf. He is standing in front of a brick wall. A small Philippine flag is positioned above his head. The background of the entire card is a dark blue space-themed image with a satellite view of Earth.

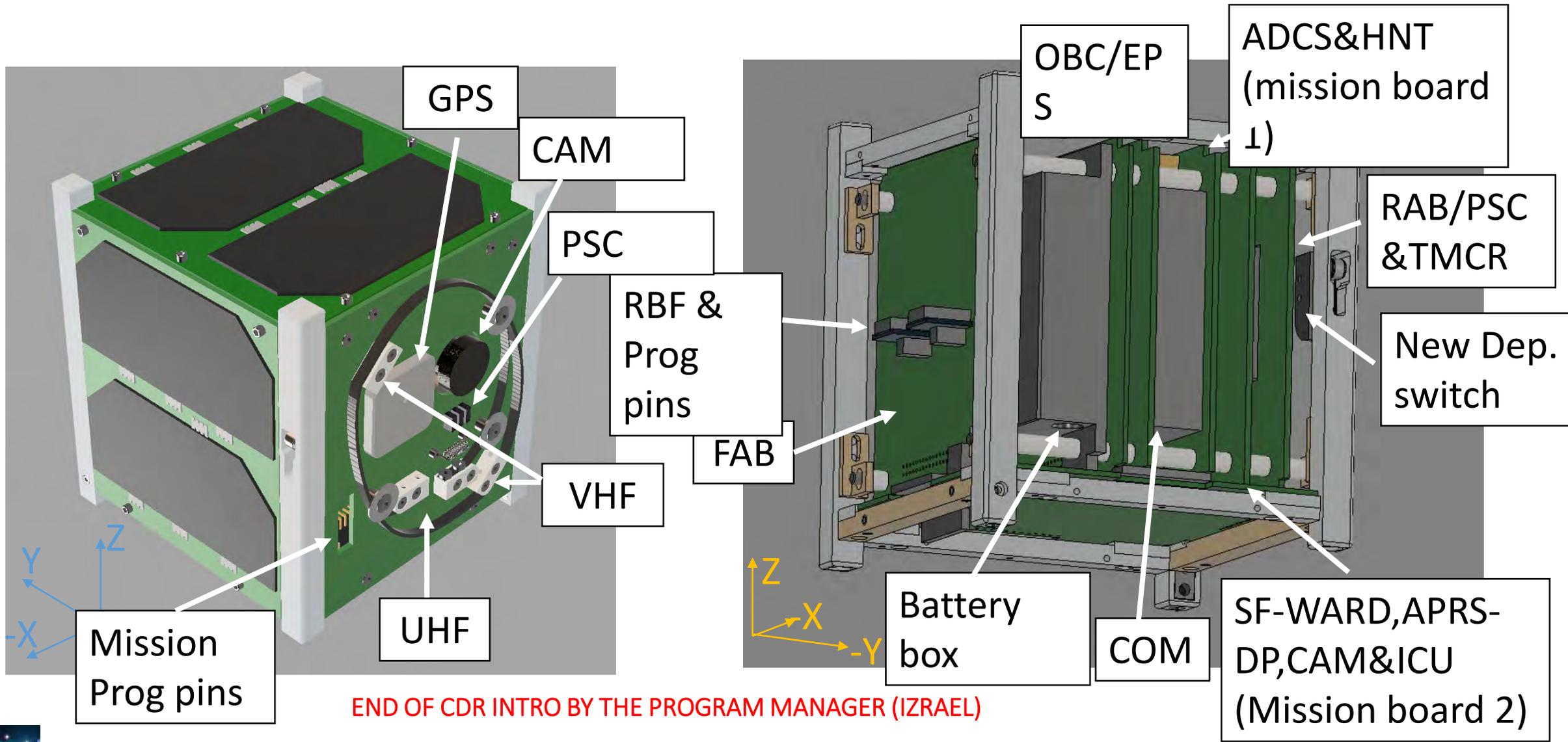
MARK ANGELO CABRERA PURIO
(PHILIPPINES)
CAMERA (CAM) MISSION
BACK PLANE BOARD DESIGN AND PLANNING



A portrait of Marlou Pelayo Sejera, a man wearing a bright blue zip-up jacket and khaki pants. He is standing in front of a brick wall. A small Philippine flag is positioned above his head. The background of the entire card is a dark blue space-themed image with a satellite view of Earth.

