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BIRDS Project Newsletter

Issue No. 34
(21 November 2018)

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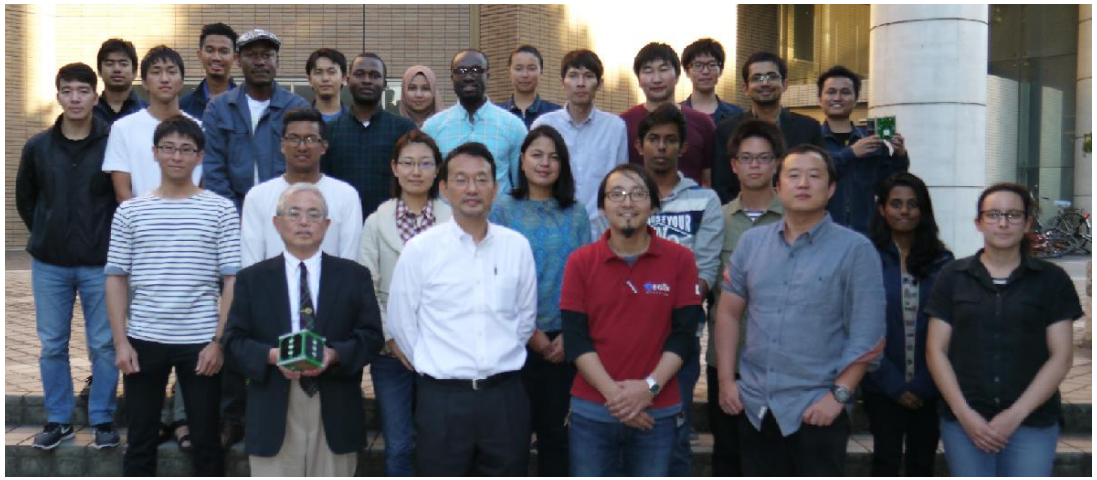
Laboratory of Spacecraft Environment Interaction Engineering (LaSEINE),
Kyushu Institute of Technology (Kyutech)
Kitakyushu, Japan



Members of BIRDS -1, -2, and -3 on 4 October 2017, at Tobata Campus

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.

La SEINE

SEIC 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.

Table of Sections

From Japan **The Guest Box**

(http://hakata-dentou-kougeikan.jp)

A Hakata doll is a traditional Japanese clay doll, originally from the city of Fukuoka. This doll is made from clay near Fukuoka city. The clay is not painted but instead colored clay is used. The dolls represent different figures of Kabuki, Noh, etc. Creating the dolls is a complex and technical work.

- Murase Tomoaki, B4 student, BIRDS-4.

01. 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.

← This flyer is an example of PNST promotion. It comes from Paraguay. "AEP" is the national space agency of Paraguay. This copy is courtesy of Dr Jorge Kurita (AEP).

The creator of this flyer is Anibal Mendoza-Ruiz, a student in Paraguay.

Successful applicants of PNST become members of SEIC:

SEIC

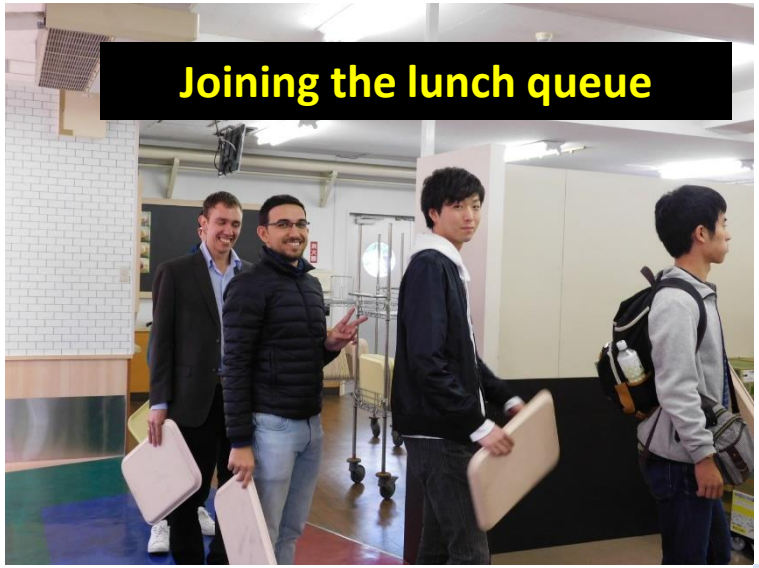
Space Engineering International Course

02. Adolfo of Paraguay arrives at Kyutech on 5 Nov. 2018

Kyutech, LaSEINE, SEIC, and the entire BIRDS Project, warmly welcomes Adolfo. He is our first student from Paraguay. He will build the Paraguayan satellite of BIRDS-4. **<CONT'd NEXT PAGE>**

Adolfo and Yigit, Project Manager of BIRDS-4 (near 9am)

Adolfo with his tutor, Eijo Fujiwara

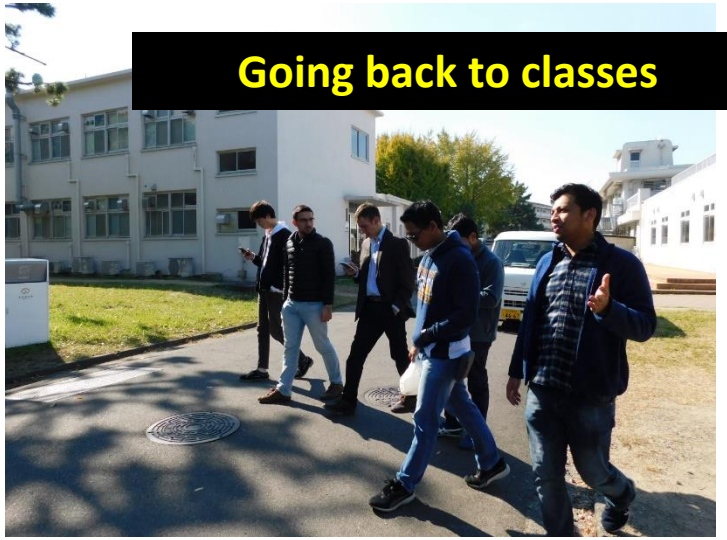


Joining the lunch queue

Yigit explains a few details

Adolfo's first lunch at Kyutech

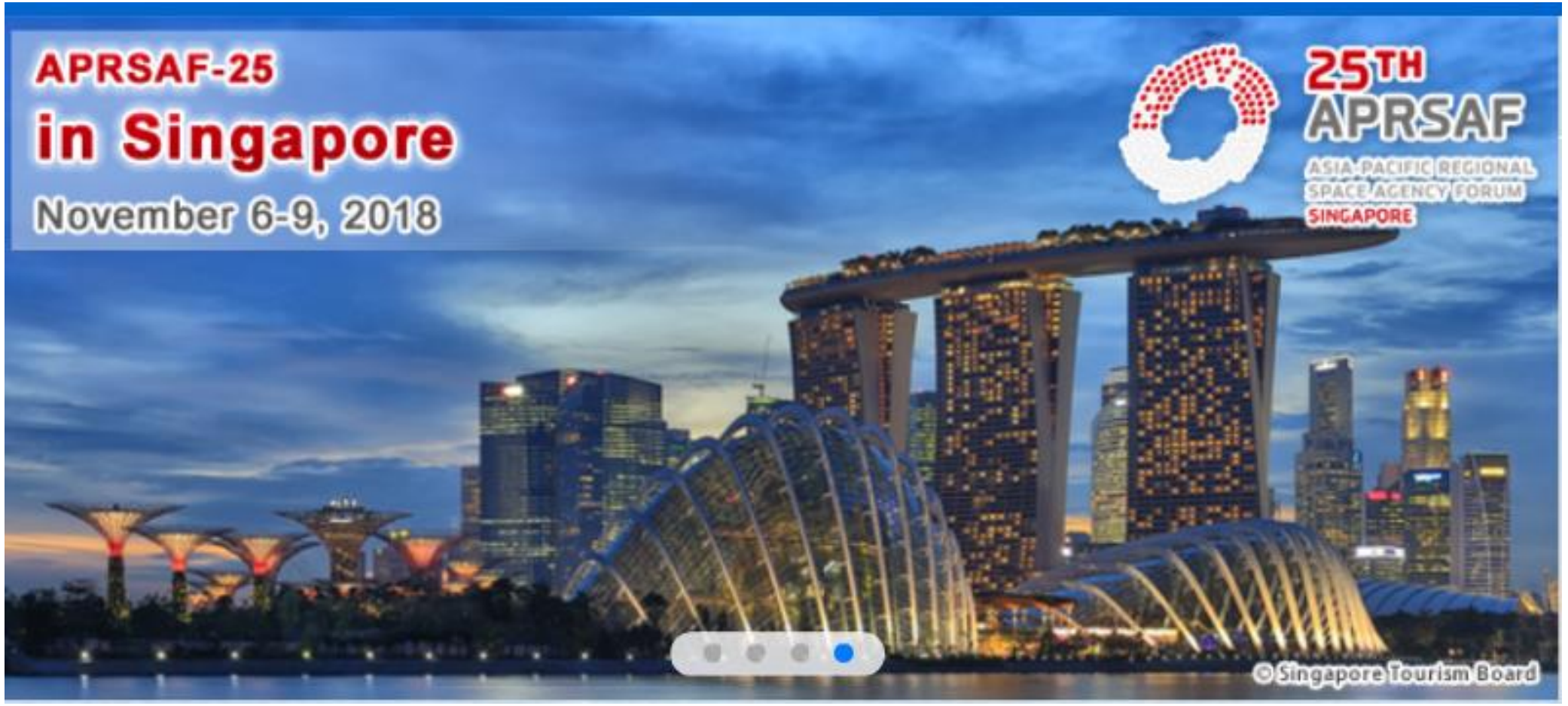
BIRDS-4 Team breaks the ice with Adolfo



Going back to classes

5 November 2018

03. Staying in tune with the space industry of the Asia-Pacific region, APRSAF



Kyutech-LaSEINE was represented at this event by Prof. Mengu Cho

Prof. Cho presented in this working group of APRSAF

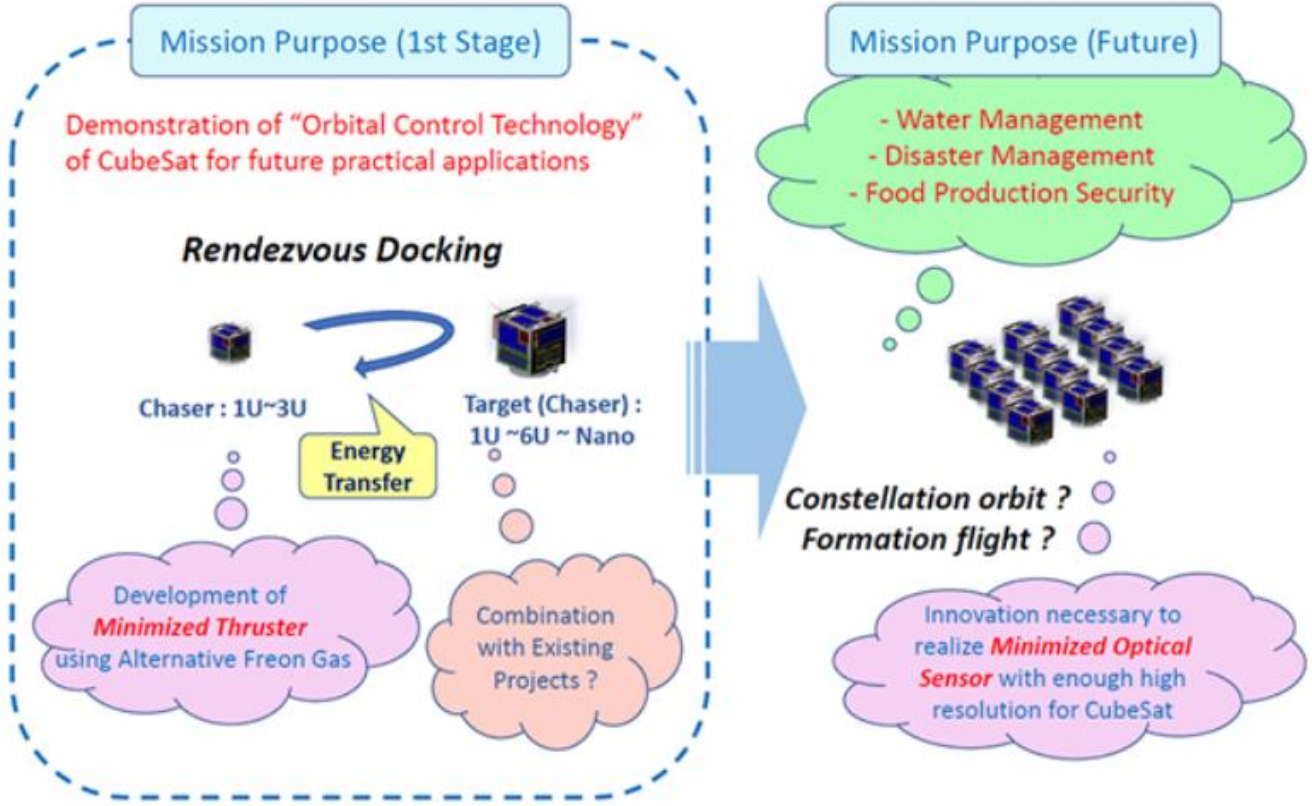

Space Environment Utilization Working Group (SEUWG)
The 25th Session of the
Asia Pacific Regional Space Agency Forum
-Innovative Space Technology for Evolving Needs-
November 6-9, 2018, Singapore
MEXT
JAXA
SSTA


Space Education Working Group (SEWG)
The 25th Session of the
Asia Pacific Regional Space Agency Forum
-Innovative Space Technology for Evolving Needs-
November 6-9, 2018, Singapore
MEXT
JAXA
SSTA

The second meeting on joint development of innovative small and cube satellites was held with video-conference system

The second meeting on joint development of innovative small and cube satellites was held with video-conference system.

On August 23, 2018, the second meeting on joint development of innovative small and cube satellites organized by the APRSAF Secretariat was successfully held with video-conference system.



List of all previous APRSAF hosts
https://www.aprsaf.org/about/

Short videos about APRSAF
https://www.aprsaf.org/about/videos.php

⇦ Some activities of the APRSAF Secretariat

https://www.aprsaf.org/capacity_building/joint_development/2nd_meeting.php

04. The SEIC seminar conducted by the students on topics of their choice

This has been mentioned before in this newsletter, but I mention it again. At SEIC, we occasionally have lunch-time seminars. Students take turns researching a topic, and then presenting it to other SEIC members. On 18 October 2018, Kiran (BIRDS-2, Bhutan) presented his experiences at Small Sat Utah this summer. His information was very interesting.

Presenter: Kiran Kumar Pradhan, Bhutan

Profile: Graduated with a Bachelor of Technology in Electronics and Communications Engineering from Sardar Vallabhbhai National Institute of Technology (SVNIT), India. His current fields of interest are Programming, Systems engineering, and Space exploration. He is the current project manager of BIRDS-2 project and he was responsible for On-Board Computer (OBC) sub-system of BIRDS-2 cube satellite project.

Date/time of seminar: Thursday, 18 October 2018, 12:10 PM.

Location of seminar: Room S2-405, 4th floor, General Research Bldg. No. 1.

(This is the Cho Lab Seminar Room, at the end of the hall.)

Title: Rise of CubeSats for Science Missions: Sharing experience of SmallSat Conference 2018.

Abstract: In recent years, the popularity of CubeSats have grown from Universities to Private sector and Government Space programs. The number of CubeSats launched has been increasing rapidly and the missions of these Cubesats are gradually upgrading from educational to actual science missions. With the CubeSat/SmallSat community growing, the SmallSat Conference provides a wonderful platform to share information, knowledge and experiences. So this presentation takes note of some of the highlights of the SmallSat Conference 2018 and few exemplary CubeSats with actual science missions.

05. A visit to Panama and Paraguay

In October (2018) I visited Panama and Paraguay to explain to interested parties the merits of LaSEINE, SEIC, PNST, and the BIRDS Project. A lot of discussions occurred.

Panama visit was focused on the dates of 22-23 October. My host was Dr Humberto Rodrigues of UTP, the main engineering university of Panama.

Paraguay visit was focused on the dates of 24-26 October. My host was Dr Jorge Kurita of AEP (the space agency of Paraguay) and of UNA (the national university at Asuncion, Paraguay).

G. Maeda

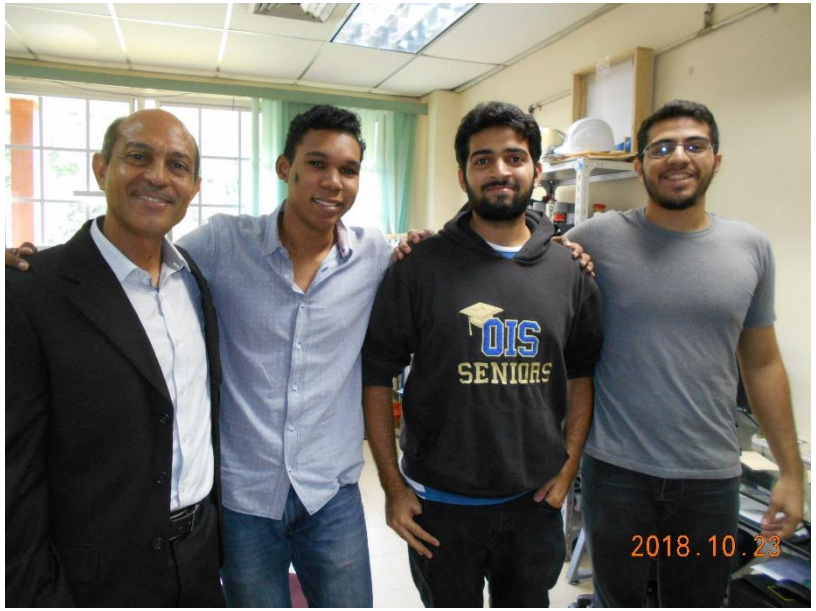
Panama

UTP is a very green campus

⇦ A meeting (22 Oct. 2018) with some faculty colleagues of Dr Humberto. He and I explained SEIC, PNST, and BIRDS, to these faculty members – who are all interested in space activities.

Dr Humberto is in the white shirt, second from the right.

Dr Humberto with some of his engineering students ➡



She is Madelaine Rojas of SENACYT, sitting across from Dr Humberto.

In Panama, SENACYT is one source of scholarships. And scholarships are vital for the sustaining BIRDS projects.

SENACYT
Secretaría Nacional de Ciencia, Tecnología e Innovación

Explaining Kyutech and BIRDS to students of Dr Humberto's university, UTP. They asked a lot of questions.

Explaining the virtues of BIRDS-5 to the President of UTP. He listened carefully and asked a few sharp questions.

