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. 57
(26 Oct. 2020)

Edited by:
G. Maeda
革新的宇宙利用実証ラボラトリー
Laboratory of Lean Satellite Enterprises and In-Orbit Experiments (**La SEINE**)
Kyushu Institute of Technology (Kyutech)
Kitakyushu, Japan

Space Engineering International Course

All back issues of this newsletter can be easily downloaded.
Go to here: http://birds1.birds-project.com/newsletter.html and scroll down to the desired issue.

Table of Sections

Continued on the next page

From Nepal **The Guest Box**

The national flight carrier was once the largest employer and foreign currency generator for Nepal. However, years of mismanagement and internal corruption reduced the airlines to a shadow of what it was in the early 90s. Nepal Airlines is now attempting a comeback launching new international routes with their new Airbus A300 including direct flights to Japan (NRT).

-- by Abhas, former Project Manager of BIRDS-3

Table of Sections (cont'd from the previous page)

JSPS provides the airfare funds of <u>BIRDS Int'l Workshops</u> and for <u>Ground Station Workshops</u>.

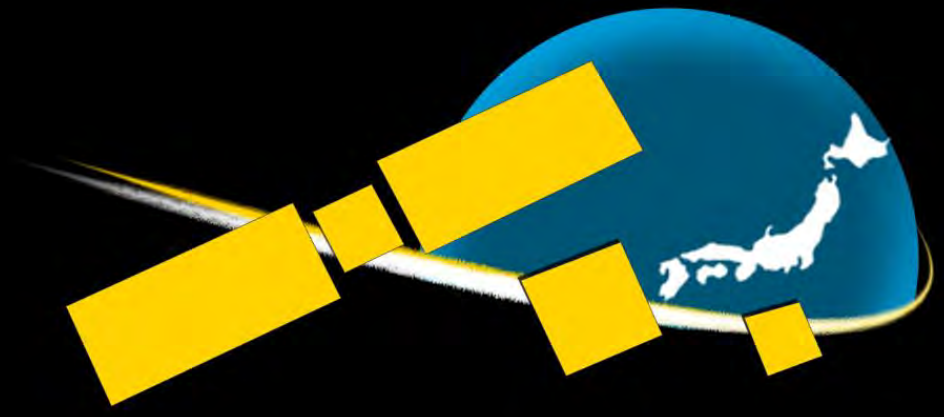
JSPS Reminder

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. SEIC: Special guest lecture by Dr. Werner Balogh of WMO

Another expert's lecture provided for the students of



SEIC

Space Engineering International Course

SEIC Guest Lecture by Dr. Werner Balogh

WORLD METEOROLOGICAL ORGANIZATION

Date: Friday (18 SEPT 2020)
Time: 3:00 PM Japan Std Time

Title:

Space-related Activities of the World Meteorological Organization

Dr. Werner Balogh

Abstract

The World Meteorological Organization (WMO) originated from the International Meteorological Organization (IMO), established in 1873.
It is one of the oldest international organizations. Today it acts as the United Nations systems authoritative voice on weather, water, climate and related environmental services.
The space-related activities of WMO can be traced back to the beginning of the space age and are closely linked to early discussions in the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS).
With the growing importance of space-based observations, a dedicated WMO Space Programme was initiated by the World Meteorological Congress in 2003.
This presentation will explore the origins, present status and future of the WMO space-related activities in the context of the sharing of space benefits and their contributions to the implementation of global development agendas.

Nearly 30 SEIC students participated in this event.