MARLOUN PELAYO SEJERA
(PHILIPPINES)
COMMUNICATION SYSTEM (COM)
AUTOMATIC PACKET REPORTING SYSTEM-DIGIPEATER
(APRS-DP) MISSION





To view all the BIRDS-4 CDR presentations, please download this 18 MB pdf

https://drive.google.com/open?id=1LK91d92CQ3IJvF6nWJ_ITL8veS2xXCZj



**END OF THE
BIRDS-4 CDR
REPORT**

19. Finalists of the 6th Mission Idea Contest



The 6th **Mission Idea Contest**
For Achieving Sustainable Development Goals with Human Spaceflight

Finalists were announced on 13 Sept. 2019

Overview Requirements Schedule Application FAQ Contact

[Review Team](#) | [Regional Coordinators](#)

News

- June 7, 2019
MIC6 flier is available. Please feel free to download it.
[MIC6 flier](#)
- February 11, 2019
First announcement of the 6th Mission Idea Contest

Introduction to the Mission Idea Contest

[Follow us on](#) 

The Mission Idea Contest (MIC) was established in 2010 to provide aerospace engineers, college students, consultants, and anybody interested in space with opportunities to present their creative ideas and gain attention internationally. The primary goal of MICs is to open a door to a new facet of space exploration and exploitation.

Development of micro/nano-satellites started as an educational and research program primarily at university laboratories. As the micro/nano-satellite technology matures, it has spread rapidly across the academics and industry for practical application.

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

Finalists

| | Title | category | Name | Affiliation | Country |
|----------|--|--------------|-----------------------------|---|-----------------|
| Finalist | Quantification of Metal Extraction from a Substrate by Biomining | A) ICE Cubes | Lopez Campos Graciela | Universidad de Costa Rica | Costa Rica |
| Finalist | In-Orbit Total Ionizing Doze Testing of Commercial Off-The-Shelf (COTS) parts for Small Satellites | B) iSEEP | Senior Shimhanda | Kyushu Institute of Technology | Japan |
| Finalist | MUSA: An ISS Experiment for research of a dual culture for Panama Disease | A) ICE Cubes | Jose Ricardo Campos Mora | Costa Rica Institute of Technology (TEC) | Costa Rica |
| Finalist | MARGE Melanoma Apoptosis Reduced Gravity Experiment | A) ICE Cubes | Gianluca Cocirla | Sapienza University of Rome | Italy |
| Finalist | gamma ray astronomy by cubesat swarms | B) iSEEP | Plamen Dankov | Sofia University St. Kliment Ohridski | Bulgaria |
| Finalist | Spectrum Monitoring from Space with i-SEEP (SMoSiS) | B) iSEEP | Joel Joseph S. Marciano, Jr | DOST-ASTI and University of the Philippines Diliman | The Philippines |
| Finalist | Mountain VIEWS (Mountain Volcanoes Identification and Early Warning System) | B) iSEEP | Muhammad Manggala | Telcom University | Indonesia |

Senior studies at Kyutech on an ABE Initiative scholarship

He is from Namibia

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

Scope of this round of MIC

The MIC6 offers aerospace engineers, scientists, college students, consultants, and anybody interested in space with opportunities to present their creative ideas on payload for ISS platform and gain attention internationally. The primary goal of MIC is to open a door to a new facet of space exploration and research & technologies.