From Panama to Paraguay

https://www.google.co.jp/url?sa=i&rct=j&q=&esrc=s&source=images&cd=&cad=rja&uact=8&ved=2ahUKEwjcyuSS1MTeAhVHyxoKHTNCCi4QjRx6BAgBEAU&url=https%3A%2F%2Fwww.state.gov%2Fs%2Fd%2Frm%2Frls%2Fdosstrat%2F2007%2Fhtml%2F82977.htm&psig=AOvVaw2Bw1qqhPxT3MqzIuPQ06zM&ust=1541761690940856

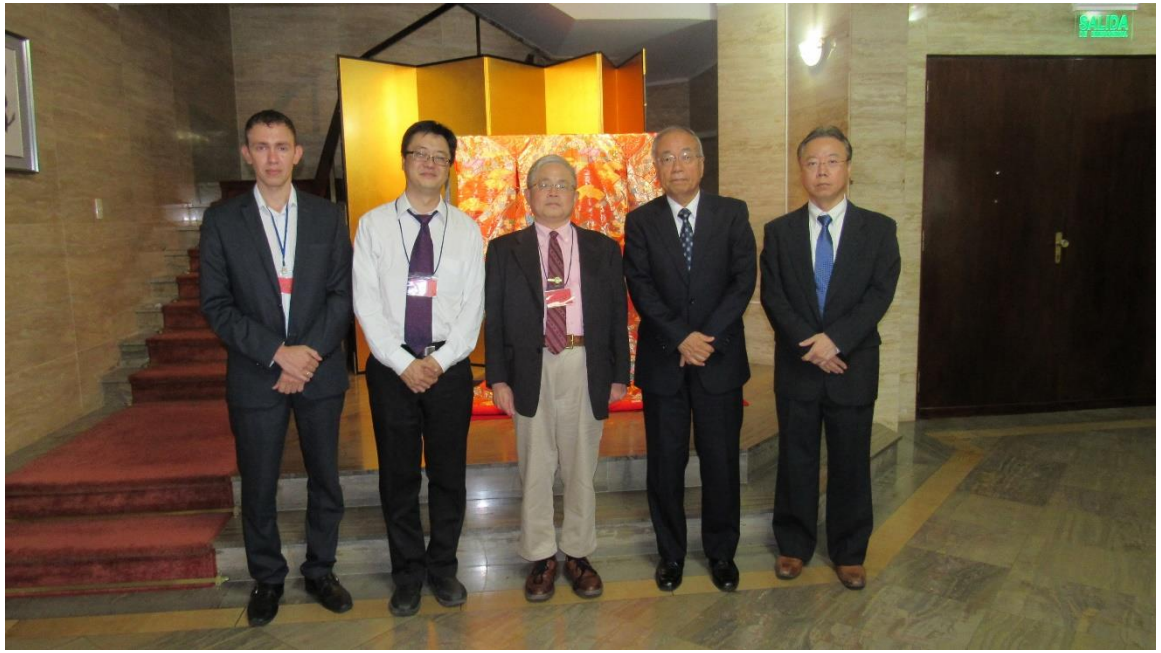
10:00 AM; 24 Oct 2018

President Vielman is at the head of the table

Meeting with the board of AEP, the space agency of Paraguay

2:00 PM; 24 Oct. 2018

← card 名刺 of the Ambassador



Adolfo, Dr Kurita, GM, Ambassador, embassy staff

The Embassy of Japan

Dr Kurita arranged this meeting with Japan's ambassador to Paraguay at the Japan Embassy in Asuncion, Paraguay. It lasted about 30 minutes. Dr Kurita and I explained to the ambassador what we hope to achieve in terms of space development in Paraguay. It is better for Kyutech and AEP if the embassy knows what we are doing.

Speakers of my session, with the moderator (Engineer Brito, the lady in this photo)

Day 1 of the 2nd annual Space Conference of Paraguay

Certification of my presentation

Dr Kurita, Dr Diego, Marlene Gonzalez (government officer), and Adolfo, at the start of the meeting.

4:00 PM meeting at the Ministry of Finance. Paraguay has a program to fund scholarships for study overseas. We made our case for space engineering.

Building of the Office of the President of Paraguay

A huge turnout of students – a great success for the organizers

Day 2 of the 2nd annual Space Conference of Paraguay.

The venue moved to the campus of UNA : Campus Universitario – Universidad Nacional de Asuncion, San Lorenzo.

I did another presentation – but it was different from Day 1 talk. On Day 1, the audience was government officials. On Day 2, the audience was college students. Above, the President of AEP gives me another certificate of appreciation.

Engineer Tsuji [head of JAXA's Bangkok office] delivers his talk in Spanish

Adolfo delivers his talk

Robert Cano
[former professor of Dr Kurita]
is the tallest person in this photo. He is the vice minister at the Ministry of Education

Dr Kurita gave a tour of the Dept. of Aerospace. This vacant room could some day be the first space engineering lab [test lab for satellites] in Paraguay.

END OF THIS SECTION

06. NASRDA hosted the 7th edition of the African Leadership Conference (ALC) on Space Science

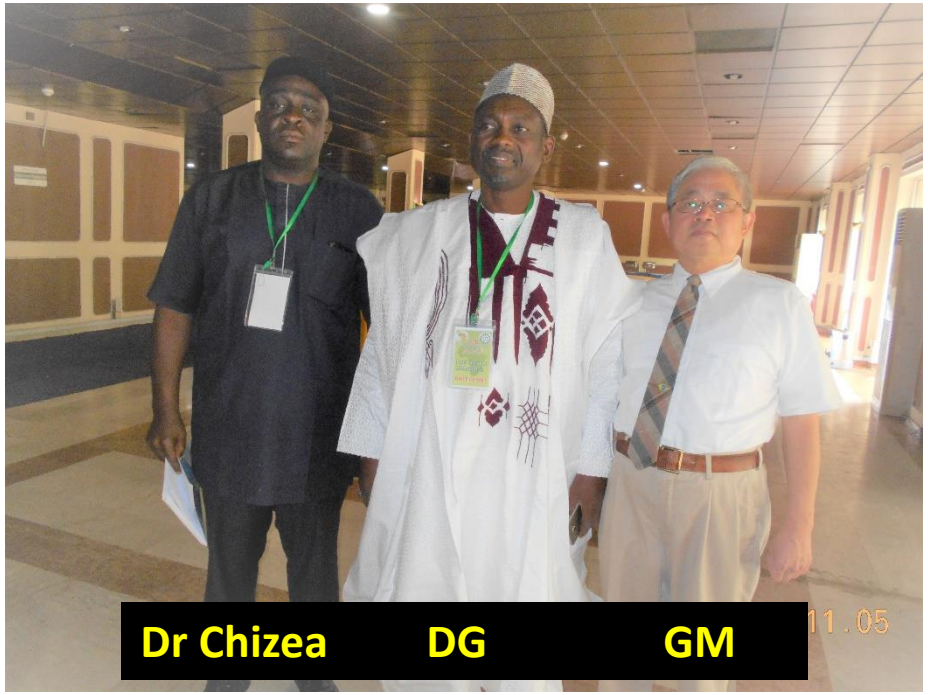
2018 Venue: The NICON Luxury Hotel of Abuja, Nigeria

ALC is a meeting of the central space players of Africa. It kicked off in 2005 when NASRDA hosted ALC.

History of ALC:

1. 2005 Abuja
2. 2007 South Africa
3. 2009 Algeria
4. 2011 Kenya
5. 2013 Ghana
6. 2015 Egypt
7. 2018 Abuja (this time)
8. 2019 Ethiopia (next time)


AFRICAN LEADERSHIP CONGRESS
ON SPACE SCIENCE AND TECHNOLOGY
FOR SUSTAINABLE DEVELOPMENT
ABUJA-NIGERIA. ALC, 2018
Date: 5th to 7th November, 2018
Venue: Nicon Luxury, Abuja


Dr Chizea DG GM

Opening Day


Registration


ALC
2018
Joji Maeda
7th Edition of
ALC ABUJA-NIGERIA
November 2018


Opening ceremony

Ernest
(BIRDS-1, Ghana)

Dr Spencer
NASRDA

Joseph
(BIRDS-1, Ghana)

From the left

- **Oliver Gihana, space lawyer, Rwanda Space Technical Committee**
- **Georges Kwizera, RURA, Rwanda --- who attended the 2017 BIRDS Workshop in Ghana**

DG makes a welcome speech to all participants; DG is Director General, head of NASRDA

2018 ALC

Dr Francis Chizea (LOC Chair) goes over some details of ALC

Alkali discusses GNSS SBAS, *Satellite-based Augmentation System*

GM and Prof. Rabiu, NASRDA Director of *Centre for Atmospheric Research*

Nigeria's coat of arms

Conference Reception

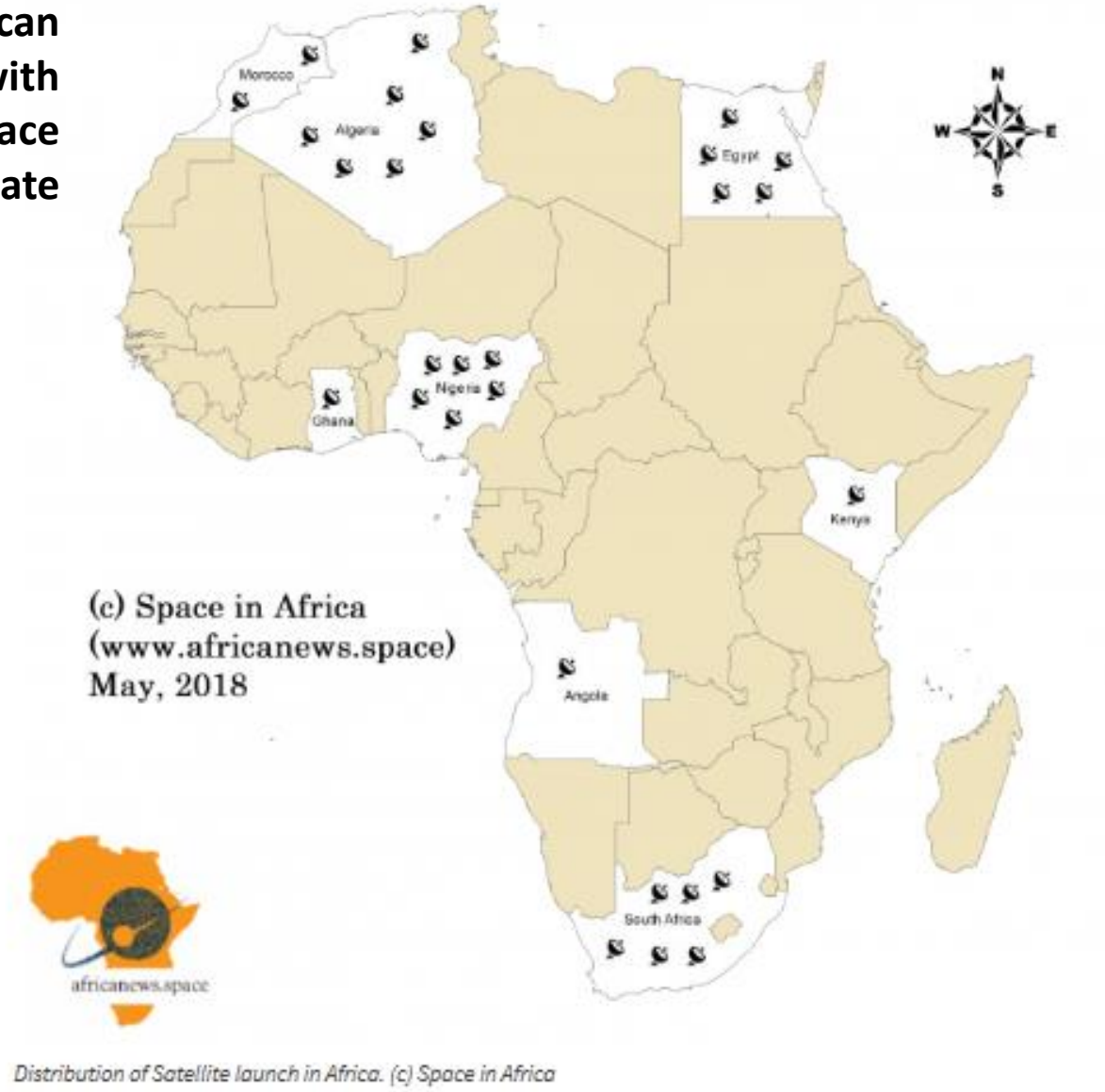
In many ways, ALC is Africa's APRSAF. APRSAF is driven by JAXA. ALC is driven by NASRDA, which started ALC in 2005. ALC occurs about once every two years.

For a list of space agencies in Africa, see
https://africanews.space/list-of-space-agencies-in-africa/

For a list of African nations that have launched satellites, see
https://africanews.space/over-3-billion-have-been-spent-on-space-projects-in-africa-since-1998/

Also see the map of the next page.

African nations with stuff in space to date



Distribution of Satellite launch in Africa. (c) Space in Africa

What africanews.space says about Nigeria:

Nigeria

The most populous black nation on the Planet and the most populous African Nation with a population of 186 million (2016) and a GDP of 405.1 billion USD (2016) (Source: World Bank) and projected by World Economic Forum to have the 14th biggest and most powerful economy in the world by 2050 valued at $4.348 trillion. The country has one of the biggest space industry in the continent and have built capacities in satellite design and manufacturing spending over $500 million on satellite projects since 2003

Breakdown of Nigeria's Satellites:

1. Nigeriasat-1 – 2003
2. NIGCOMSAT 1 – 2007
3. NigeriaSat-2 – 2011
4. NigeriaSat-X – 2011
5. NIGCOMSAT 1R – 2011
6. NigeriaEduSAT-1 – 2017

https://africanews.space/over-3-billion-have-been-spent-on-space-projects-in-africa-since-1998/

Morning coffee break of 6 Nov. 2018

From left:

1. **Prof. Islam (NARSS of Egypt)**
2. **Ruvimbo (Zimbabwe), the birthday girl**
3. **Dr Chizea (NASRDA), the MC of ALC**

More info on ALC:

All about the ongoing African Leadership Conference on Space Science and Technology

by

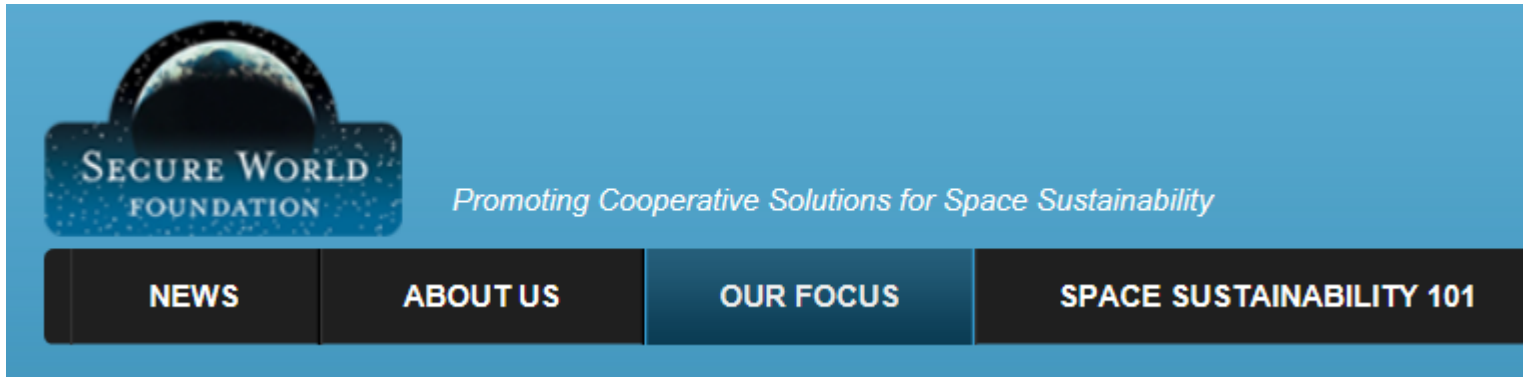
Space in Africa

November 6, 2018

https://africanews.space/all-about-the-ongoing-african-leadership-conference-on-space-science-and-technology/

END OF THIS SECTION

07. Secure World Foundation presented good material at ALC in Abuja, Nigeria



Space Sustainability

Space Sustainability

The primary focus of the Secure World Foundation is on space sustainability - the ability of all humanity to continue to use outer space for peaceful purposes and socioeconomic benefit over the long term.

https://swfound.org/our-focus/space-sustainability/

SWF was active during 2018 African Leadership Conference in Abuja, 5-7 Nov 2018.

Check out some of their free material (books on line). See the next two pages.

New Actors in Space

https://swfound.org/handbook/

SECURE WORLD FOUNDATION

Promoting Cooperative Solutions for Space Sustainability

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Handbook for New Actors in Space

The Challenge

The space domain is currently experiencing a rapid diversification and increase in the number of actors involved in space activities. More than 70 states, commercial companies, and international organizations currently operate nearly 1,500 satellites in Earth orbit.

The increased availability of space technology and capabilities has both advantages and disadvantages. It has spurred innovation, lowering of costs, and greater access to capabilities and services available from satellites for all. However, the growth in space activities and the influx of new actors also has the potential to exacerbate many of the current threats to the long-term sustainable use of space, such as on-orbit crowding, radio-frequency interference, the proliferation of space debris, and the chances of an incident in space sparking or escalating geopolitical tensions on Earth.

What is the Handbook for New Actors in Space?

SWF developed the Handbook for New Actors in Space, which is intended to provide nations, established satellite operators, start-up companies, universities, and other space actors with a broad overview of the fundamental principles, laws, norms, and best practices for peaceful, safe, and responsible activities in space.

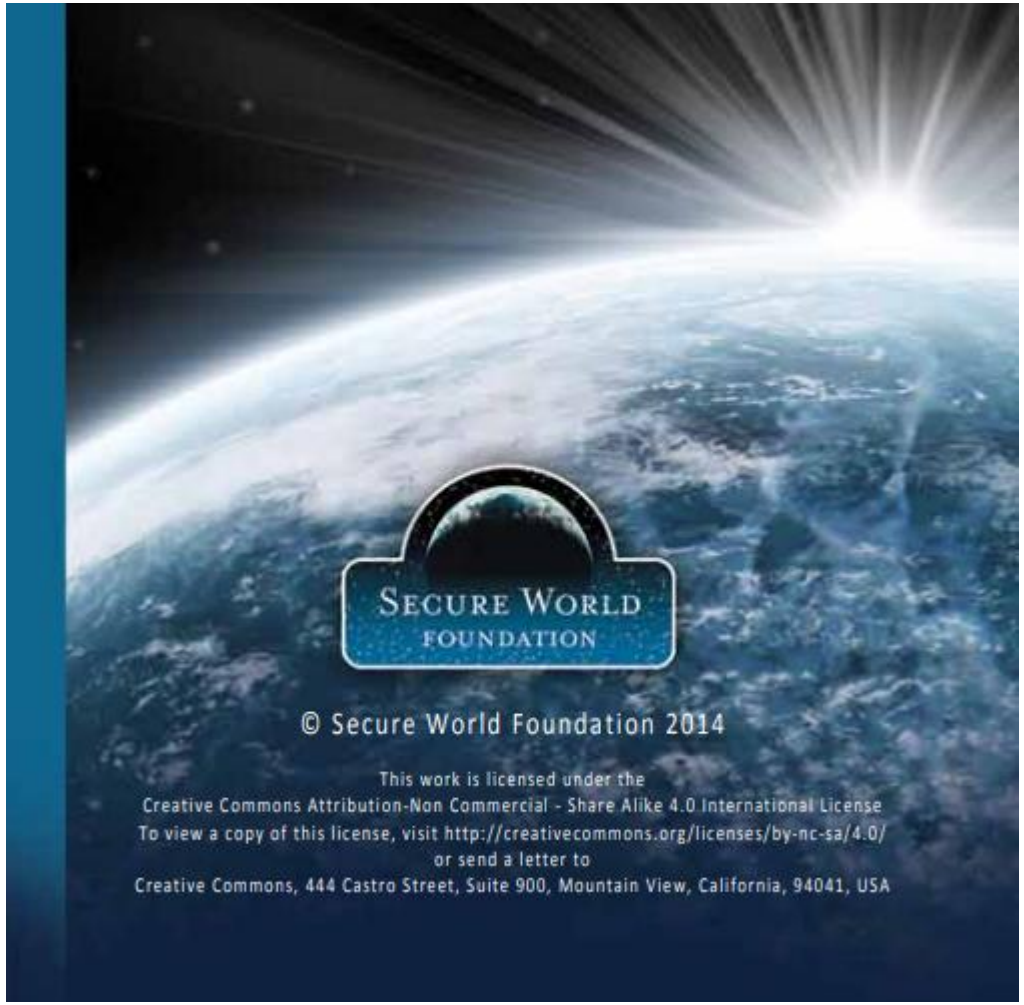
The Handbook is the result of a collaborative effort between SWF and experts from governments, satellite operators, academia, and civil society. In June 2015, we held an initial workshop to discuss the Handbook outline and the topics that should be included. In May 2016, we held a second workshop to discuss the draft text of the handbook, and get feedback from representatives of our target audience on how well it met their needs. We also engaged in a series of bilateral discussions with many more experts on specific sections of the Handbook. The first edition of the Handbook was published in February 2017.