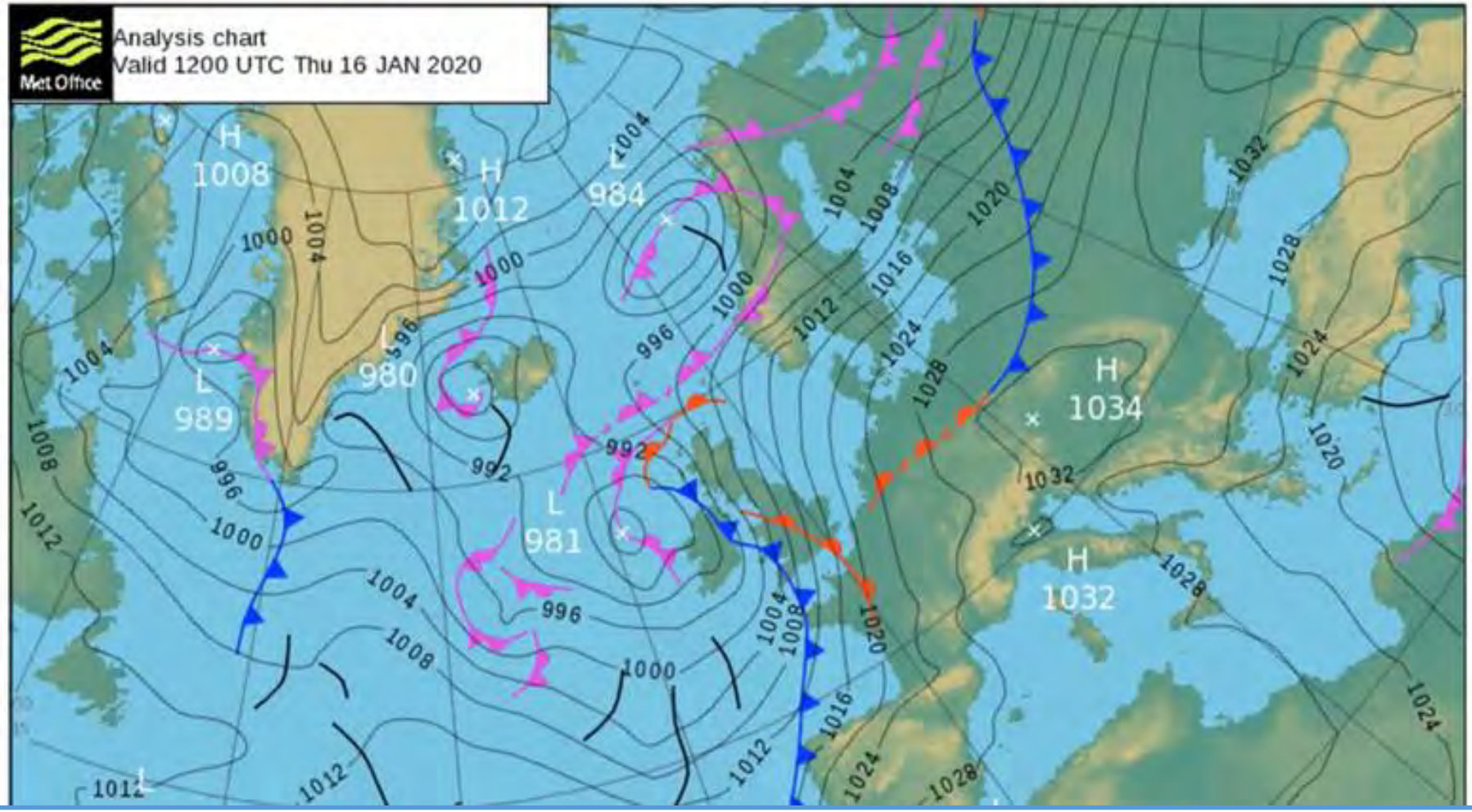
Dr Balogh delivered a highly professional presentation which provided our students with another aspect of how space technology improves our daily lives here on earth.

A few screen shots follow.