Recently opportunities opened up to all to regularly and rapidly fly payloads (from 1U upwards) to the International Space Station (ISS), the permanently inhabited location other than Earth and our stepping stone to exploration of the moon, Mars and beyond. This way access for the performance of research, the development and test of technology and the manufacturing of innovative products in low Earth orbit is becoming a reality.

On-board of the International Space Station, research can be done, and technologies can be testing making use of the unique features of microgravity and radiation. Applied research making use of the microgravity value features allows for significant relevance for terrestrial benefits and allows the research to also contribute to the UN Sustainable Development Goals.

MIC6 is organized in cooperation with ICE Cubes and Space BD to utilize the ISS experiment modules, Columbus of ESA and Kibo of JAXA.

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

20. Family of Adolfo (BIRDS-4) has arrived in Kyushu

Welcome to Kyushu!

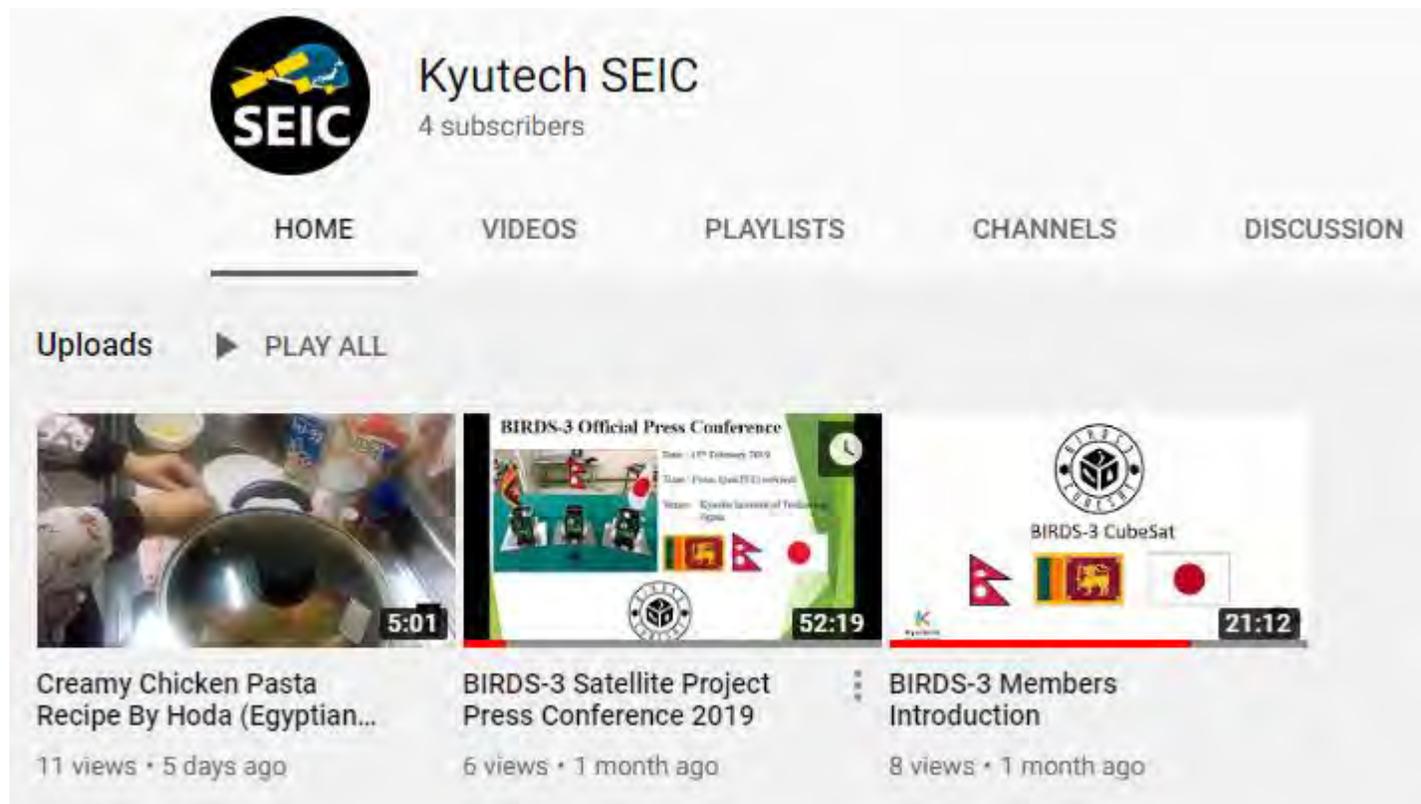


This was taken on 26 Oct. 2018 during a business trip to Paraguay.



Adolfo with his child, wife, and sister-in-law (JR九工大前駅、8:00 PM, 14 Sept. 2019)

21. Kyutech has created “SEIC YouTube Channel”



Right here: https://www.youtube.com/channel/UC_XUgaOV30kyk59WYJeBBWg



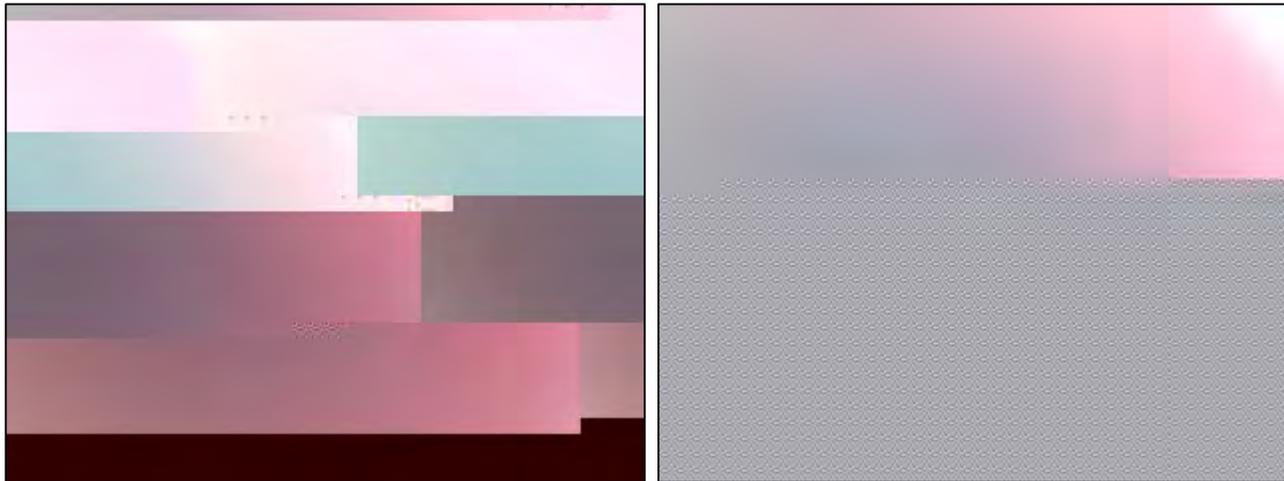
The administrator of this new YouTube channel is Tharindu (BIRDS-3, ACCIMT, Sri Lanka). Please contact him for requests, comments, and questions.

We will be adding a lot more videos in the coming months. So stay tuned.