Download free PDF version from SWF

FREE

Also Available on Amazon

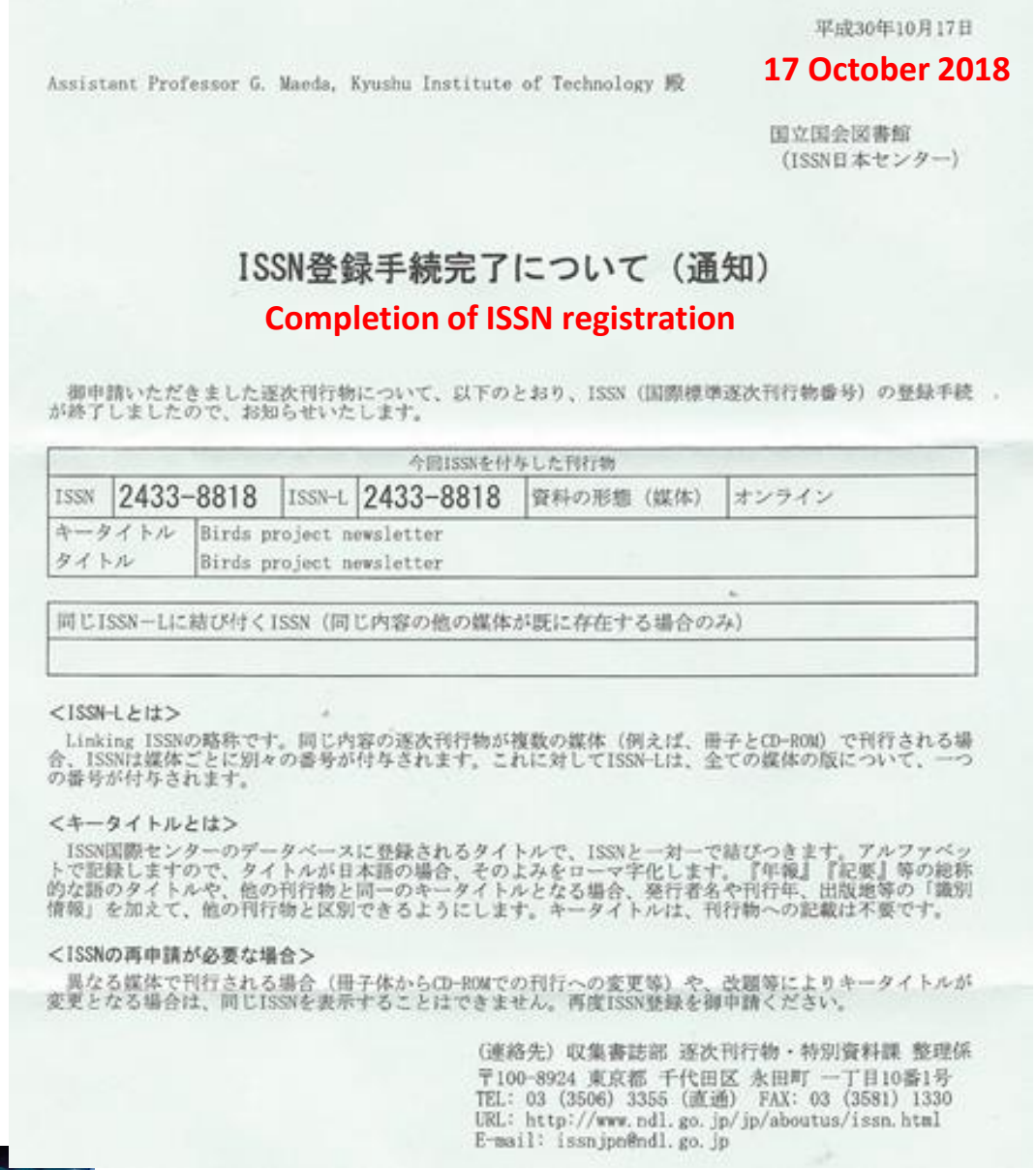
- Paperback version for $25



https://swfound.org/media/121399/swf_space_sustainability-a_practical_guide_2014__1_.pdf

THIS BOOK IS ALSO A FREE DOWNLOAD

08. ISSN registration for this newsletter has been formally completed by the gov't of Japan



平成30年10月17日

Assistant Professor G. Maeda, Kyushu Institute of Technology 殿

17 October 2018

国立国会図書館
（ISSN日本センター）

ISSN登録手続完了について（通知）

Completion of ISSN registration

御申請いただきました逐次刊行物について、以下のとおり、ISSN（国際標準逐次刊行物番号）の登録手続が終了しましたので、お知らせいたします。

今回ISSNを付与した刊行物					
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キータイトル	Birds project newsletter				
タイトル	Birds project newsletter				

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<キータイトルとは>

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〒100-8924 東京都 千代田区 永田町 一丁目10番1号
TEL: 03 (3506) 3355 (直通) FAX: 03 (3581) 1330
URL: http://www.ndl.go.jp/jp/aboutus/issn.html
E-mail: issnjpn@ndl.go.jp

The document at the left was received from:

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National Diet Library, Japan

on 29 Oct. 2018

It indicates that the ISSN registration for the *BIRDS Project Newsletter* has been completed.

ISSN was explained on Pages 11-12 of Issue No. 25 of this newsletter.

09. A photo report by Dr. Kurita of BIRDS-4 of Paraguay

Picture 1: *At the building entrance. From right to left, Prof. Ana Luba Yakusik, Prof. Nilsa Sosa and myself.*

A delegation of the space agency of Paraguay [led by Dr. Jorge Kurita] and of academic supporters visited the National Congress of Paraguay on 6 November 2018 to discuss budgetary matters.

Dr Kurita has kindly provided three photos of that visit, along with captions.

Picture 2: *At the senator Alvarenga office. From right to left, Mr. Ruben Ugarte (UNA administrator), myself, Prof. Sosa, Senator Hermelinda Alvarenga de Ortega and Prof. Ana Yakusik.*

The legislative building in Asunción (from Wiki) ➡

Picture 3: *At the senator Riera office. From right to left, Prof. Sosa, Prof. Ana Yakusik, Senator Enrique Riera, Mr. Ugarte and myself.*

Wikipedia on the Congress of Paraguay:
https://en.wikipedia.org/wiki/Congress_of_Paraguay

Senate: http://www.senado.gov.py/
Chamber of Deputies:
http://www.diputados.gov.py/

10. GLEC2019, Global Conference on Space for Emerging Countries

To all students:
Keep an eye on this IAF-based event designed for emerging countries. It is possible that IAF will provide travel grants to students and young professionals.

11. The UiTMSAT report on IAC in Bremen

UPDATES from UiTMSAT

Prepared by: Siti Amalina Enche Ab Rahim
Research Coordinator
Center for Satellite Communication (UiTMSAT)
Faculty of Electrical Engineering, Universiti Teknologi MARA (UiTM)
13.November.2018

[a member of BIRDS-2 Project]

#INVOLVINGEVERYONE

Dr. Siti Amalina is one of the 2018 IAF Emerging Space Leaders (ESL) Grant recipients and she went to Bremen, Germany to attend the 69th International Astronautical Congress (IAC).

69TH INTERNATIONAL ASTRONAUTICAL CONGRESS BREMEN 2018

Model of International Space Station (ISS) welcomed her at Bremen's Airport.

Firstly, she attended the UN/IAF workshop, which was held on the 28-30 September 2018, prior to the IAC. The theme of the workshop is Space Technology for Socio-Economic Benefits: "Industry, Innovation and Infrastructure for Development (3Is4D)“.

One of the presentations in the workshop was given by the Prof. Dr. Pascal Ehrenfreund, the Chair of DLR Executive Board.

Dr. Amalina with the other ESL Grant recipients.

On Sunday morning (30 September 2018), all the ESL Grant recipients needed to attend the Cross-Cultural Communication and Presentation Workshop at 8.30am.

For this workshop, we needed to present our work. In return, we received feedbacks from the audience in order to improve the communication and presentation skills.

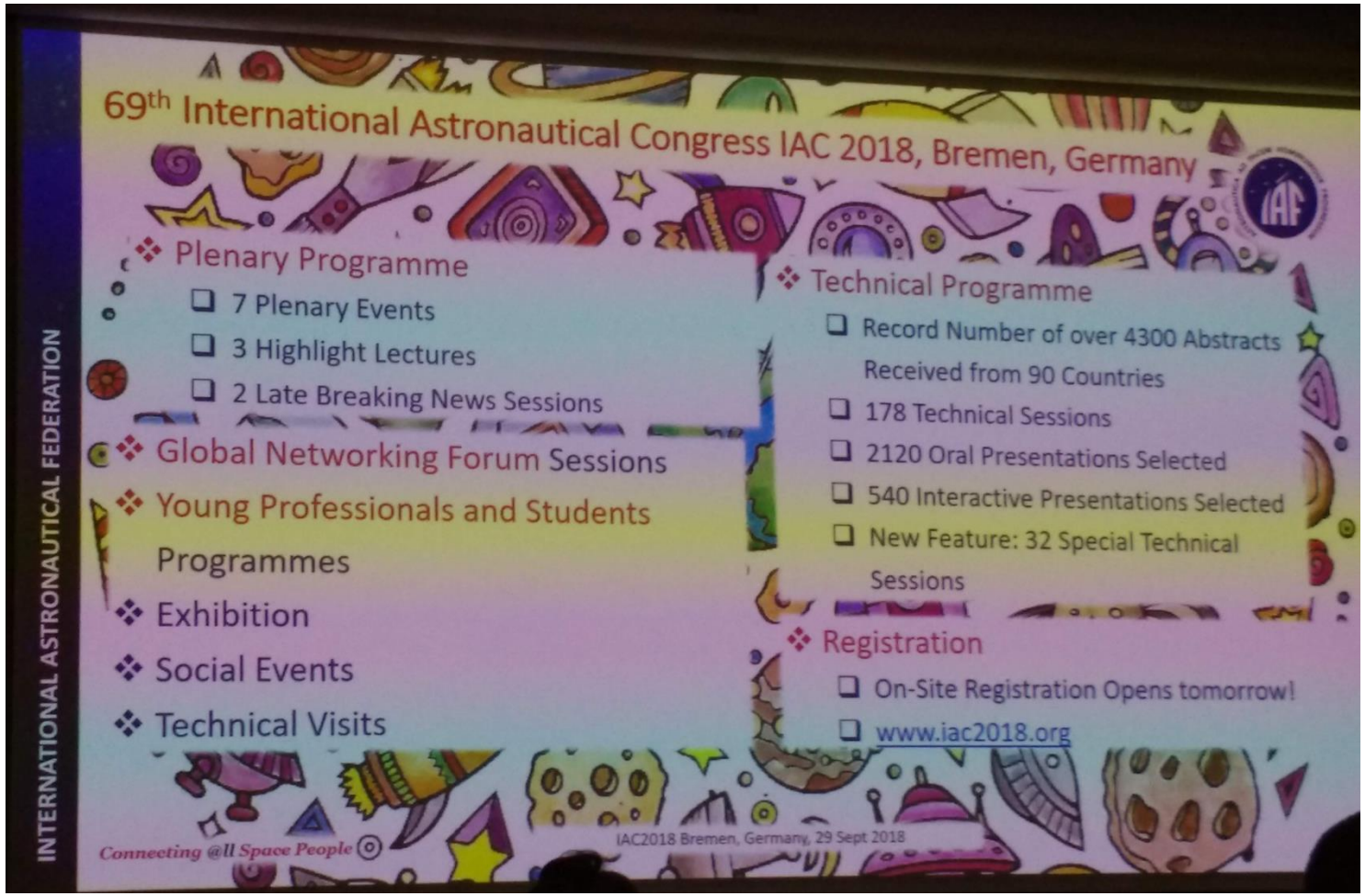
In the evening, she participated the ESL/YSL meeting and the Youth Professional networking event to celebrate the ESL's anniversary.

#INVOLVINGEVERYONE

ZARM

IAC 69TH INTERNATIONAL ASTRONAUTICAL CONGRESS BREMEN 2018

Some facts about 69th IAC 2018 . The theme is "Involving Everyone" which was really hit the point as Dr. Amalina was the only Malaysian who attended the congress.



#INVOLVINGEVERYONE

69TH INTERNATIONAL ASTRONAUTICAL CONGRESS BREMEN 2018

The most awaited Plenary session, where we had the head of prominent space agencies on one stage. There were NASA, JAXA, ESA, ROSCOSMOS, CNSA and CSA.

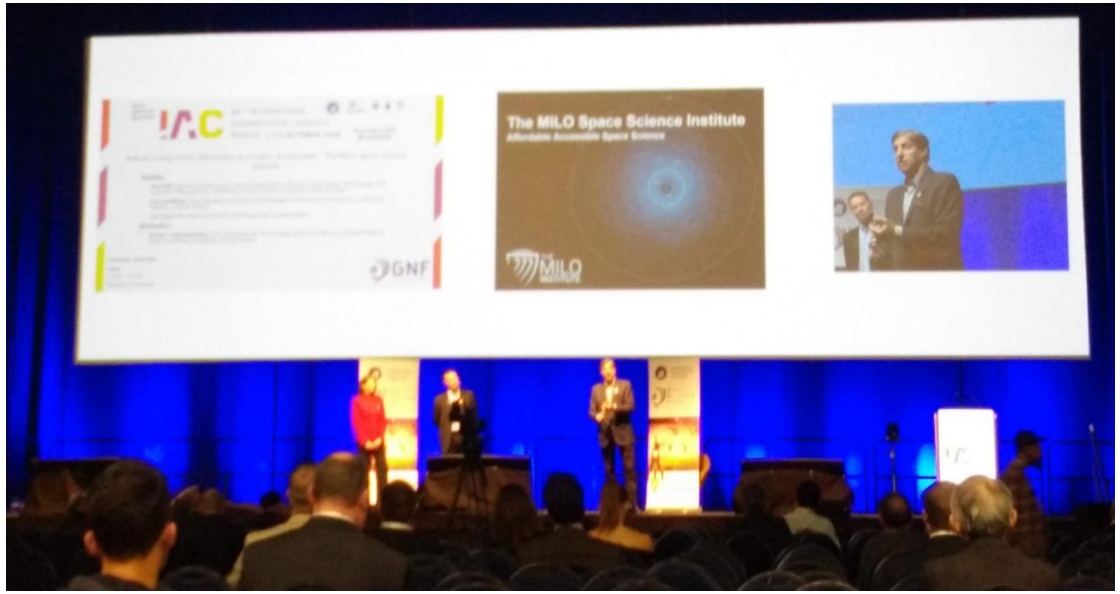
Plenary session on Space Debris

#INVOLVINGEVERYONE

69TH INTERNATIONAL ASTRONAUTICAL CONGRESS BREMEN 2018

Live from ISS with Alexander Gerst

Global Networking Forum session about Space in Africa



About MILO Space Science Initiatives

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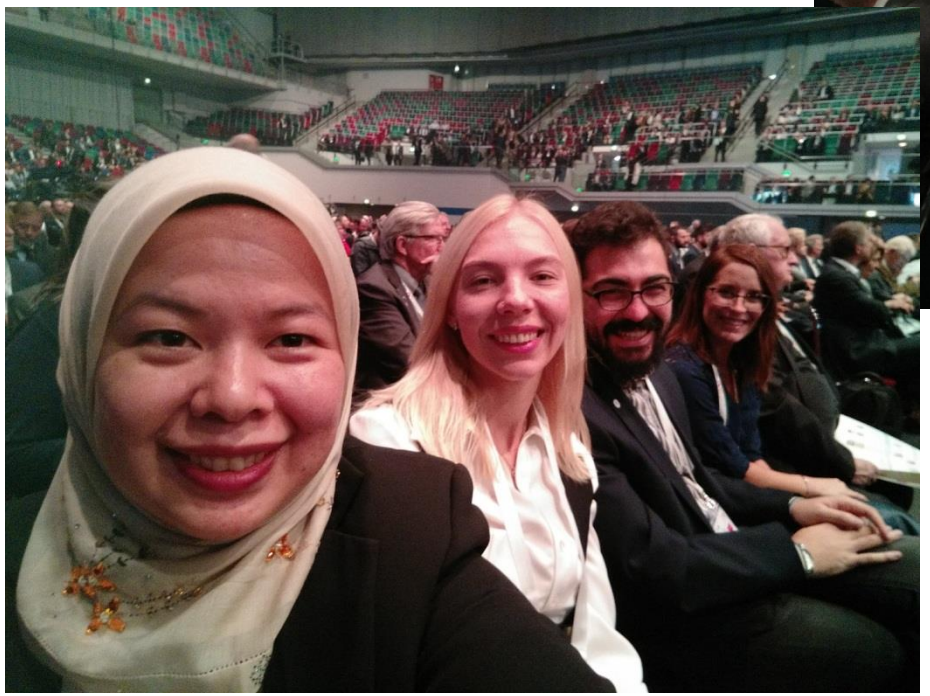
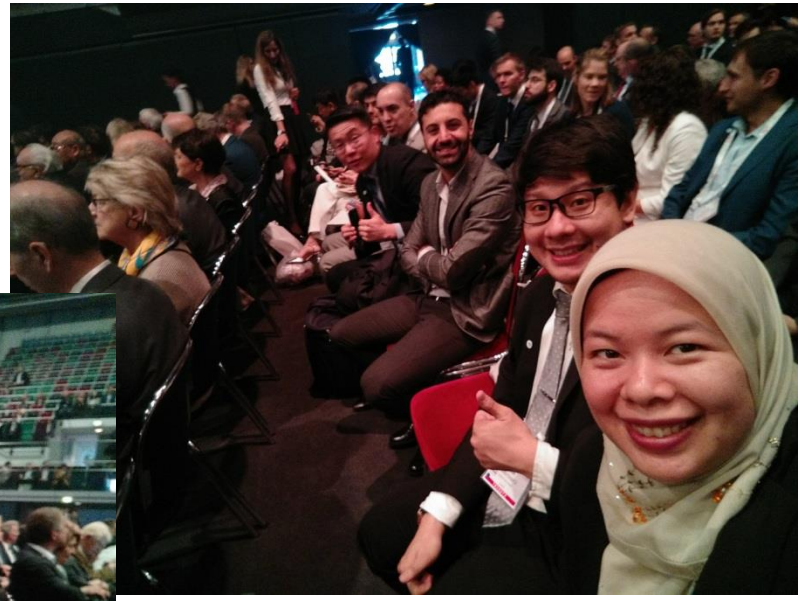
69TH INTERNATIONAL ASTRONAUTICAL CONGRESS BREMEN 2018





With ESL grant recipients at the IAC 2018 Opening Ceremony

With ESL grant recipients at the IDEA LUNCH event

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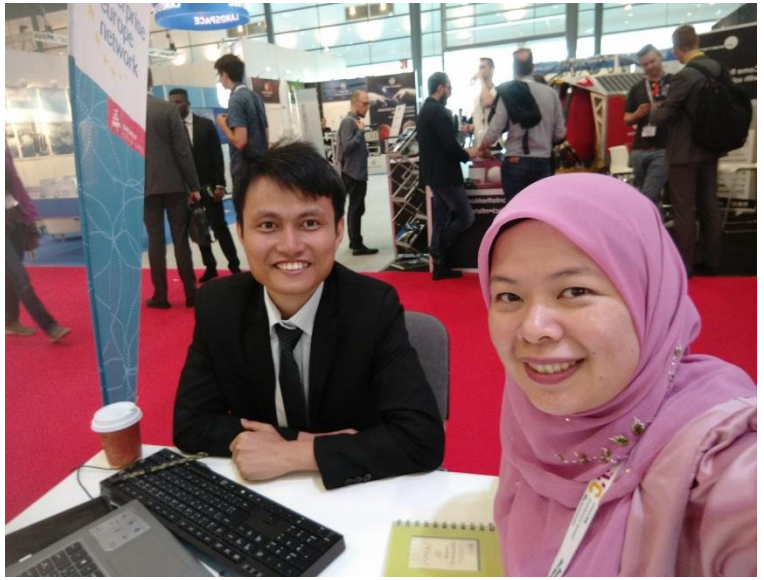
69TH INTERNATIONAL ASTRONAUTICAL CONGRESS BREMEN 2018

Presented her paper on the UiTM's ground sensor terminal

Visited DLR lab at Bremen



Had discussions with Adrian (Kyutech)

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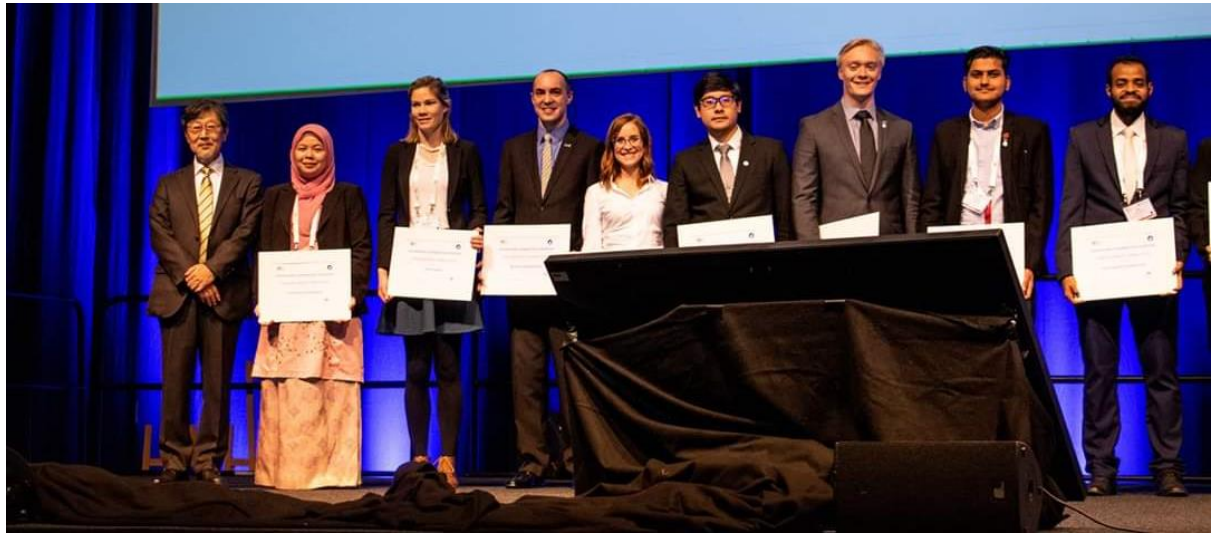
THE CLOSING CEREMONY



Seated next to former IAF president and former JAXA vice-president, Kiyoshi Higuchi

Participating in the ESL program and attending the IAC was a surreal experience. I met so many incredibly intelligent, genuine and fun people from all around the world. This is the biggest congress I have been so far. I had fantastic time at the congress. Met new people, learnt new things (a lot!).