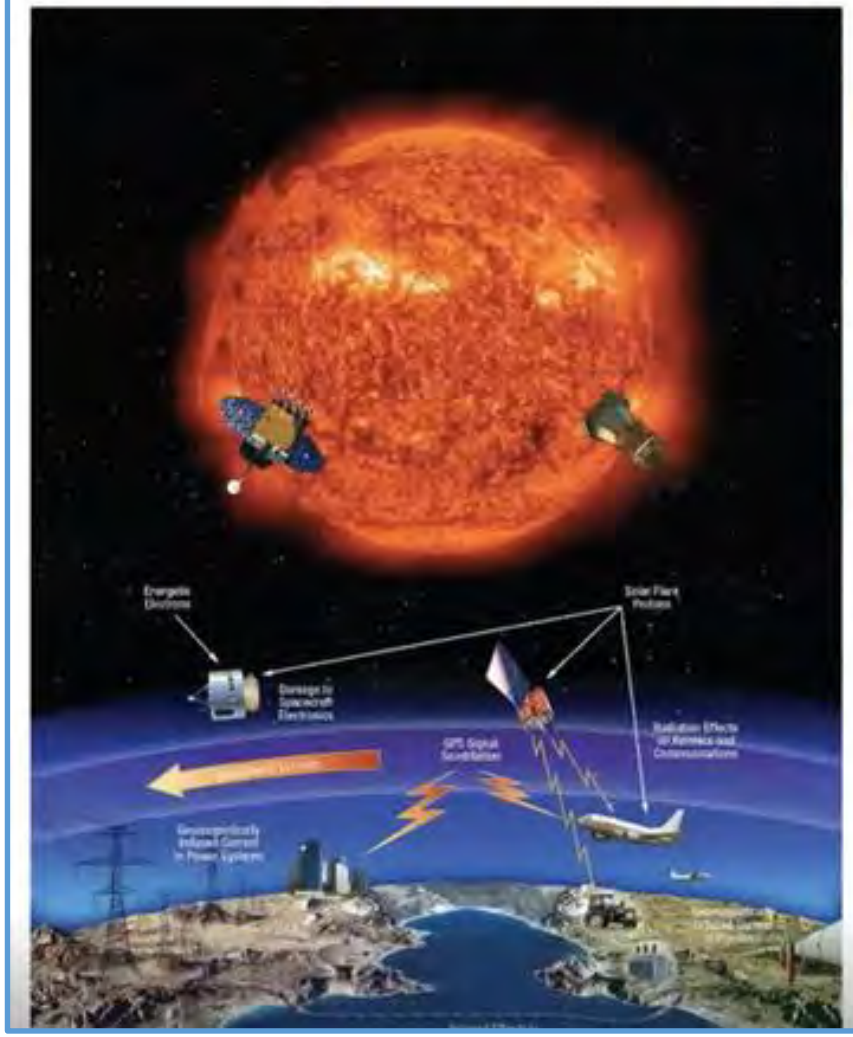
This is the ZOOM recording of this SEIC Guest Lecture by Dr Balogh

https://www.dropbox.com/s/mq293vty9mjqow8/SEIC%20Guest%20Lecture%20by%20Dr%20Werner%20Balogh%20on%2018%20Sept%202020.mp4?dl=0

Observing and Forecasting Weather



WMO and Space Weather



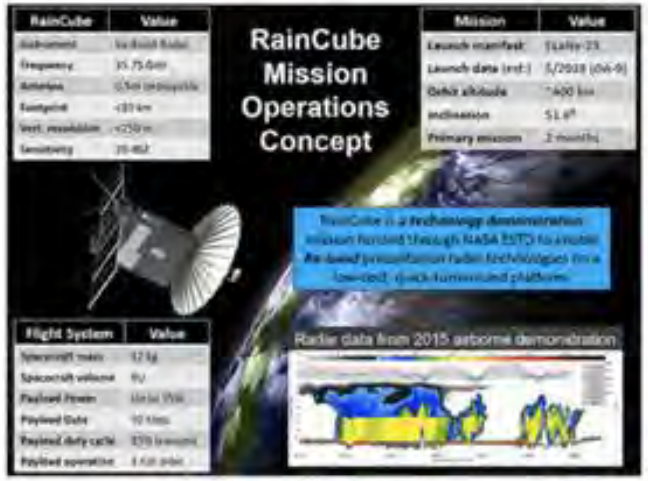
ICAO UNITING AVIATION

Establishment of Space Weather Information Service For International Air Navigation

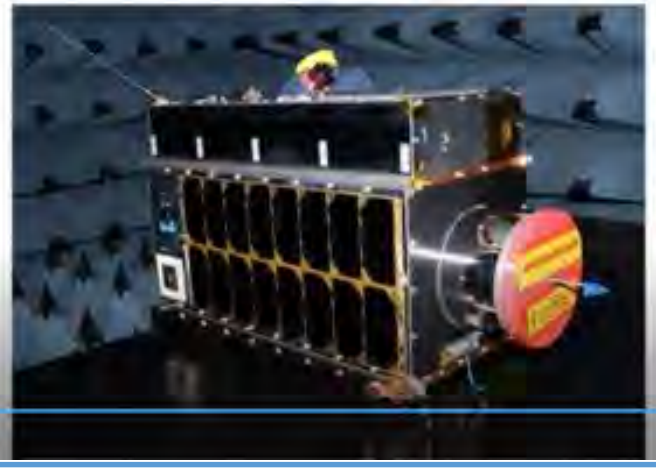
Raul Romero
Technical Officer MET
ICAO Headquarters, Montreal