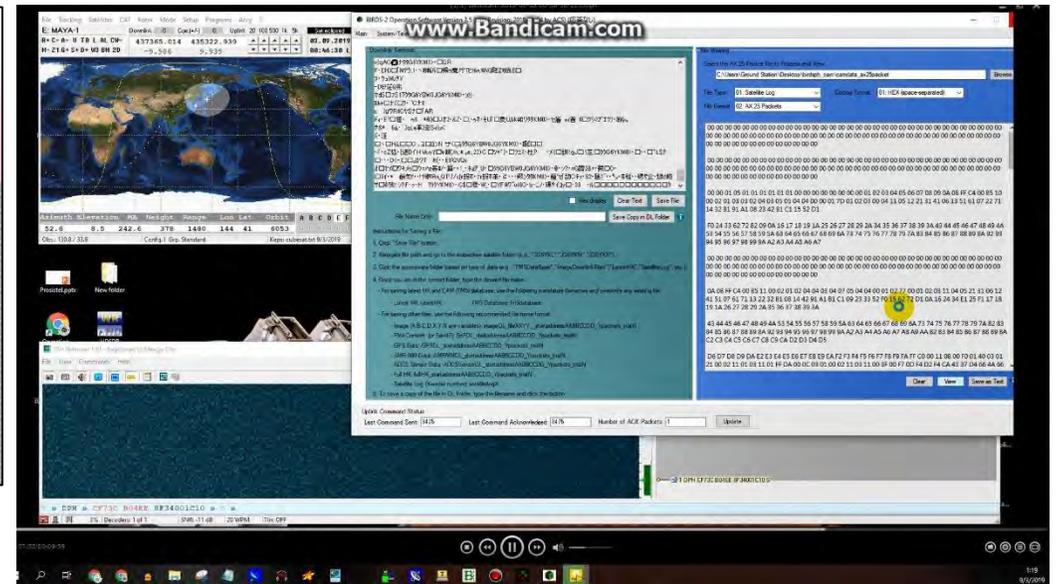
22. BIRDS-2: Preliminary images

First Image Downlink from BIRDS-2 PH Satellite (MAYA-1), by Adrian Salces (BIRDS-2, Philippines)

On September 3 and 5, 2019, the BIRDS-2 team succeeded in downloading partial portions of two images from MAYA-1 through the Kyutech ground station. MAYA-1 is the Philippine's first 1U CubeSat developed under BIRDS-2 Project, along with BHUTAN-1 and UiTMSAT-1 satellites of Bhutan and Malaysia, respectively. Although there is difficulty in the uplink communication, the team continues to send commands to the three satellites.



Partial image files downloaded: (left) first image downloaded in September 3, 2019 at around 1:19 AM; (right) second image downloaded in September 5, 2019 at around 0:20 AM; These are two of the low-resolution photos captured by the camera during deployment from the ISS.



Screenshot of BIRDS ground station operation PC, showing packets being received from the satellite at the time of operation



UPDATES FROM THE PHILIPPINES

September 15, 2019

University of the Philippines-Diliman
Quezon City, Philippines

PREPARED BY:

Mae Ericka Jean C. Picar
STAMINA4Space Communications Officer, STeP-UP Project
Graphic Artist and Contributing Writer

Nicole V. Ignacio
STAMINA4Space Communications Officer, PHL-50 Project
Contributing Writer and Editor

F. Mara M. Mendoza
STAMINA4Space Project Manager, STeP-UP Project
Contributing Writer and Editor





ULyS³ES Inauguration

University Laboratory for Small Satellites and Space Engineering Systems (ULyS³ES) Inauguration

August 31, 2019
Electrical and Electronics Engineering Institute,
University of the Philippines-Diliman

The University of the Philippines Diliman (UPD) is now home to a pioneering research & development (R&D) laboratory for small satellites. Dubbed the "University Laboratory for Small Satellites and Space Engineering Systems" or ULyS³ES, the facility was inaugurated on 31 August 2019 in a ceremony attended by officials from UPD, the Department of Science and Technology (DOST), and partners from the academe, government, industry, and media.