There were many parallel sessions with interesting topics, so I kept hopping from one session to another. Not to forget the keynotes and forums, they really kept me busy throughout the day.

Au revoir Bremen!

&

Hope to see you next year, Washington DC!

Kente – Embedded Folklore in a Costume

Gladys Yaa Saah Oppong. BBA. MBA. (Ph.D)
Administrator - All Nations University Space Science and Technology Laboratory (ANU- SSTL),
Ghana

17th October, 2018

Special contribution by Gladys Yaa Saah Oppong of ANUC in Ghana

Kente is considered to be the most famous of all African textiles and one of the World's most complicated weavings. A genuine kente cloth is made by the Ashanti and Ewe weavers in Ghana.

The word "Kente" which means basket emanated from the Akan or Ashanti dialect. Akans also refer to Kente as nwentoma, which means woven cloth.

According to an Ashanti folklore, two farmers; Krugu Amoaya and Watah Kraban, from the village of Bonwire, came across a spider, "Ananse", spinning a web. Amazed by the web's beauty, the farmers returned to their homes eager to try and recreate the web. The farmers improvised raffia tree bark into fibers and used for their first weave. They then presented their successful weave to the Asantehene, Nana Osei Tutu (1701 - 1717).

Folklore makes the Kente cloth special and unique, because each design, colors, and patterns have it's own meaning and story.

Kente cloth also reflects the history of the Ashanti people, from the emergence of the various Ashanti kingdoms to the development of the slave trade up to and including contemporary life in Ghana.

Kente cloth is a sophisticated handicraft with the help of a loom, it takes patience, much effort and skill to produce it. Because of these features, Kente cloth was traditionally reserved for royal family members.

It was generally worn by Kings and Queens in Ghana and reserved for special occasions and ceremonies.

Colors used in the weave signifies moods in traditional African Folklore, For example; Blue stands for peace, love and harmony. Green signifies growth, harvest and vegetation. Yellow for prosperity, royalty and richness.

Red is indicative of warning, mourning and funeral. The designs used in Kente clothes are just like the colors, they communicate.

The uniqueness of Kente as a cultural heritage lies in the generational protection it has enjoyed over centuries. The original designs, names and philosophical content have been carefully guarded.

Kente has defied modern technological advancements in the textiles industry to the extent that Kente cannot be produced in commercial quantities with the use of sophisticated power looms.

Kente cloth enjoys so much prestige worldwide as a symbol of Ghanaian culture and identity that it has become the ceremonial ‘gift’ to give to state visitors and the cloth for Kings, Chiefs, Politicians, and people of high standing in society.

The clergy in Ghana have their vestments adorned with Kente strips and many individuals use Kente cloth at durbars, state functions, special ceremonies and church services.

Thank you.

13. The public viewing in Bhutan of BIRDS-2 deployment as reported by a JAXA rep

Waiting for BHUTAN-1 deployment

The moment of deployment

BHUTAN-1 deployment Public Viewing

Ministry of Information & Communications, Thimphu, Bhutan
August 10, 2018

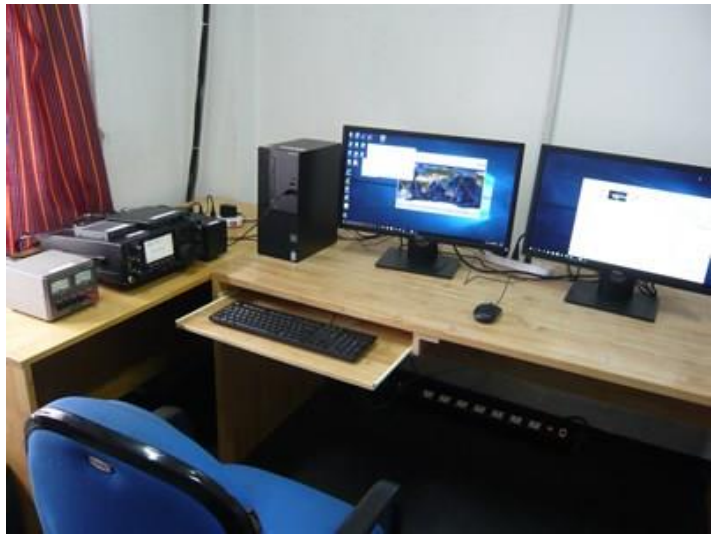
Reporter: Masanobu Tsuji (JAXA Bangkok)

BHUTAN-1 stamp was issued

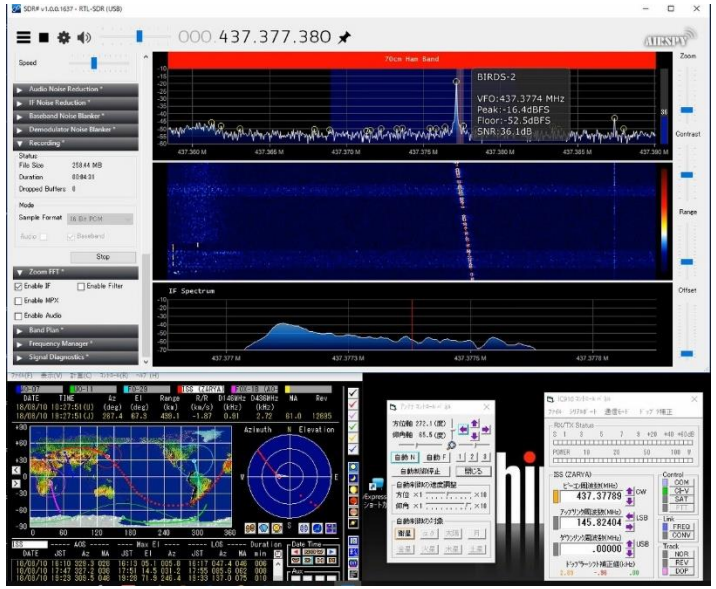
The minister of MoIC pleased with the success.

Continued on the next page

BHUTAN-1
Ground station
at MoIC



1st pass signal over
Saitama, Japan
RTL-SDR + LNA + 12el
cross yagi TNX
JA1OGZ



SATURDAY

KUENSEL

THAT THE PEOPLE SHALL BE INFORMED

AUGUST 11, 2018 · Nu 15

HOME

Saturday, August 11, 2018 | KUENSEL PAGE 5

Bhutan -1 deployed into low earth orbit

Phurpa Lhamo

Bhutan's first satellite CubeSat Bhutan-1 was deployed from International Space Station (ISS) into the low earth orbit yesterday.

This comes after the release of Bhutan-1 along with CubeSats of the Philippines and Malaysia into ISS on June 29.

Officials of the information and communications ministry gathered once again at the ministry's conference hall yesterday.

Live-streamed on YouTube, representatives from various countries and institutes gathered at the Japan Aerospace Exploration Agency (JAXA) in Tokyo, Japan.

Following the 'go' approval from the representatives of Bhutan, Malaysia, and the Philippines, ISS released the satellites at 3:45pm yesterday.

This means that Bhutan-1 would be now operational and can be tracked from the ground station at the information and communications ministry.

Marking the historic event, jointly produced by MoIC and Bhutan Postal Corporation Limited, a new 3D lenticulaire stamp was also launched. The stamp has four apartments with the pictures of Bhutan-1 satellite, which when viewed from a slightly different angle can see pictures of four dzongs of Bhutan.

Sold at Nu 1,000 a piece, Bhutan Postal Corporation Limited has limited 4,500 copies of the stamps.

CubeSat Bhutan-1 was developed by Bhutanese engineers at the Kyushu Institute of Technology, Japan 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.

Work to develop the three-1U (10*10*10 cm) CubeSat began in November 2016.

MoIC's officiating secretary, Karma Wangchuk, said that through His Majesty The King's vision to raise awareness and interest in space science and technology, Bhutan in 2016 sent engineers to the Kyushu Institute of Technology in Japan to study space engineering and to participate in the BIRDS-2 Project.

He added that His Majesty The King also presented five numbers of KENWOOD handheld radio to College of Science and Technology, Rinchending; Jigme Namgyel Engineering College, Deothang; Sherubtse College, Kanglung; Gyalpozhing College of Information Technology, Gyalpozhing; and Royal Thimphu College, Thimphu.

The satellite will pass over Bhutan five to six times a day for about three to four minutes.

Bhutan-1 satellite was sent with five major experimental missions. The satellite that has two cameras attached to it will take pictures and video of the country.

Chief of Telecom and Space Division, Sonam Phuntsho, said that the satellite would relay data of the glaciers and lakes or water level through sensors to the ground station.

"Through the satellite, people can also engage in sending messages to the satellite through the radio handsets. Once the satellite receives text messages, it will broadcast and other amateur radio users will be able to hear it." The radio handsets presented to the five colleges can be used for this purpose.

The satellites will also measure the radiation in the space.

As the satellite used consumer GPS product in the three CubeSats, Sonam Phuntsho, said that researchers could also study and check how it functions.

"Satellite specialised GPS chips are expensive. The consumer GPS product is much cheaper. So, they can study the type of changes that needs to be made in future."

He added that the development of the satellite also helped build the capacity of the Bhutanese engineers.

The data collected with the satellite will be shared with various institutions and colleges for research purposes in the country.

At JAXA, Japan, ambassador of Bhutan to Thailand, Tshewang C Dorji, thanked the engineers who developed the satellite, Kyushu Institute of Technology, and JAXA for their efforts in developing the country's first satellite.

► Limited edition of the 3D stamp was released to mark the event

ACC releases Anim Damcho, detains her nephew, freezes properties

Staff Reporter

After detaining her for 59 days, the Anti-Corruption Commission (ACC) released the project

registered in Damcho Choden's name against any transaction. The commission has listed six properties – three dry land in Sarpang and Thimphu and three

KUENSEL reported BHUTAN-1's successful deployment.

OLAYINKA'S WORLD

COLUMN NO 4

OLAYINKA FAGBEMIRO
NATIONAL SPACE RESEARCH & DEVELOPMENT AGENCY(NASRDA), ABUJA. NIGERIA
PRINCIPAL SCIENTIFIC OFFICER, HEAD, SPACE EDUCATION UNIT

Olayinka's World
...in space to make a difference

WORLD SPACE WEEK 2018 – in Nigeria

The theme for UN-declared World Space Week 2018 is "Space Unites the World," it was announced by World Space Week Association (WSWA). "World Space Week, October 4-10, 2018 will celebrate the role of space in bringing the world closer together," said WSWA President Dennis Stone.

About World Space Week

The largest space event on Earth, UN-declared World Space Week is celebrated October 4-10 annually. It is an international celebration of the contribution of space science and technology to the betterment of the human condition. World Space Week consists of a myriad of space-related events held by space agencies, aerospace companies, schools, planetaria, museums, and astronomy clubs in a common timeframe to achieve greater student and public impact through synchronization.

The National Space Research and Development Agency, Abuja, held her annual World Space Week lecture on the 10th October 2018. The event was well attended by a lot of stakeholders from the Nigerian Space industry as well as young people drawn from different elementary and high schools from across the capital city of Abuja. The guest Speaker, Prof Babatunde Rabiu, is a seasoned Professor of Atmospheric Physics, and he spoke extensively about Space-dependent Technology and products.

High School Pupils writing a Space Quiz

Prize winners at the WSW Annual Lecture

A High School, *Glistens Academy*, organized a WSW event in Abuja

Prize Winners for the Quiz being called out

END OF COLUMN 4

15. BIRDS-4 weekly meeting of Wednesday, 14 November 2018

The Birthday Boy: Nakayama san.

BIRDS-4 members debate what the satellite should do. There is also major input from the shareholders of Japan, Philippines, and Paraguay.

Space Engineering International Course

REPORT FROM THE PHILIPPINES

[the next four pages]

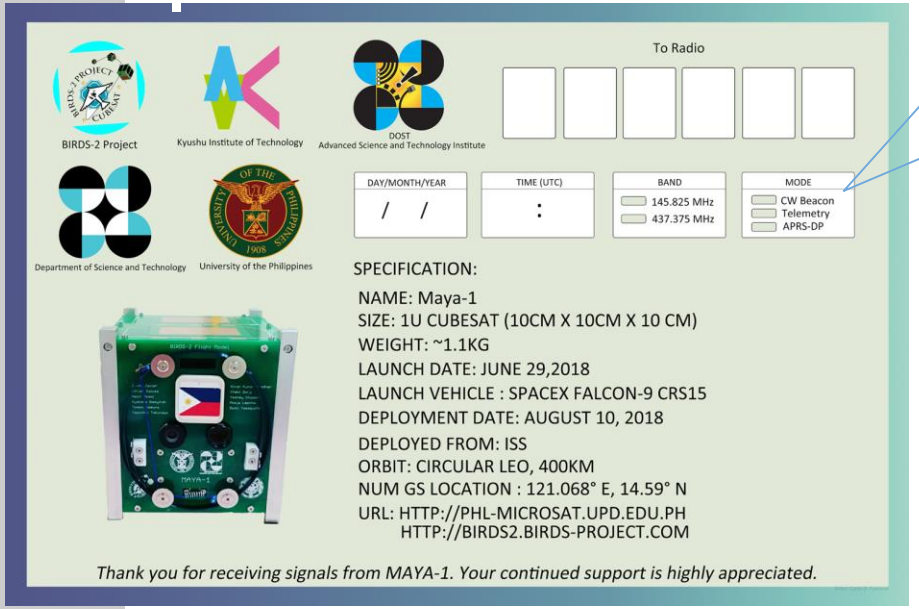
Prepared by:
Nicole V. Ignacio and Mae Ericka Jean C. Picar
(PHL-Microsat Communications Team)

14 November 2018

Maya-1 QSL Card

1. Track the BIRDS-2 CubeSats - all three CubeSats will transmit Morse Coded CW beacon at 437.375 MHz and APRS beacon at 145.825 MHz

2. Send the data here: https://www.formpl.us/form/28386001



All Amateur Radio Community members are encouraged to track the BIRDS-2 CubeSats in space. As a token of appreciation, we will send you the **Maya-1 QSL card** in return!

Diwata-2 Launch

Diwata-2 was successfully launched to space on October 29, 2018. It is one of the small satellites piggybacked with the main payloads IBUKI-2 (GOSAT-2) and KhalifaSat. This is another milestone in Philippine space initiatives, following the launch of Diwata-1 from Cape Canaveral on March 23, 2016 via Atlas V rocket and deployment from the ISS on April 27, 2016, and the launch of the Maya-1 CubeSat to the ISS through the SpaceX Falcon 9 CRS-15 on June 29, 2018 and release from the ISS on August 10, 2018.

The H-IIA F40 rocket during takeoff from the Tanegashima Space /Center in Japan at 12:08 GMT+08

PHL-Microsat Team in Tohoku University posing with Diwata-2 prior to its shipping to JAXA; (left to right) Mr. Lorenzo Sabug, Jr., Mr. Ariston Gonzalez, Mr. Leonard Paet, Ms. Julie Ann Banatao, Mr. John Leur Labrador, Mr. Gerwin Guba, and Mr. Edgar Paolo Violan.

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

Diwata-2 Launch Viewing Sessions

Pocket viewing sessions were also held across the Philippines, from the National Capital Region to other regions in the south such as in the **Bicol**, **Western Visayas**, **Central Visayas**, and **Caraga regions**.

Representatives from the Philippine government, the Embassy of Japan, various stakeholders, students, and space enthusiasts gathered on October 29, 2018 at the GT Toyota Auditorium in Quezon City, Metro Manila.

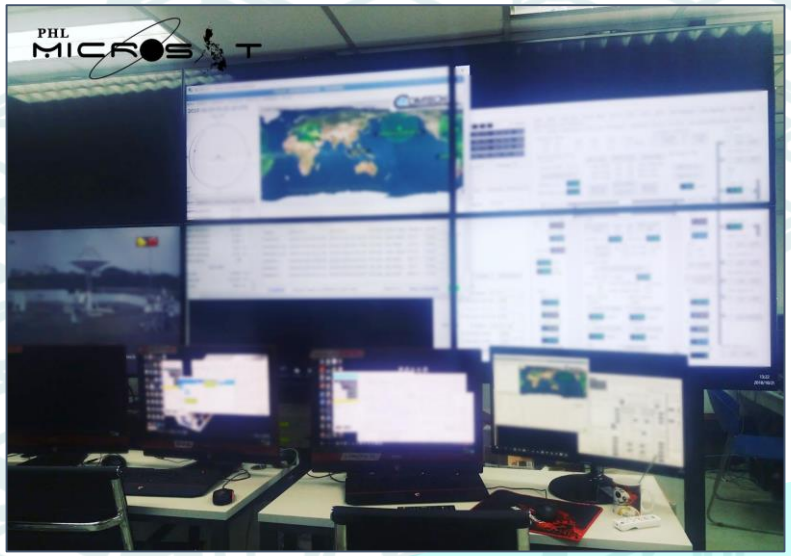
Clockwise from top: *Live stream viewing at the DOST Region VI office in Iloilo, the Caraga State University audience with faculty members of their BS Geodetic Engineering program, Cebu Technological University viewing, and Bicol University representatives with PHL-Microsat team members.*

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

Diwata-2 First Contact

On October 29, 2018 at 13:52 GMT+08, initial contact was established between Diwata-2 and the Ground Receiving Station (GRS) in the Philippines. Short telemetry data were received from the satellite on that day. Diwata-2 was initially tracked using pre-launch orbital parameters. At 12:40 PM on October 31, 2018, the GRS was able to read the satellite's status, including vital signs such as fully charged batteries, normal power consumption, and good communication link. Commands were successfully sent, and initial check procedures will continue throughout the first week from launch.

Members of the DOST-ASTI GRS PHL-Microsat cheering on upon establishing initial contact with Diwata-2.



The GRS is housed in DOST-ASTI in the Philippines' National Capital Region (NCR).