CGMS Space Weather Coordination Group (CGMS SWx CG)

Potential Role of Small Satellites



https://www.jpl.nasa.gov/cubesat/missions/raincube.php



- Small satellites can help to close important observational gaps and complement the present space-based observing system, e.g.
  - Microwave sounding
  - GHG emissions
  - Radio occultation
  - LEO magnetic field measurements
  - ?
- Trend towards procuring data from commercial satellite operators
- Increasing the number of stake holders providing space-based observations

Dr Balogh (an old friend of Kyutech) has been giving space-law-related lectures at Kyutech since 12 January 2017

In an effort to provide world-class, graduate-level education to SEIC students, we have invited overseas scholars/experts to Kyutech to teach special courses.

In January of 2017, Dr. Balogh arrived to teach a 2-credit course entitled *The International Dimension of Space Activities: Space Law and Policy for Engineers.* Over 35 SEIC students signed up for it – the course was a hit.

The first lecture (12 January 2017) gave the historical background to space flight and to space law.

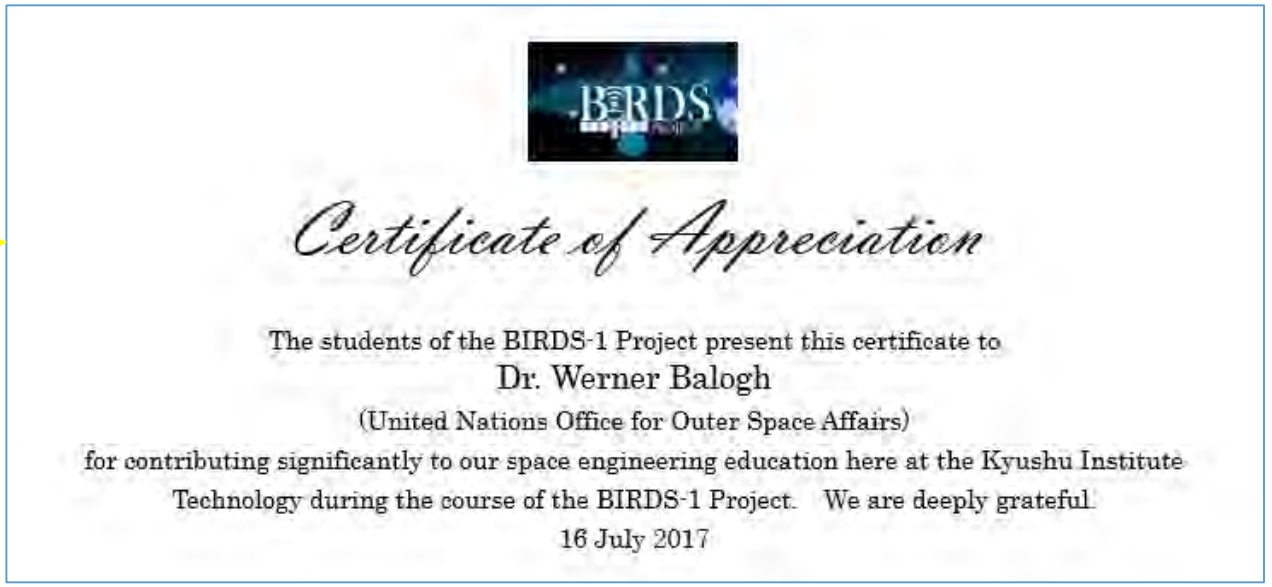
SEIC students did a farewell lunch for Dr Werner Balogh on 28 March 2017

Dr Balogh, from the United Nations Office for Outer Space Affairs, taught the space law and policy course during January and February. The course was highly popular and successful. The students say good-bye with this lunch at the Kyutech cafeteria.