ULyS³ES Inauguration



Welcome Message
Dr. Joel Joseph Marciano, Jr.
Program Leader, STAMINA4Space Program
Acting Director, Advanced Science and Technology Institute
(DOST-ASTI)



Opening Remarks
Dr. Michael Angelo A. Pedrasa
Director
UP-Electrical and Electronics Engineering Institute



Message from DOST
Hon. Fortunato T. de la Peña
Secretary
Department of Science and Technology



Message from UP Diliman
Dr. Michael L. Tan
Chancellor
University of the Philippines Diliman



Congratulatory Message
Usec. Rowena Cristina L. Guevara
Undersecretary for Research and Development
Department of Science and Technology



Congratulatory Message
Dr. Enrico C. Paringit
Executive Director
Philippine Council for Industry, Energy and Emerging
Technology Research and Development
(DOST-PCIEERD)



Congratulatory Message
Dr. Fidel R. Nemenzo
Vice Chancellor for Research and Development
University of the Philippines



Closing Remarks
Engr. Paul Jason Co
Project Leader, STeP-UP Project
STAMINA4Space Program

ULYS³ES

University Laboratory for Small Satellites and Space Engineering Systems

INAUGURATION
31.08.2019

STAMINA⁴SPACE

PHIL
MICROSAT

ULyS³ES Inauguration: All systems go!

Ribbon-cutting ceremony

Left to right: Dr. Michael Pedrasa (Director, UP-EEEI), Dr. Rizalinda De Leon (outgoing Dean, UP Diliman College of Engineering), Dr. Fidel Nemenzo (Vice Chancellor for Research and Development, UP Diliman), Dr. Giovanni Tapang (Dean, UP Diliman College of Science), Dr. Michael Tan (Chancellor, UP Diliman), Dr. Joel Marciano, Jr. (Acting Director, DOST-ASTI and Program Leader, STAMINA4Space), Hon. Fortunato de la Peña (Secretary, Department of Science and Technology or DOST), Dr. Rowena Guevara (Undersecretary for Research and Development, DOST), Dr. Leah Buendia (Assistant Secretary for International Technology Cooperation, DOST), Dr. Josette Biyo (Director, DOST-Science Education Institute) and Dr. Enrico Paringit (Executive Director, DOST-PCIEERD) officiating the ribbon cutting.



ULyS³ES Inauguration



At one of the stops in the tour, **GRASPED Project Researcher Romer Aranaz** explained how Diwata images are processed, archived, and distributed to the public at no cost



DOST-PCIEERD Executive Director Dr. Enrico Paringit (right) handing over a Maya-1 replica to **Dr. Marciano, Jr.** (left) in a quick turnover ceremony. The fully functioning Maya-1 flight model was recently delivered to UP Diliman through PCIEERD's assistance.



DOST and UP officials and representatives of the **STeP-UP scholars** on a live video call with **Filipino scholars** in Tohoku University and Kyushu Institute of Technology (Kyutech) in Japan.

BUILDING 1: (ULyS3ES-1)



Construction of the building started in 2016



Research Laboratory

Administrative Spaces and Consultation Rooms

Mezzanine: Conference Room

Researchers' Shared Spaces

Lobby: Exhibit Area

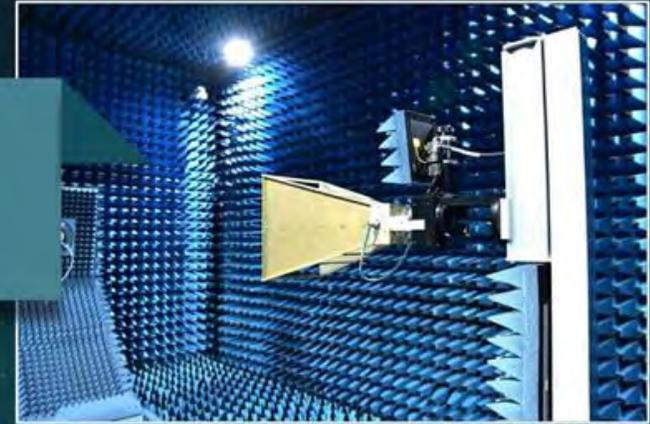
ULyS³ES-1 houses **office and research spaces** that provide an environment for researchers from different fields, such as electrical and electronics engineering, mechanical engineering, physics, environmental science, space studies and other areas, to converge, engage and be productive.