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

Internship Report

UNITED NATIONS
Office for Outer Space Affairs

1st July- 10th October, 2018

Written by: Yeshey Choden

About UNOOSA

- The United Nations Office for Outer Space Affairs (UNOOSA) works to promote international cooperation in the peaceful use and exploration of space, and in the utilisation of space science and technology for sustainable economic and social development
- The Office assists any United Nations Member States to establish legal and regulatory frameworks to govern space activities and strengthens the capacity of developing countries to use space science technology and applications for development by helping to integrate space capabilities into national development programmes

Source: http://www.unoosa.org/oosa/en/aboutus/index.html

Office Structure

Ms. Simonetta Di Pippo of Italy serves as Director of the Office since March 2014

For my internship I was posted in the Space Applications Section Supervisor: Mr. Jorge Del Rio Vera , Scientific Affairs Officer

About Internship

Posting Title: INTERN - Space for Development Profile and Space Solutions Compendium, I (Temporary Job Opening)

- The internship was UNPAID and full-time
- Interns have to work five days per week (40 hours) under the supervision of a staff member in the department or office to which they are assigned.

Responsibilities

Duties included, but not limited to:

- Work on the Sustainable Development Profile and Space Solutions Compendium
- Data collection and aggregation concerning space capabilities
- Support in the preparation of a long-term plan for developing space capabilities
- Support the preparation of project proposals and project implementation
- Assistance in liaison with strategic partners for the execution of the Space Applications Section activities

CONTINUED ON THE NEXT PAGE

Responsibilities (contd.)

- Assist in programme management and administration related matters
- Support the Office in its fund-raising efforts, including conducting in-depth research on related matters
- Contribute to background notes, papers, factsheets, spreadsheets and other documents in support of the activities of the Space Applications Section
- Provide general technical support, including updating internal databases and other planning tools
- Contribute to the preparation monthly reports, summaries, meeting minutes and other documents as requested
- Supports the creation, management and maintenance of webpages of the Space Applications Section, including the creation of access statistics
- Perform other tasks as necessary

Outcome

- Developed Space for Development Profile of Bhutan
- Developed draft Project Implementation Plan for a project in order to Estimate and Forecast the production of Maize and Rice crops in Bhutan using Remote Sensing Satellite data at low cost
- Made monthly report for activities of the office for the month of July
- Made and distributed daily media review of space activities to the office
- Assisted organizing the *United Nations/Brazil Symposium on Basic Space Technology* which took place from 11-14 September, 2018

Others

- Attended UNISPACE+50 symposium : 18-19 June, 2018
- Attended COPUOS general assembly : 20-29 June, 2018
- Attended UNOOSA staff meeting presided by the Director : two times
- Attended informal staff social events
- Travelled to other areas of Austria and neighboring countries in Europe such as Slovakia, Germany, France, and Norway

Barbeque with colleagues on a Sunday

Ice cream and pizza treat colleagues

Photo with the Space Generation Advisory Council volunteers taken at UNISPACE+50

End of Internship Report

18. BIRDS written up in eBook issued by Airbus (Diversity Award)

PAGE 16 OF THIS eBOOK

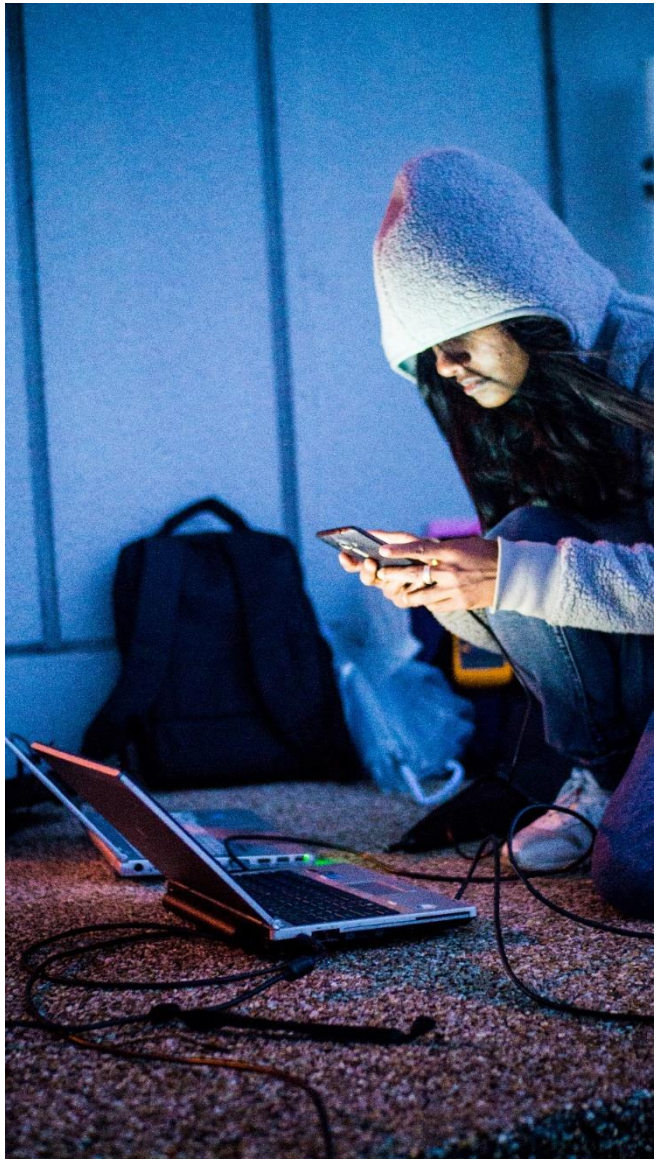
2017 RECIPIENT

BIRDS Satellite Project trains graduate students from developing countries (Ghana, Nigeria, Mongolia, Bangladesh and Thailand) in using cost-effective innovative systems engineering to execute a comprehensive two-year satellite project, with the long-term goal of equipping them to commence a sustainable space programme in their respective home countries. This collaborative programme provides an opportunity for young engineers to compete in today's global market by teaching specialised waste-minimising systems engineering models, developing core skills and building a supportive peer network. The project creates a sustainable pathway for participants to implement training initiatives in their home countries, contributing to the globalisation of engineering education.

Download the eBook → https://airbusgedcdiversityaward.com/Airbus_GEDC_Diversity_Award_People_and_Projects.pdf

19. BIRDS-3: Monthly activity report

BIRDS-3
Oct-Nov 2018
Monthly Report



BIRDS-3 Activities on Oct-Nov 2018

Long Distance Testing

Air table Testing

Clean room cleaning

October Potluck with BIRDS-2 and lab mates

Dr. Aruna (Sri Lanka) visit

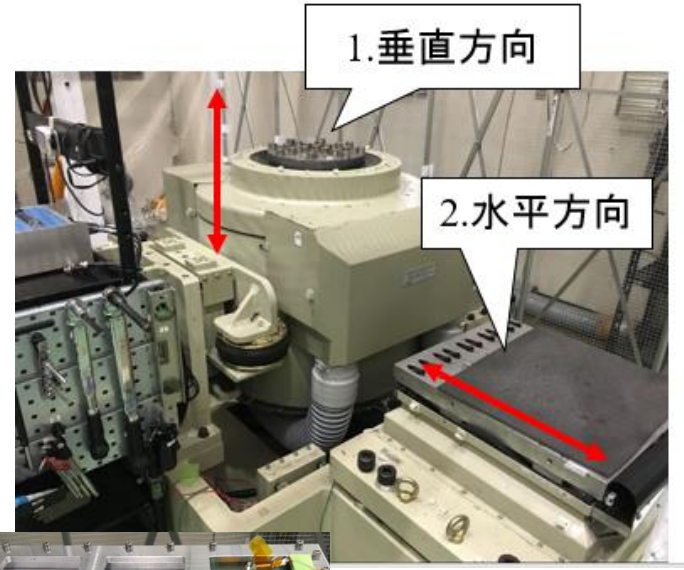
BIRDS-3 Meeting

21. BIRDS-3: Dipole antenna vibration test and structure analysis

Sasaki Yuji 05/NOV/2018

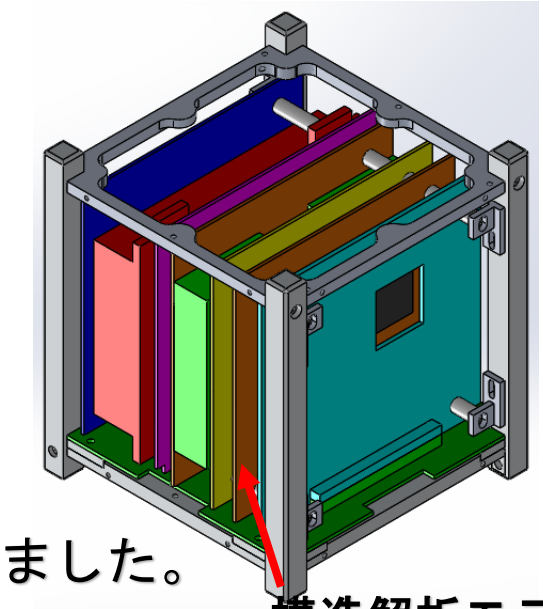
振動試験

今回の振動試験の目的はアンテナをモノポールアンテナからダイポールアンテナに変えたためです。ロケットの加速と振動に対して耐性を確かめました。図のような振動試験機にポットに入れた衛星を治具を使って固定します。振動試験のレベルはQTレベルで実際の打ち上げ条件よりも厳しい条件で実験をしました。振動試験の結果は振動中に誤展開することもなく試験後のアンテナ展開試験もせいこうしました。

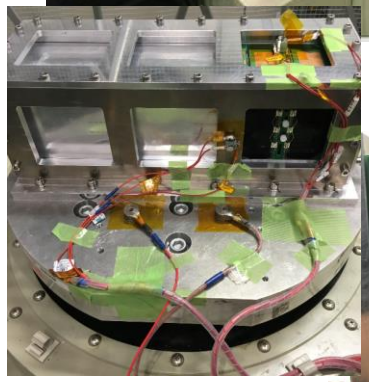


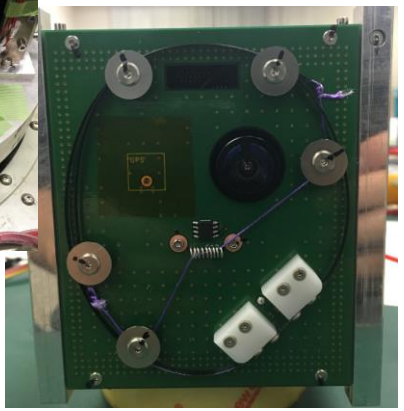
構造解析

アンテナは最外面に存在するため振動試験をするだけではなくシミュレーションによる想定される応力に材料の強度が足りるかどうかも確かめる必要があります。構造解析でシミュレーションする条件はロケットの加速度の最大を条件に取り解析を実施しました。結果はすべての材料が指定されている計算式で安全の余裕があるという結果になりました。



構造解析モデル





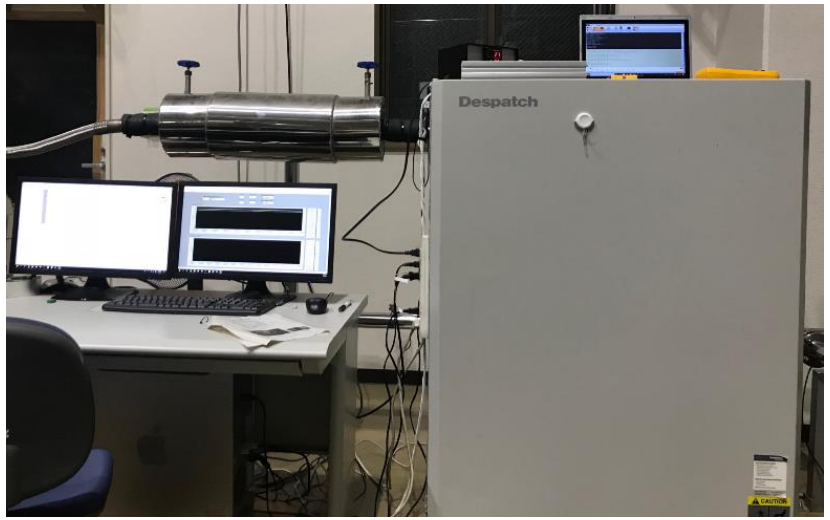
22. BIRDS-3: Despatch Chamber Test for BIRDS-3 Dipole Antenna

BIRDS-3 changed from monopole antenna to dipole antenna for communication success. For this reason, we did the antenna deployment test using Despatch Chamber.

By Makiko Kishimoto, 5 Nov. 2018

Purpose

1. Ensure that antenna is deploy under the worst conditions which are -40 ˚C and battery charge is around 10%, in Despatch Chamber test.
2. Ensure that Burner Circuit able to deploy antenna within 30 seconds which is the time Main PIC turns on Burner Circuit.
3. Ensure that Battery voltage is within 0˚C to 40 ˚C.

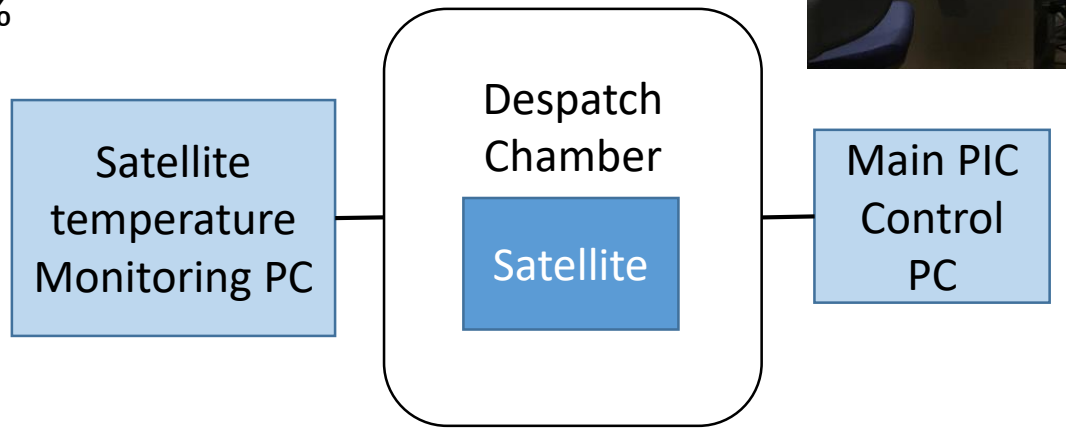


Test Conditions

Battery charge: 10%, 30%, 40%,50%

Chamber temperature: -40˚C*

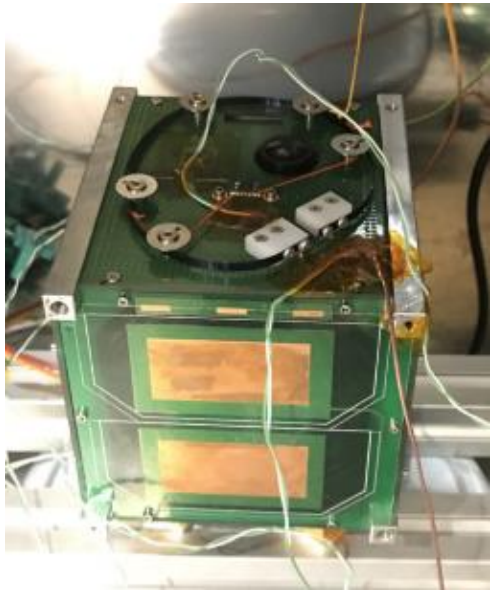
*Because antenna was deployed at -42˚C in Thermal Vacuum Test.



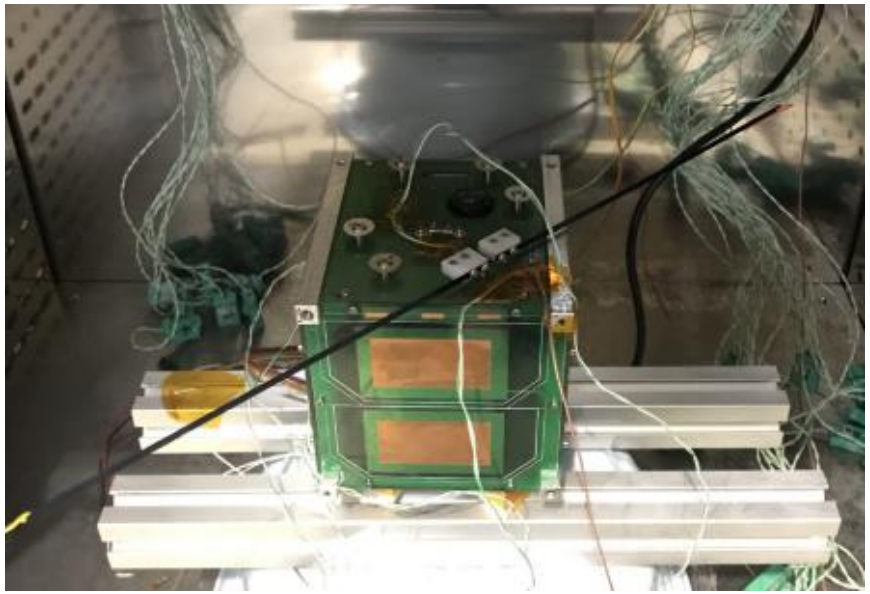
(↑) Despatch Chamber
(←) Test Setup

Despatch Chamber Test

1. Burner Circuit deployed antenna under 10% battery charge, -40 ˚C.
2. Antenna was deployed within 30 seconds.
3. Battery temperature was within 0˚C to 40 ˚C.



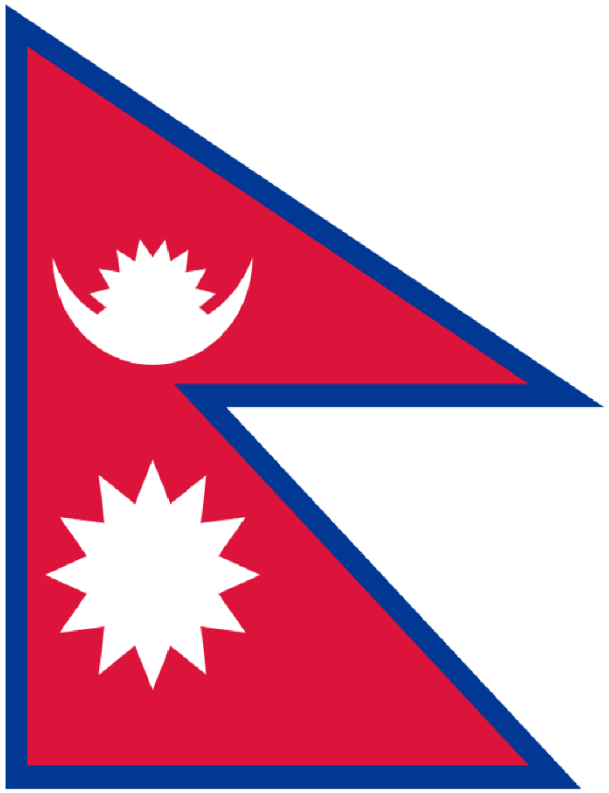
Before deploying antenna

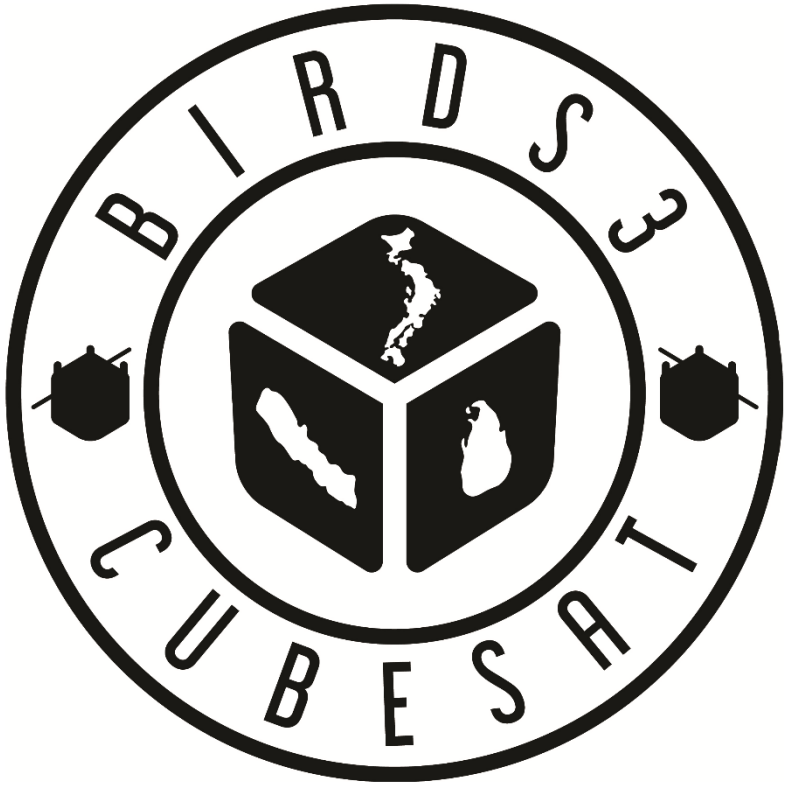


After deploying antenna

No.	Battery Charge [%]	Deployment Time [s]	Battery Voltage [*Vb/Va]	Battery Temperature [˚C]	Pass/ Fail
1	10	8.85	3.9/ 3.7	12.28	Pass
2	30	6.27	4.1/ 3.8	14.19	Pass
3	40	6.02	4.1/ 3.9	13.35	Pass
4	50	6.12	4.1/4.0	11.87	Pass