BUILDING 2: (ULyS3ES-2)



View inside of the Full
Anechoic Chamber



**Researchers' Shared Spaces and
Classroom**

Conference Room

**Lobby
Entrance to Full Anechoic
Chamber**

ULyS³ES Building 2 (ULyS³ES-2) hosts testing facilities for small satellite components and systems, including a **Full Anechoic Chamber (FAC)** and a **temperature and humidity test chamber**.

It also has a conference room, a classroom, and a reconfigurable work space, including a "clean booth" for nanosatellite assembly.



Facility tours for Architectural Students

September 3 and 6, 2019



The STAMINA4Space program conducted facility tours and interviews for architectural students from different universities. These students' theses mainly focus on the creation of a facility related to space technology.

Included in the initial facility tour are ULyS³ES-1, ULyS³ES-2 and the Ground Receiving Station(PEDRO) in DOST-ASTI.

ULyS³ES





“The Perspectives and Challenges in Putting Computers into Space”

August 24, 2019
Polytechnic University of the Philippines



Mary Ann Constante (STeP-UP Project Embedded Systems Engineer and tech lead) and Jeric Brioso (STeP-UP Project Research Engineer), from the STAMINA4Space program, conducted a talk with the titles:

Part I - The Perspective and Challenges in Putting Computers into Space

Part II - Amateur Radio and Satellite Station (ARSS) and its Role and Functions in Sustaining Earth-Satellite Communications

Updates from BIRDS-2S

"The fifth step..."

August 15, 2019
University of the Philippines- Diliman
Quezon City, Philippines

Prepared by STeP-UP scholars

Renzo S. Wee | Christy A. Raterta
Layout Designer

Judiel L. Reyes
Contributing Writer

Gladys A. Bajaro
Contributing Writer

Derick B. Canceran
Contributing Writer

Bryan R. Custodio
Project Manager
Contributing Writer

Marielle M. Gregorio
Contributing Writer



ALL ABOARD!

Marielle M. Gregorio | Christy A. Raterta



Gladys and Renzo
onboard
The AW109E Power
Naval Helicopter
of the Naval Air
Group



The STeP-UP scholars with Engr. Paul Jason Co during the quick tour to the Philippine Navy's air and surface assets



All aboard, the
leading
Jacinto-class patrol
vessel, BRP Emilio
Jacinto (P535)

On September 3, 2019, the 3rd Philippine Navy - University of the Philippines Collaboration Meeting was conducted at the Headquarters Philippine Navy, (HPN) Roxas Blvd., Manila. Hosted by the Flag-Officer-In Command, PN, the meeting was attended by a group of engineers, scientists, researchers, and the STeP-UP scholars. The meeting was headed by Dr. Fidel R Nemenzo, Vice Chancellor for R&D, UP-Diliman and the personnel and staff of the Philippine Navy facilitated by the Naval Research and Technology Development Center. The eight STeP-UP scholars with their Project Leader, Engr. Co were invited to the meeting to become acquainted with the PN projects presented, specifically on the satellite development project for possible research collaborations.



The members of the BIRDS-4 project conducted the Critical Design Review (CDR) of the Nanosatellites/Cube Satellites before proceeding on the full-scale fabrication and assembly of the Flight Model (FM) in Kyushu Institute of Technology (Kyutech). The purpose of CDR, aside from reviewing the design of the program on its middle phase, is to ensure that it also meets the performance requirements within the allotted schedule, cost and associated risk. BIRDS-4 consisted mainly of members from Paraguay, Philippines and Japan. As expected, the missions and subsystems were presented and were further scrutinized.

Welcome home!

Derick Canceran/ Lorilyn P. Daquioag



The BIRDS-25 team welcomed the arrival of Maya-1, or rather a copy of its flight model. It was acquired with the purpose of continuing the efforts of localizing satellite development education in the country.

After receipt, the package was unboxed in a clean booth. Included was a copy of Maya-1's flight model, charging cables and support. The satellite's beacon was also received from the university's ground station. Further testing of Maya-1's subsystems will be done in the following weeks to check their functionality.