23. BIRDS-3: Outreach activities in Nepal

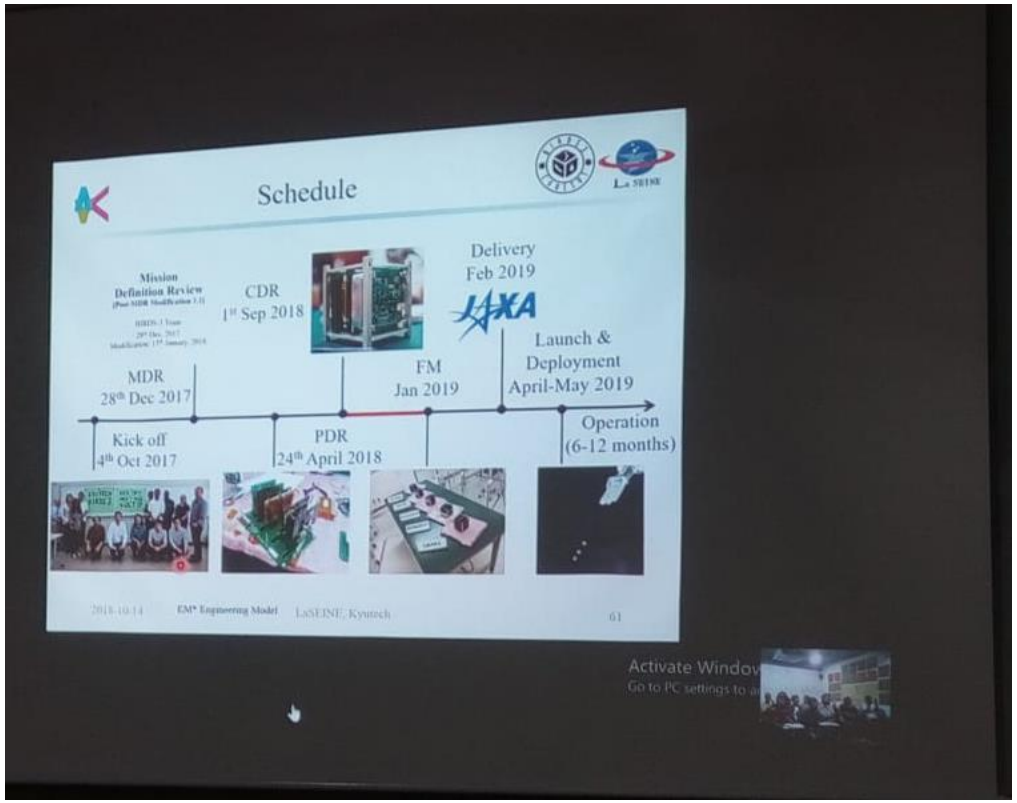




NepaliSat-1 Outreach Program
October/November 2018
by Abhas, BIRDS-3 Project Manager

BIRDS-3 Outreach in Nepal

http://www.madeinepal.space/2018/10/sastosat-cansat-training-v30-begins-at.html

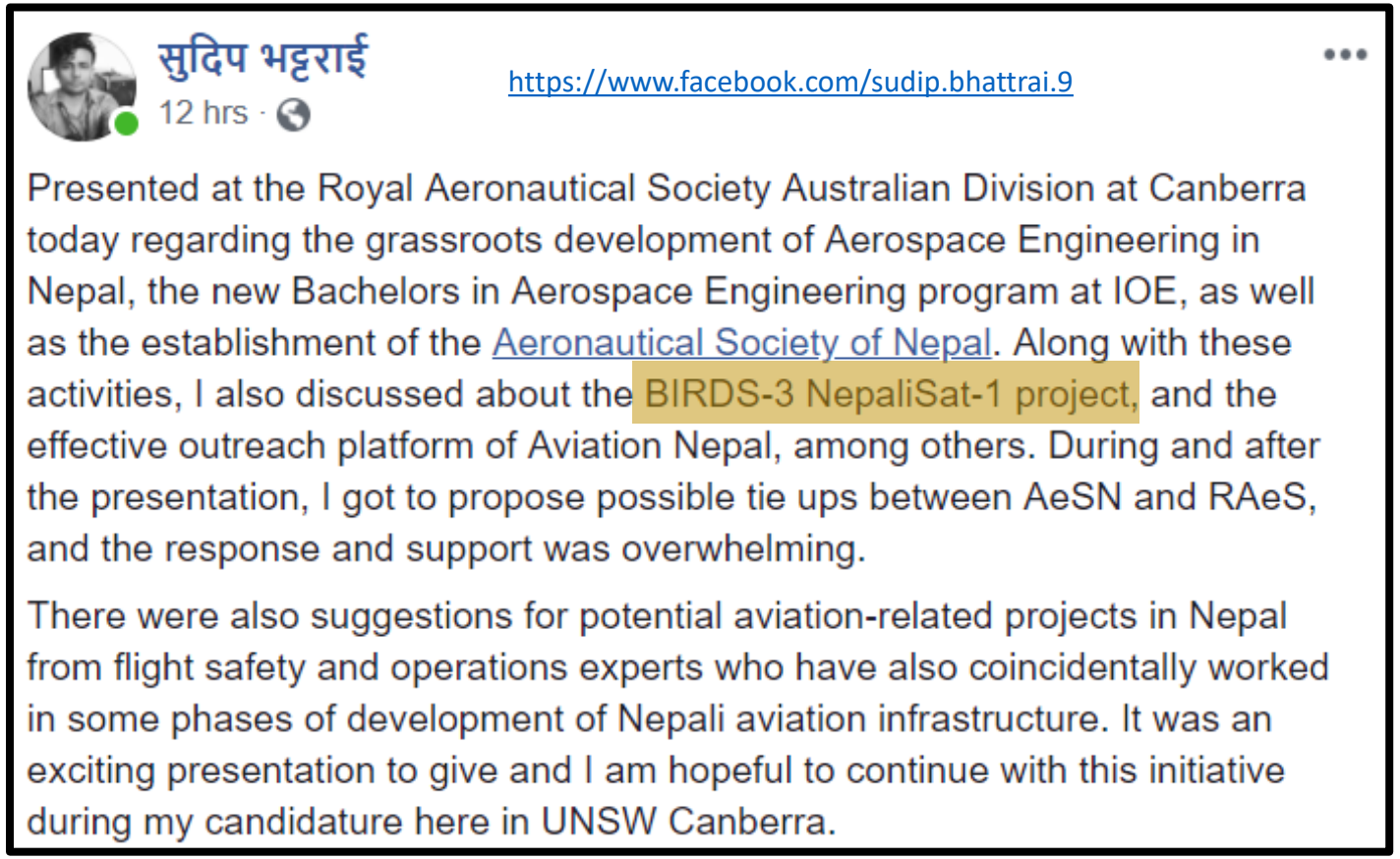


https://www.facebook.com/BounceAfterSchool/?tn-str=k*F

A two-day program on SastoSat CanSat v3.0 was completed in Kathmandu in October, 2018. SastoSat Trainees from 2017 designed and conducted the training with the challenge of building the program with the resources available in Nepal. The target this year was on middle school students. An introductory presentation on the BIRDS-3 Satellite Project was given.

BIRDS-3 Outreach in Australia

Mr. Sudip Bhattarai, Assistant Professor at Institute of Engineering (IOE), who has been supporting the BIRDS-3 from the very beginning, gave a talk at Royal Aeronautical Society of Australian Division at Canberra. An introduction to the project was also given during the short presentation. He is currently on leave from IOE to pursue his PhD in Australia.



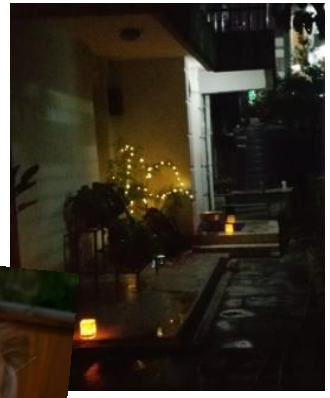
सुदिप भट्टराई
12 hrs ·

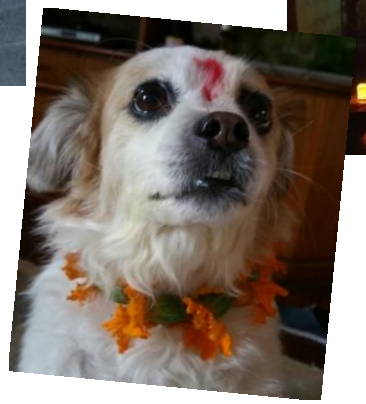
https://www.facebook.com/sudip.bhattrai.9

Presented at the Royal Aeronautical Society Australian Division at Canberra today regarding the grassroots development of Aerospace Engineering in Nepal, the new Bachelors in Aerospace Engineering program at IOE, as well as the establishment of the Aeronautical Society of Nepal. Along with these activities, I also discussed about the BIRDS-3 NepaliSat-1 project, and the effective outreach platform of Aviation Nepal, among others. During and after the presentation, I got to propose possible tie ups between AeSN and RAeS, and the response and support was overwhelming.

There were also suggestions for potential aviation-related projects in Nepal from flight safety and operations experts who have also coincidentally worked in some phases of development of Nepali aviation infrastructure. It was an exciting presentation to give and I am hopeful to continue with this initiative during my candidature here in UNSW Canberra.

24. TIHAR FESTIVAL in Nepal: A Symbol of Health, Respect, Relationships, and Prosperity





In Nepal, we just concluded the five-day long festival “Tihar”, the festival of lights and relationship on November 5 to 9, 2018. It shows the relationship not only between brothers and sisters but also with birds, animals, and plantsfor maintaining an intimate relationship with humans.

Crows are worshipped on the first day for bringing pre-message of luck; in the second day, dogs are acknowledged for safeguarding the house; cows are worshiped on the third day morning for the symbol of purity and health, and in the evening, Laxmi, the goddess of wealth, is remembered for all the prosperity; the fourth day morning Bulls, a symbol of hardwork, are worshiped and in the evening people worship themselves (Mha Puja in Newari ethnicity only) as a symbol of self-respect. The last day is the Bhai Tika when sisters offer auspicious tika (Blessings) on the foreheads of their brothers to wish for their good health and long life.

Starting from Laxmi Pooja, People create female and male groups ‘Bhailo’ and ‘Deusi’ respectively and walk into the premises of their hosts in neighbor-hoods to entertain them with songs, dance, and chanting of blessings. In return, the hosts offer them food, drinks,and gifts. All the houses, buildings and common places are decorated using Marigold flowers and lights. During these days, people also play “Cauda and Cards” a symbolic and safe “gambling” entertaining themselves in their own premises.

- Sarita Shrestha Maskey, 15 Nov 2018

BIRDS-4 Self-Introductions

Note:
B4=Bachelor degree program, 4th year
M1=Masters degree program, 1st year
M2=Masters degree program, 2nd year
D1=Doctoral degree program, 1st year
….and so on…..

Yiğit ÇAY (D1)

Turkish

Supervisor: Assoc. Prof. Dr. Kazuhiro TOYODA

Personal

- Birthday: September 8th
- Motivation for BIRDS-4
  - to get hands-on experience of a satellite project from beginning to the end.
- Hobby: Karaoke
  - I watched acoustic performances and paid attention to voice controlling tactics
  - It's the most stress relieving and self satisfying hobby I've ever had.
- About Istanbul, Turkey
  - Favorite food: Iskandar kebab
  - Beşiktaş (pronounced as 'Beshiktash')

https://img-s1.onedio.com/id-57bc1de40503865755984d26/rev-0/w-500/s-8518ab9f587fffeb3e47f92063e1416dd66c7b01.jpg

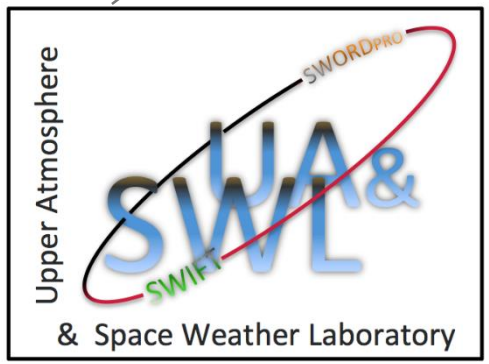
Link

http://supergezginler.com/wp-content/uploads/besiktas-gorulecek-yerler-0.jpg

Academic/ Professional Background

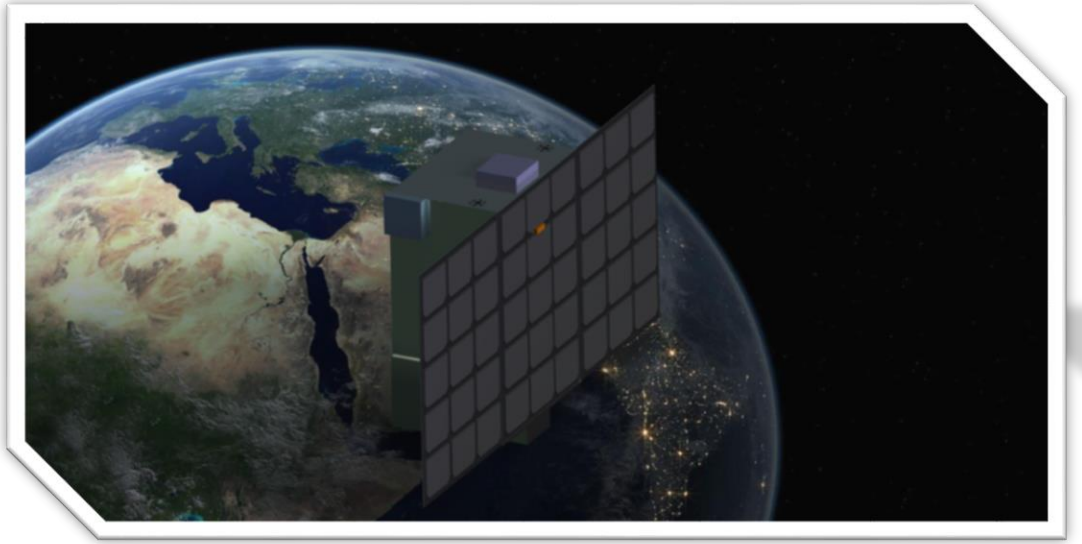
- *Graduated from:*
  - *BE Aeronautical Engineering, Istanbul Technical University* – January 2015
  - MSc *Space Engineering International Course, Kyushu Institute of Technology – September 2018*
- Academic interests:
  - Miniaturized Spacecraft Design (esp. CubeSats)
  - Radiation and Environment Effect Analyses for Satellites
  - Alternative Spacecraft Propulsion Technics (Solar Sail, M2P2, Light Propulsion)
- Number of publications: 13
- Number of engineering projects involved: 5
- Work history
  - *Research Assistant of Astronautical Engineering Dept. at ITU (1 year)*
  - *Student Researcher at Upper Atmosphere and Space Weather Laboratory of ITU (3 years)*
  - *Intern at TEI (TUSAŞ Engine Industry) Inc. (3 months)*
  - *Intern at ITU Mechanical Faculty (1 month)*

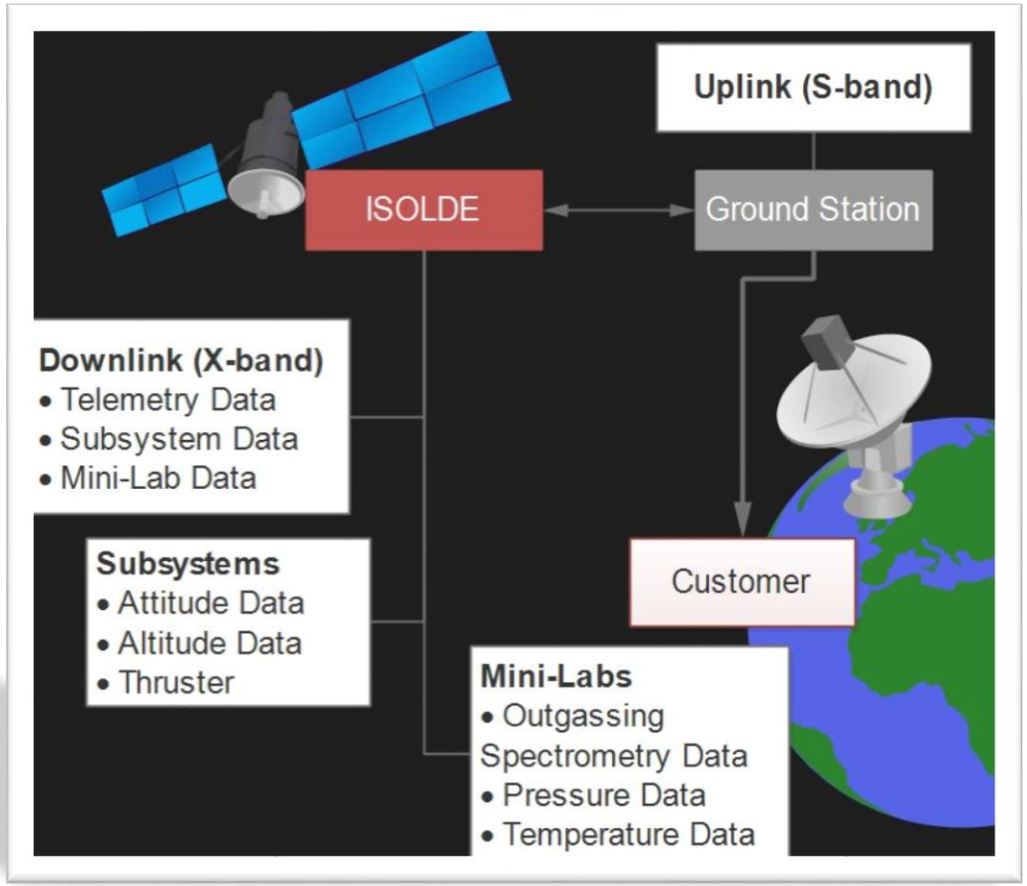
Website

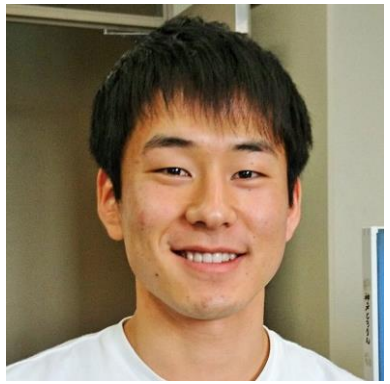


Engineering/Academic Project– ISOLDE

- November 2015 – December 2016 (MIC 4)
- “In-Situ Outgassing Laboratory Distant-from-Earth (a.k.a. ISOLDE) is a satellite project aims to realize standard outgassing experiments in LEO environment with a 26 kg satellite.”
- Management, mission design, COM



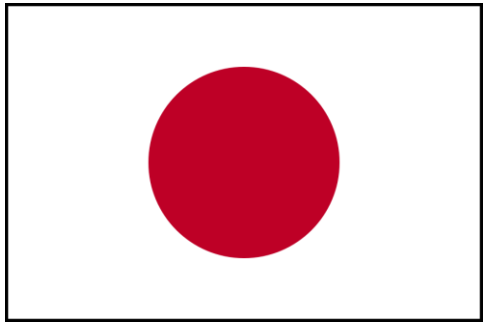




Tomoaki MURASE

Japanese

Supervisor: Prof. Dr. Mengu Cho

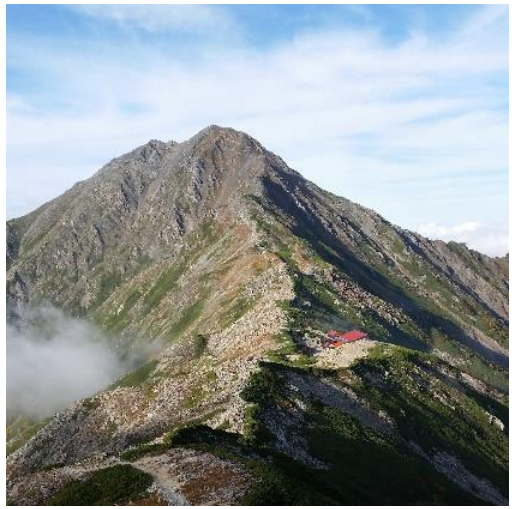


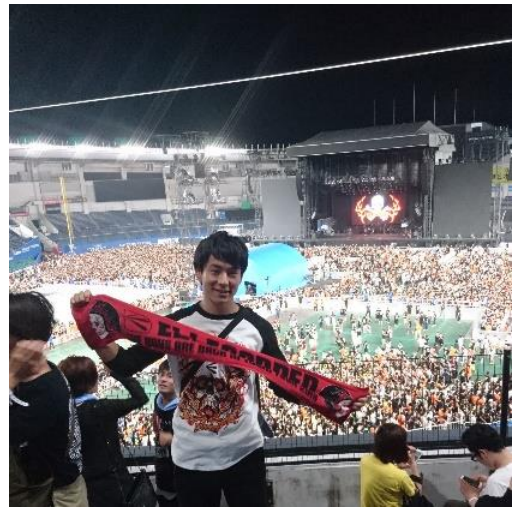
Personal

- Birthday: November 24
- Motivation for BIRDS-4
  - To achieve the goal and communicate with foreign students in English
  - Want to do something that can only be done at this college

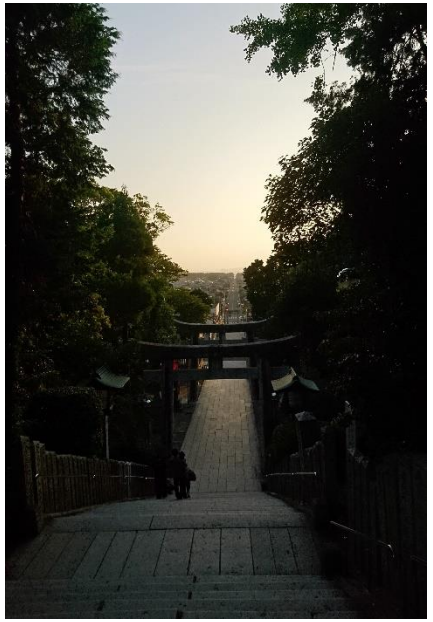
Personal

- Hobbies
  - Mountaineering
  - Going to live music events





- About Home
  - My hometown is good.
  - I recommend Miyajidake Shrine.



Academic/Professional Background

- Degrees taken
  - BS in Integrated Systems Engineering (On-going)
- Academic interests
  - Radiation test on the COTS devices
  - OBC system
  - Structure

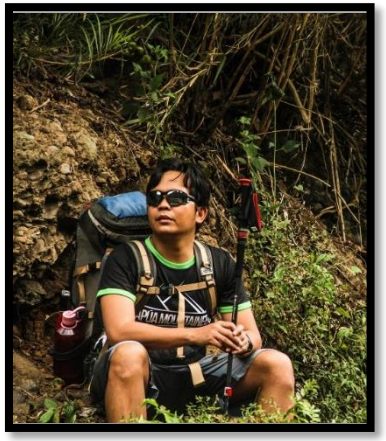
Marloun SEJERA (D1)

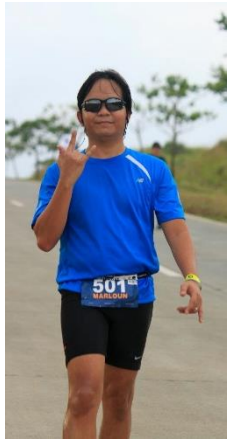
Filipino

Supervisor: Prof. Dr. Mengu Cho

Personal

- Birthday: October 4
- My motivation for BIRDS-4
  - To learn by experience on how to build satellite and share the knowledge back to my country
- Hobby
  - Hiking, running
  - It gets you close to nature; it relaxes the mind and body
- About Home
  - Favorite food: Pork Sinigang
  - Recommended place for visitors: Beaches down South of Philippines





Academic/Professional Background

- Degrees taken
  - Bachelor: Electronics and Communications Engineering
  - Master: Electronics and Communications Engineering
- Academic interests
  - Electronics
  - IP Network System
- Number of publications: 5
- Work history
  - Faculty member
  - Product Development Engineer

Engineering/Academic Project

- April 2018 to March 2019
- A classroom response system that assess students' understanding on the topic
- (Local) wireless communication between devices inside the classroom

Adolfo JARA (ENG.)

Paraguayan

Supervisor: Prof. Dr. Mengu CHO

Personal

- Birthday: July 31
- Motivation for BIRDS-4
  - Learn the entire processes of a satellite program from beginning to end
  - Build and put the first satellite of my country in orbit
- Hobby: Play soccer and fly a plane
  - I practice football with friends. It is an excellent way to maintain physical and mental health.
  - Being a pilot is one of my dreams. Being in command of a plane is a unique experience
- About Asunción, Paraguay
  - Favorite food: Barbecued meat
  - Paraguay has the best beef in the world

https://prensaantartica.com/2016/09/19/la-carrera-espacial-latinoamericana-chile-ciencia-y-tecnologia/

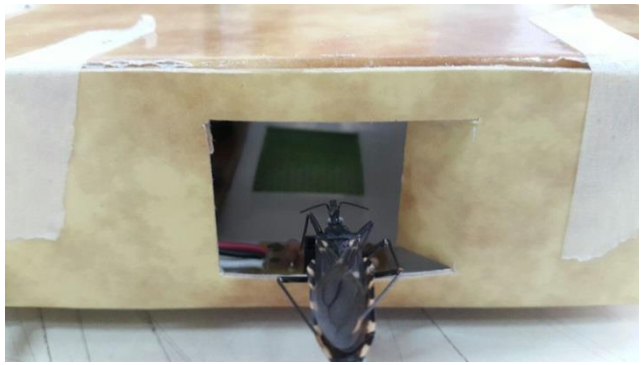
https://www.hoy.com.py/espectaculos/ferias-musica-y-teatro-en-el-centro-historico-para-celebrar-a-asuncion

Academic/Professional Background

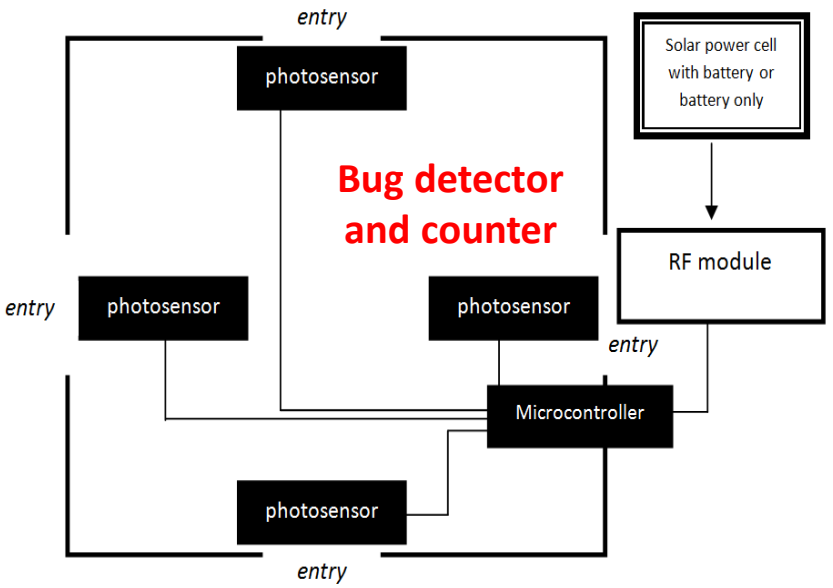
- *Graduated from:*
  - MSc *Electronic Engineering, National University of Asuncion – October 2018*
  - *BE Electronic Engineering, National University of Asuncion*– August 2013
- Academic interests:
  - Miniaturized Spacecraft Design (esp. CubeSats)
  - Spacecraft environment interaction
- Number of publications: 8
- Number of engineering projects involved: 5
- Work history
  - *Researcher at Research Group in Electronics and Mechatronics (5 year)*
  - *Project Manager at Paraguayan Space Agency (8 months)*

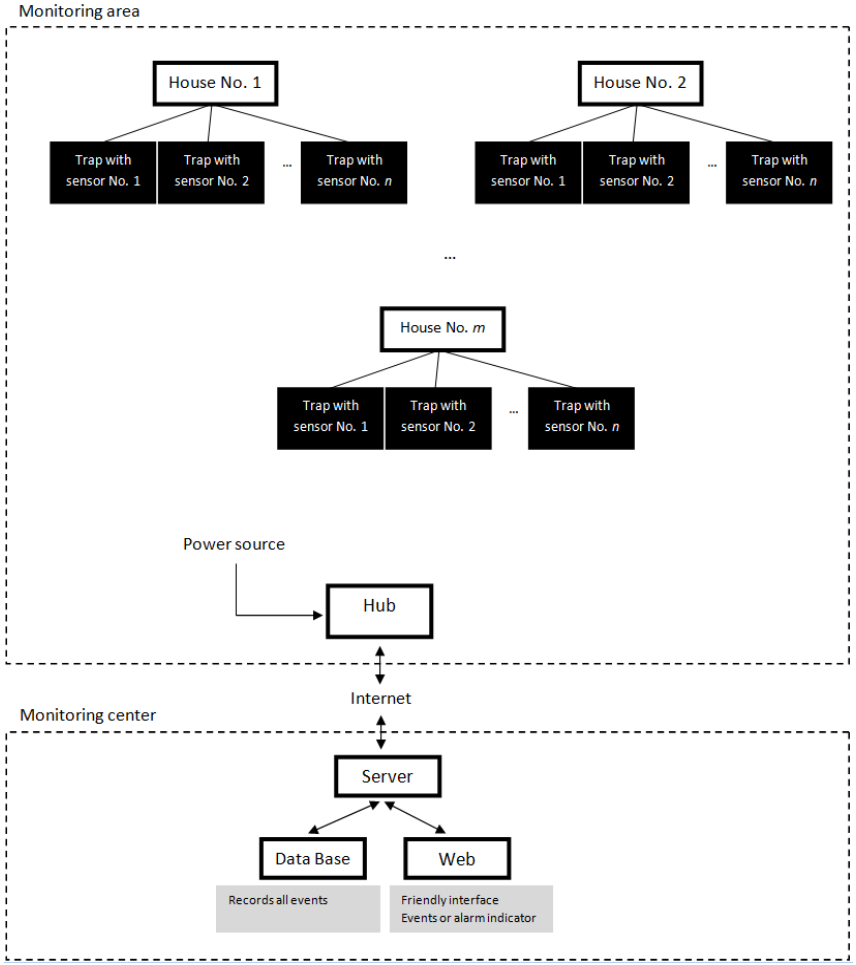
Engineering/Academic Project – DARTI

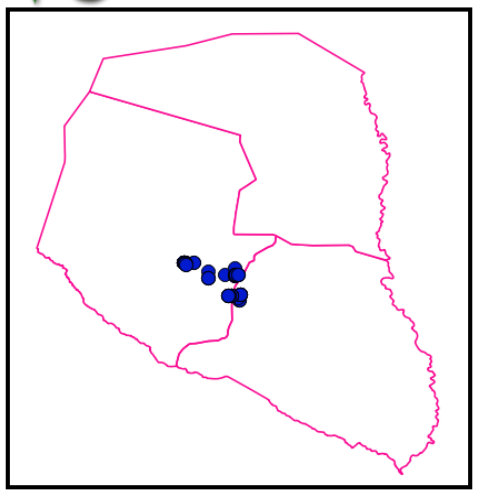
- January 2016 – April 2018
- "The objective of this work is to determine the spatial distribution of triatomines based on the use of entomological and environmental variables through the use of remote sensing tools."



Triatomine bug enters the trap door

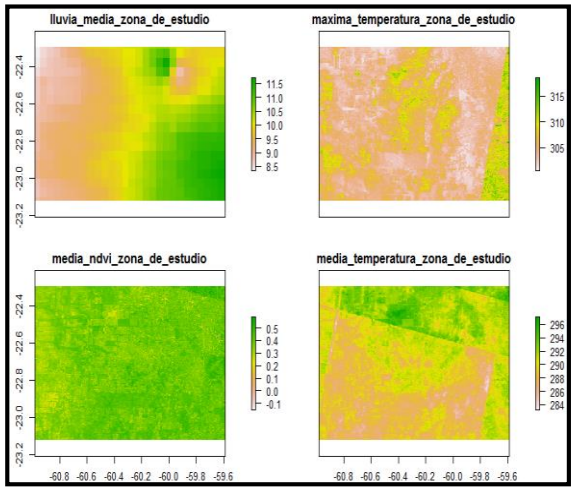






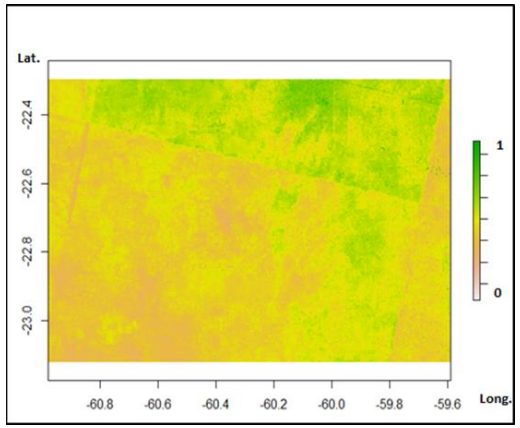
Presence of the vectors in the indigenous communities

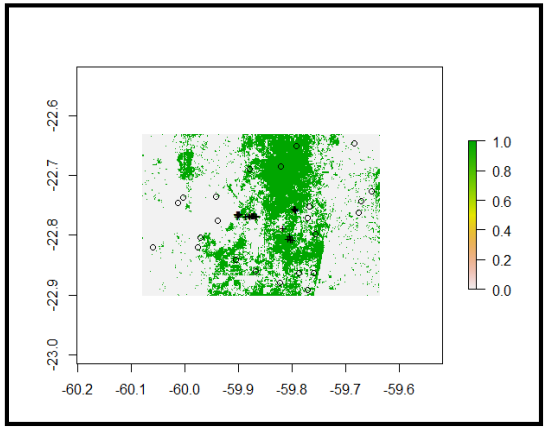
+



Environmental variables (Average NDVI, Mean Temperature, Maximum Temperature and Average Rain)

=



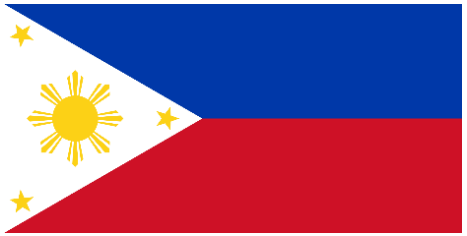


As a result, a distribution model based on environmental variables has been obtained that predicts the suitable places for the studied triatomines to be present.

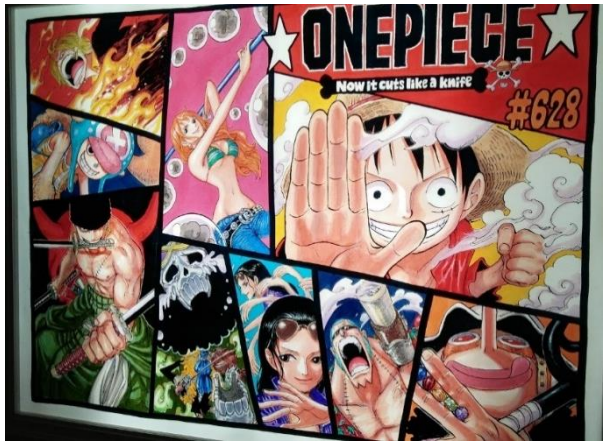
Izrael Zenar “I.Z.” C. BAUTISTA, (D1)

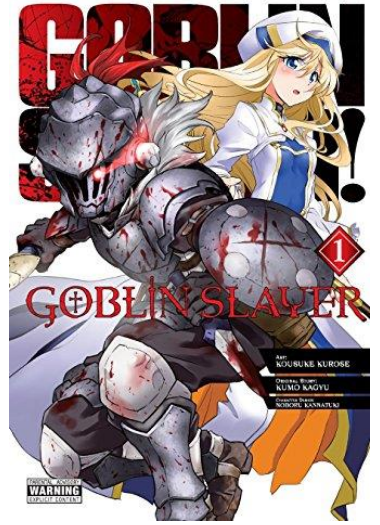
Filipino

Supervisor: Prof. Dr. Mengu Cho



Personal





- July 18
- My motivation for BIRDS-4
  - To learn about satellite project flow that I can share to my countrymen after I graduate
- Hobby: Reading manga
  - Read the latest chapters of my favorite manga (Seishun Buta Yarou wa Bunny Girl Senpai no Yume, Nanatsu no Taizai, One Piece, Goblin slayer)
  - It allows me to learn a lot of things (facts, trivia, culture, emotions, etc.)
- About Quezon city, Philippines
  - Favorite food – Egg pie and cheesecake
  - Recommended place: in PH - Dumaguete actually there's a lot of beautiful beaches in PH, stay away from Manila >_<

  In QC – Pino Restaurant at Teacher's village near UP Diliman.

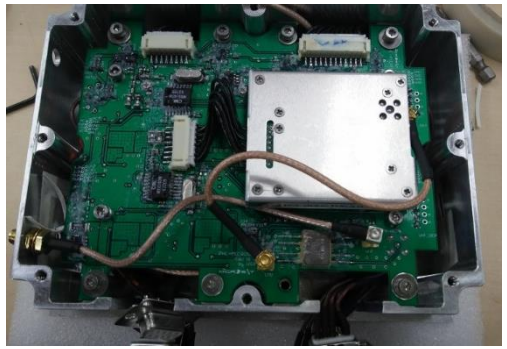
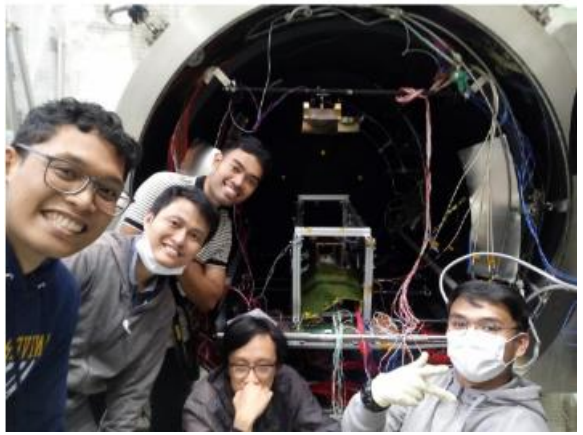
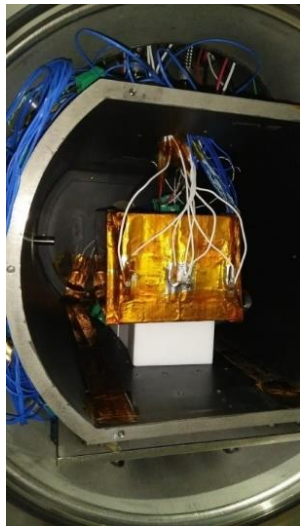
Academic/Professional Background

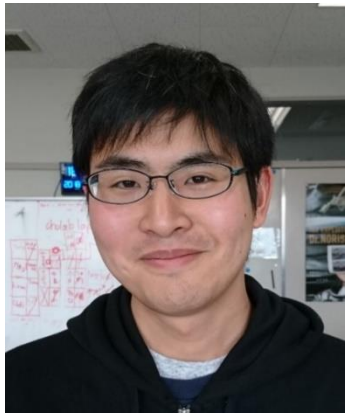
- Degrees taken
  - BS Electronics and Communications Engineering, University of the Philippines Diliman, April 2013
  - MS Energy Engineering, University of the Philippines Diliman, January 2018
- Academic interests
  - Solar power and Space solar power system
  - Electric Power system
  - Energy Optimization using Heuristic methods

- Number of publications : 4
- Number of engineering projects involved : 3
- Work history
  - Intern at Emerson Power system (2 months)
  - Researcher Project LADDERS (1 year)
  - Researcher Project ROGER (1 year)
  - Researcher PHL-Microsat Program (4 years)

Engineering/Academic Project
PHL-Microsat Program

- January 2015-December 2018
- Philippines' first step towards self-sufficiency in space technology by developing 2 micro-satellites (Diwata-1, Diwata-2) and 1 nano-satellite (Maya-1)
- Developed Amateur Radio Unit in Diwata-2; established Amateur Ground station

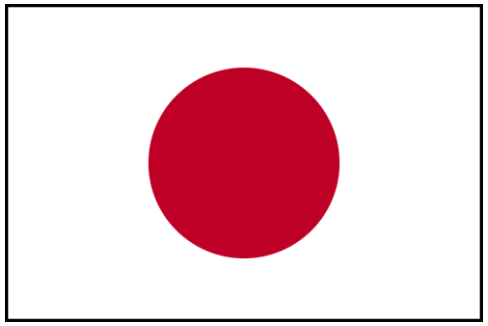




Daisuke Nakayama (M1)

Japanese

Supervisor: Kazuhiro Toyoda, Ph.D.