Come and See!!!



Derick and Marielle setting up the video conference with the scholars from Japan

Renzo and Bryan presenting the Maya-1 hardware and its operations.

Gladys discussing about the ground receiving station setup.

The new facility at UP-EEEI named ULyS³ES or the University Laboratory for Small Satellites and Space Engineering Systems was inaugurated on August 31, 2019. The ceremony was attended by officials from UP Diliman, the Department of Science and Technology (DOST), and representatives from different academe and other partner industries.

The STeP-UP scholars were tasked to do some demonstrations of the capabilities of a cubesat and the ground receiving station. Others were assigned to facilitate the communication setup with the scholars from Japan and the tour of guests in the facility.

24. BIRDS-4: Frequency coordination news



IARU Letter was received for frequency coordination



Daisuke Nakayama
September 15, 2019

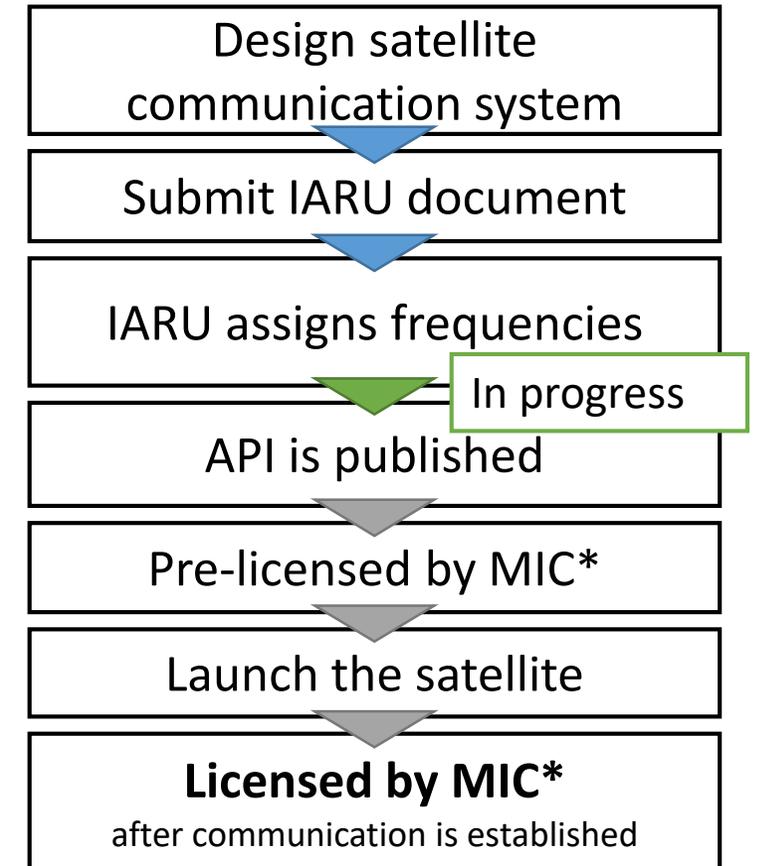
IARU letter

Written By: Daisuke Nakayama

The International Amateur Radio Union (IARU) is an international confederation for amateur radio organizations. IARU assigns frequencies for amateur radio satellite. The IARU letter is a document to notice assigned frequencies.

Assigned frequency is following :

- for beacon and telemetry downlink 437.375MHz
500H A1A (CW beacon)
15K0 F1D (GMSK 4800bps)
 - for APRS digipeater up- and downlink 145.825MHz
15K0 F2D (AFSK 1200bps)
 - for command uplink 435-438MHz (secret)
- The next step for frequency coordination is API (Advance Publication Information) submission to ITU (International Telecommunication Union).



Flow chart of frequency coordination for amateur radio satellite.

MIC : Ministry of Internal Affairs and Communications (Japanese ministry for communication)

End of this **BIRDS Project Newsletter**

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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.