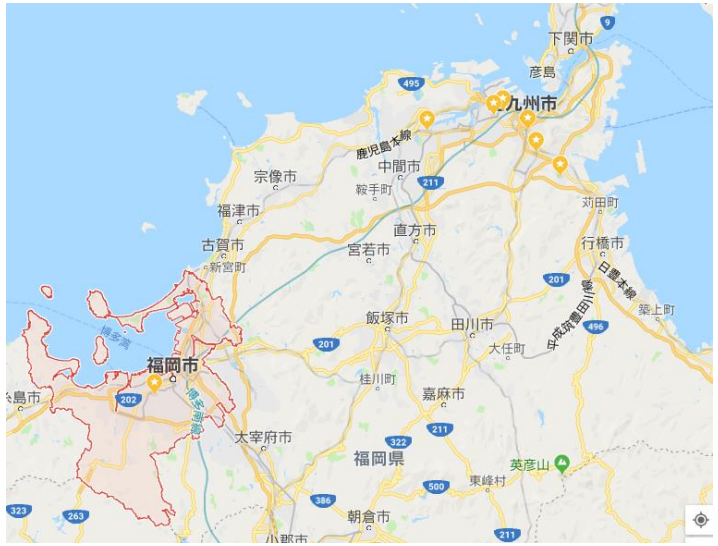
Personal

- Birthday: November 10

- Motivation for BIRDS-4
  1. Became Manager of amateur radio Ground Station.
     - Even if I don't make satellite, I have to know about the satellite made in Cho-lab.
  2. I love amateur radio.
     - To know satellite communication, I made Yagi-antenna and etc…
     - I fell in love with amateur radio.

Personal

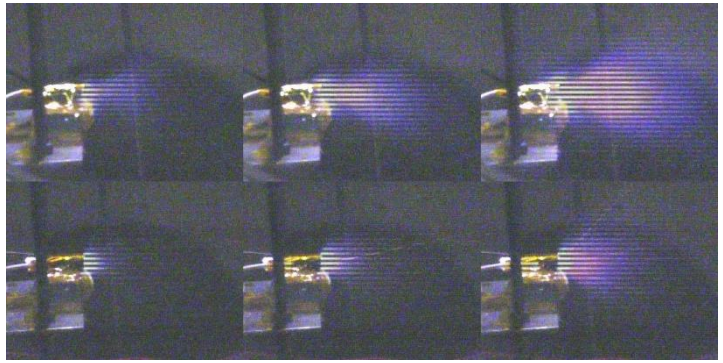
- Hobby
  - To make things
  - Example
    - Mini Ground Station
    - Water Rockets
- About Home
  - Hometown: Fukuoka city
  - Recommended place :
    - Nokonoshima-island
    - http://nokonoshima.com/



Academic/Professional Background

- Degrees taken (Graduation Month, Year)
  - BE Electrical and Electronic Engineering, KyuTech, March 2018

- Academic interests
  - Electric propulsion
  - Space Solar Power Generation
  - Satellite Communication

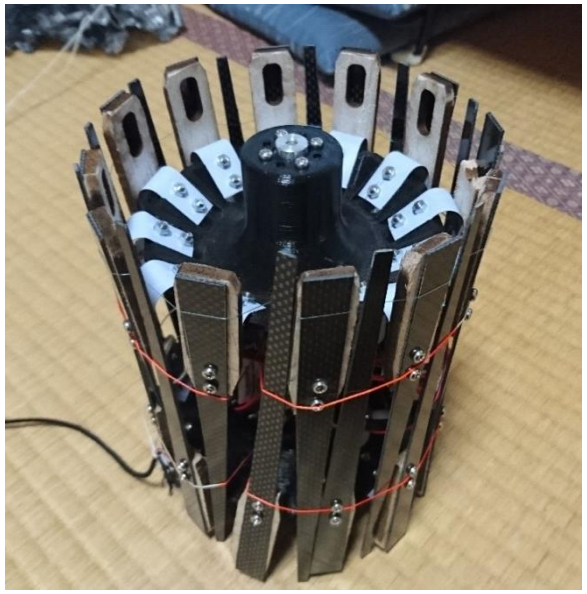


- Number of publications : 2 papers and 2 magazine articles
- Number of engineering projects involved : 5

Engineering/Academic Project

KITCATS from 2017

- CanSat project
- My Part : All except Mission



Mark Angelo Cabrera PURIO (D1)

Filipino

Supervisor: Prof. Dr. Mengu Cho

Personal

Birthday: *February 9, 1990*

My motivation for BIRDS-4:

It is the time for the Philippines to explore beyond earth through satellite technology and I want to be part of it.

My hobbies

Eat. Travel. Write. Sing in the shower.

About Home

- What is my favorite food? *Adobo*
- Recommended place for visitors? *Bohol*

Academic/ Professional Background

DEGREES TAKEN

- *MA in Education,* Adamson University - Candidate
- *MS in Electronics Engineering,* De La Salle University – October 2016
- *BS in Electronics and Communications Engineering,* Batangas State University – August 2012

ACADEMIC INTERESTS

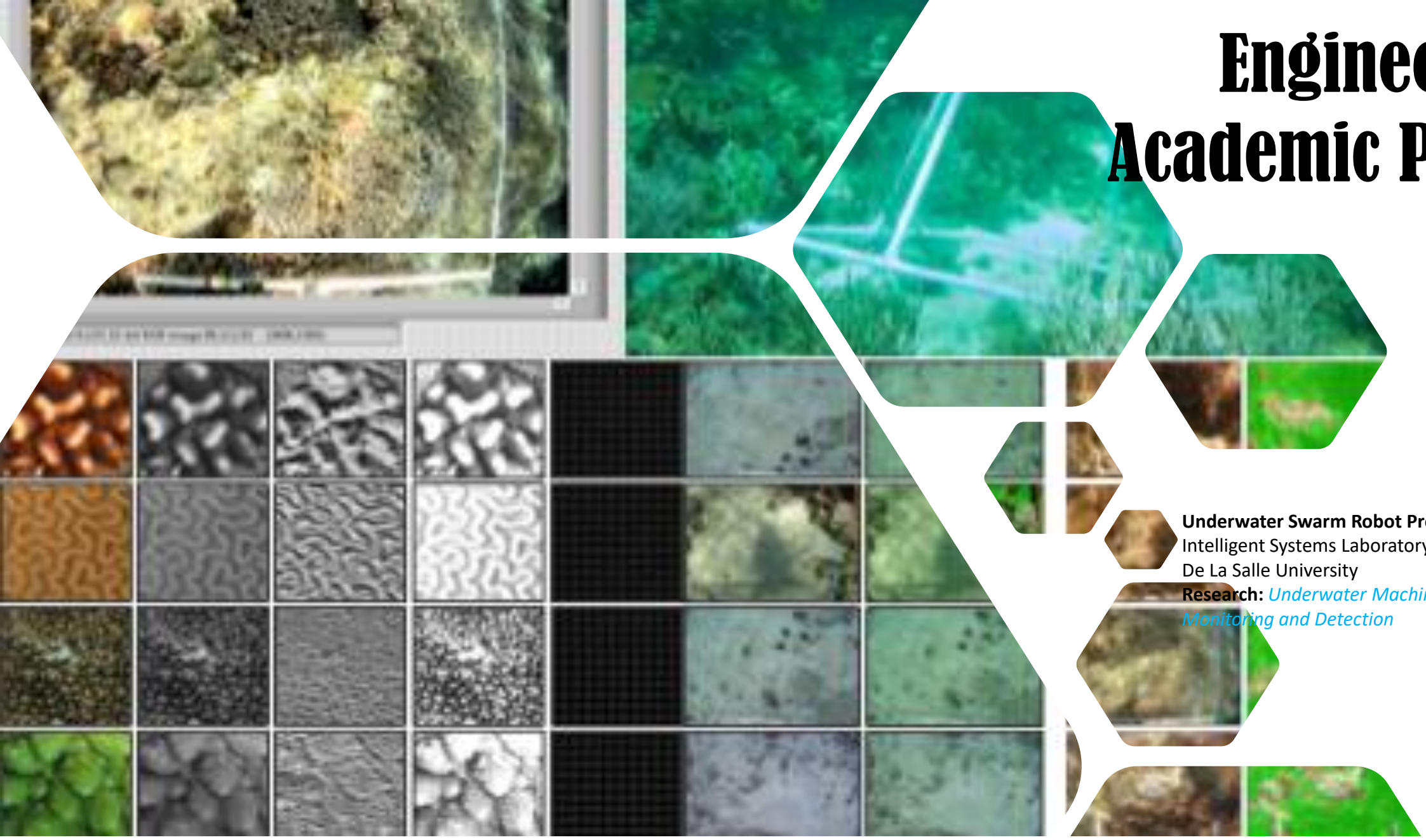
- *Instrumentation and Control, Machine Learning and Intelligent systems, and their application to Agriculture, Environment and Biomedical Engineering*

NUMBER OF PUBLICATIONS : *9*
NUMBER OF ENGINEERING PROJECTS INVOLVED : *1*

WORK HISTORY : Adamson University

- *Instructor II (May 2012 – May 2017)*
- *Intellectual Property Officer/Technical Expert (April 2013 – present)*
- *Assistant Professor III (June 2017 – present)*

Engineering/ Academic Project

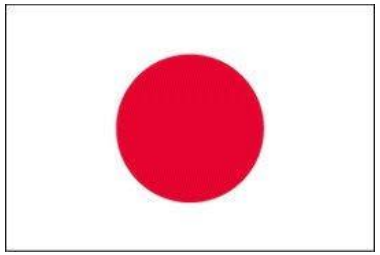


Underwater Swarm Robot Project
Intelligent Systems Laboratory
De La Salle University
Research: *Underwater Machine Vision For Coral Monitoring and Detection*

Nozaki YUMA (B3)

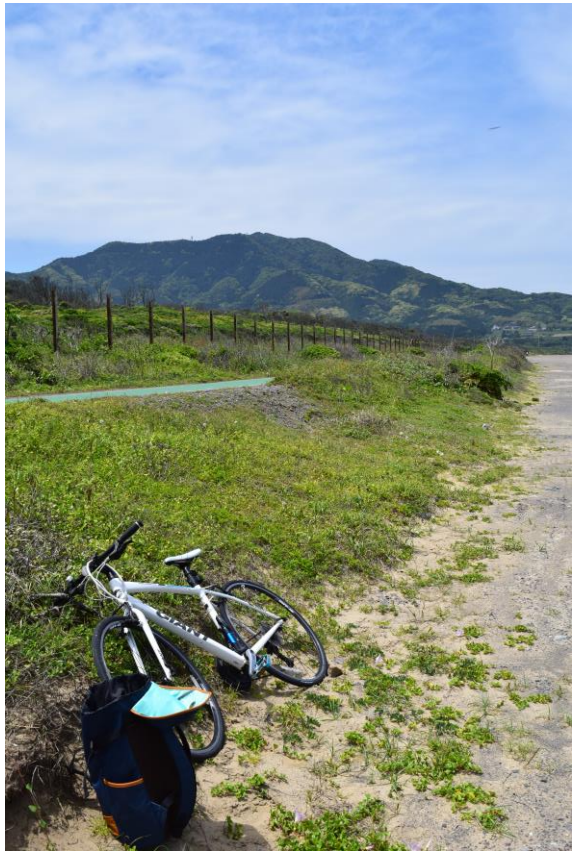
Japanese

Supervisor: Prof. Dr. Mengu Cho



Personal

- Birthday : October 22
- My motivation for BIRDS-4
  - I'd like to do something great.
  - So, I'd like to learn about satellite.
- Hobbies: Cycling and Taking pictures
  - I like cycling and taking pictures!
  - It feels great to ride bike
    and take pictures.
- About Hiroshima, Japan
  - My favorite food: Okonomi-yaki
  - Recommended place : Itsukushima-Shrine



Academic/Professional Background

- Degrees taken (Graduation Month, Year)
  B.A. in Integrated Systems Engineering at Kyushu Institute of Technology (2020 March – expected graduation)
- Academic interests
  - Attitude Control of Spacecraft
  - Programing of OBC
  - Solar Power System

Engineering/Academic Project

- April 2016 – October 2018
- AOBA-VELOX Ⅲ and FUTABA Project
- Learn about Attitude Control of Satellite
- Developed a magnetic torquer (rod type)

Hari Ram SHRESTHA(M1)

Nepalese

Supervisor: Prof. Dr. Mengu Cho

Personal

- Birthday: October 25
- Motivation for BIRDS-4:

To achieve an idea and skill experience from BIRDS-4 and to start the space engineering program in Nepal

- Hobbies:

➢Trekking, hiking, playing games, social works.

➢It makes responsible in life with positive motivation.

- About Home:

➢Favorite foods: Nepali Khana set (Dal, Bhat,Tarkari), Mo:Mo , Newari Khaja set.

➢Recommended places: Pokhara, Annapurna Base Camp, Everest Base Camp:

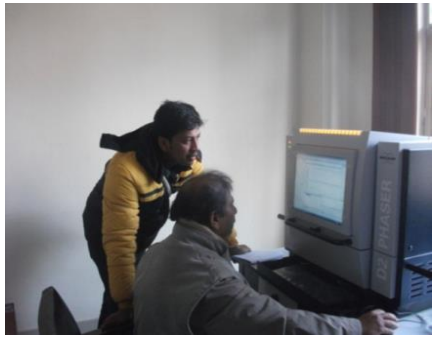
Link: https://youtu.be/x80ythEUAFU

Academic/Professional Background

- Degrees taken :

1) Bachelor Degree in Electronics and communication (April ,2015)
2) Diploma in Electrical Engineering (September,2006)

- Number of publications: 1
- Number of engineering projects involved: More than 6
- Work history:
  - 2006(November) to 2010 (June), District Development Committee
  - 2010 (July) to Present, NAST



- Academic interests:
  - ❖ On the electrical power system
  - ❖ Communication system of the antenna
  - ❖ Energy auditing

Engineering/Academic Project:
Global Position system (GPS)

- Project timeline: from 2015 to going on continues
- Established: 11 GPS station (in 2 years)
- Establish the GPS station , repair and maintenance the station/ Data collection/Monitoring the Station.


nature geoscience

LETTERS

PUBLISHED ONLINE: 13 JUNE 2016 | DOI: 10.1038/NGEO2734

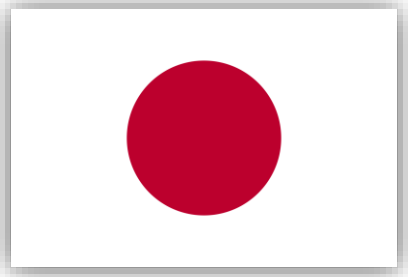
Himalayan strain reservoir inferred from limited afterslip following the Gorkha earthquake

David Mencin[1], Rebecca Bendick[2], Bishal Nath Upreti[3], Danda Pani Adhikari[4], Ananta Prasad Gajurel[4], Roshan Raj Bhattarai[4], Hari Ram Shrestha[3], Tara Nidhi Bhattarai[4], Niraj Manandhar[5], John Galetzka[6], Ellen Knappe[2], Beth Pratt-Sitaula[7], Abdelkrim Aoudia[8] and Roger Bilham[1]*

Hisatsugu Hiroki (M1)

Japanese

Supervisors: Assoc. Prof. Dr. Minoru Iwata & Prof. Dr. Mengu Cho



Personal

Kenrokuen ▸
(Ishikawa Pref)

- Birthday: February 1
- Motivation for BIRDS-4
  - To learn System engineering through Satellite projects.
- Hobby: DIY, Sado (Tea ceremony)
  - Making useful devices to improve my tech skills
  - “Sado” makes me relax..
- About Home
  - Favorite food: Sushi
  - Recommended places : Tsunosima, Kenrokuen

Sado-Club ▸

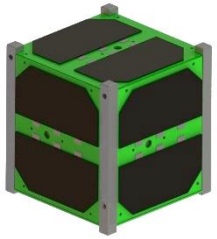
Tsunoshima ▸
(Yamaguchi Pref)

Academic/Professional Background

- *Graduated from:*
  - *Mechanical Engineering, Ube National College of Technology*– March 2016
  - *BE Mechanical Engineering (Space Engineering Course), Kyushu Institute of Technology*– March 2018
- Academic interests:
  - Satellite Attitude Control & Attitude Testing
  - Embedded System (I'm in Futaba Satellite projects - OBC)
  - Electric propulsion
- Number of publications: 2
- Number of engineering projects involved: 5
- Work experience
  - *Intern at HITACHI Research Laboratory (1 month)*

宇部工業高等専門学校
UBE National College of Technology

Kyutech
Kyushu Institute of Technology

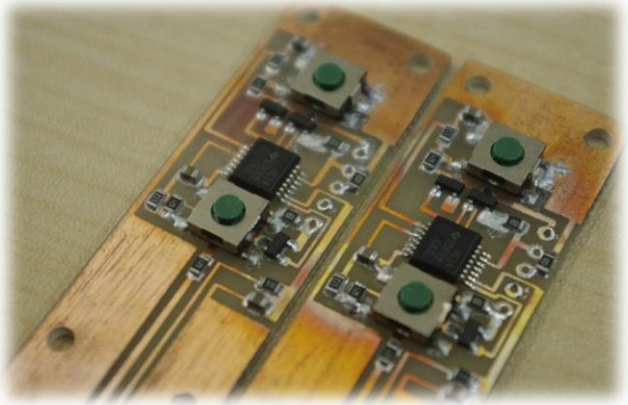


Futaba Satellite

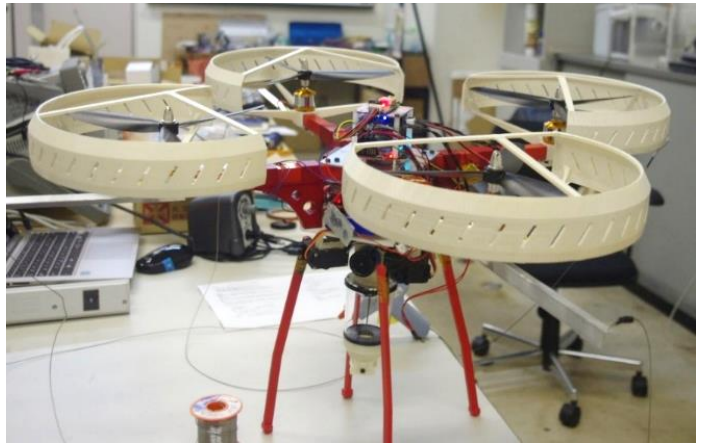
Engineering/Academic Project

IT Contest 2013-2014 (2 times)

- IT Projects : Make Solution of Social Problem with Information and Communication Technology.
- My Part : Hardware (Structure, Circuit, Embedded program)
- Made : IoT Communication Devices, Disaster situation monitoring drone



2013 Communication watch



2014 quad-copter

End of this **BIRDS Project Newsletter**

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Issue Number Thirty-Four

This newsletter is archived at the BIRDS Project website:
http://birds1.birds-project.com/newsletter.html

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.