(left)
Gathering at the lobby of the building of LaSEINE

Ian Ruxton, English instructor for SEIC

Dr. Werner Balogh received BIRDS-1 Certificate of Appreciation during INSPIRE



BIRDS

Certificate of Appreciation

The students of the BIRDS-1 Project present this certificate to
Dr. Werner Balogh
(United Nations Office for Outer Space Affairs)
for contributing significantly to our space engineering education here at the Kyushu Institute Technology during the course of the BIRDS-1 Project. We are deeply grateful.
16 July 2017

Dr Werner Balogh received this certificate of appreciation from G. Maeda (Kyutech) during the *INSPIRE Workshop* in Boulder, Colorado, USA, 1-3 August 2017. It is signed by the 15 students of the BIRDS-1 Project.

Workshop website:
http://inspiresat.com/workshop/

Dr Werner Balogh arrived at Kyutech to teach a course on space law and policy for engineers

The opening lecture of Monday, 17 Dec. 2018, 16:20 – 19:30, Tobata Campus of Kyutech

Special 2018 4th quarter SEIC 2-credit course:

The International Dimension of Space Activities: Space Law and Policy for Engineers

Taught by:

- Dr. Werner Balogh, WMO of the United Nations
- Dr. Yuri Takaya, 高屋 友里 先生

END OF THIS SECTION

02. Uchū Daikaijū Dogora (宇宙大怪獣ドゴラ, lit. "Giant Space Monster Dogora")

========== EXPLANATION IN ENGLISH ==========

https://en.wikipedia.org/wiki/Dogora

Which states in part:

> "Dogora, released in Japan as Uchū Daikaijū Dogora (宇宙大怪獣ドゴラ, lit. "Giant Space Monster Dogora"), is a 1964 Japanese science fiction film directed by Ishirō Honda, written by Jojiro Okami and Shinichi Sekizawa, and produced by Yasuyoshi Tajitsu and Tomoyuki Tanaka, with special effects by Eiji Tsuburaya. Produced and distributed by Toho Studios, the film stars Yosuke Natsuki, Nobuo Nakamura, Hiroshi Koizumi, and Akiko Wakabayashi, along with American actor Robert Dunham. The film tells the story of a huge jellyfish-like creature from space that attacks Japan."

Yes, this is a creative 1960s film about a nasty space jellyfish that attacks Tobata 戸畑 ------ the city that we all know and love. The Editor.

==========

若戸大橋を真っ二つ

●若戸大橋の破壊シーンを振り返る真花さん
●高塔山公園から望む若戸大橋

松濤はかつて、筑豊炭田から運ばれる石炭の積み出し港として栄えた。

クラゲのような姿をした「宇宙細胞『ドゴラ』」は、炭素をエネルギー源とし、石炭やダイヤモンドを吸い上げていく怪獣だ。映画の後半では、石炭を狙って若松に襲来。夜空から触手を伸ばして若戸大橋を持ち上げ、真っ二つにへし折り、海に投げ落とす。

「子どもの頃、初めてこの映画を見て『橋が大変なことになった』と、思わず見にいきました」。若戸大橋近くの老舗料亭「金鍋」店主の真花宏行さん(57)は懐かしそうに語る。

真花さんら地元有志は2007年、映画で街を盛り上げようと、若松を舞台にした映画の上映会を始めた。12年に「ドゴラ」を上映したところ、100人近くの特撮ファンが訪れた。そのときのポスターは今も大切に保管している。これからも映画を通じて地元を発信していくつもりだ。

◇

「若戸大橋が壊されるのは驚いたけど、映画から強いエネルギーを感じた」。そう振り返るのは橋の近所で飲食店を営む坂本正裕さん(53)＝写真＝だ。

店内で開く音楽ライブで、特撮ファンのバンドがドゴラの話題で客と盛り上がることもあるという。ドゴラを知らない若い客も少なくないが、坂本さんは、映画で感じたようなエネルギッシュで活気ある街として、若松を盛り上げていきたい」と語る。

宇宙大怪獣ドゴラ　撮影時のタイトルは「宇宙大怪獣（スペース・モンスター）」。監督は本多猪四郎、特技監督を円谷英二が務めた。映画には若戸大橋のほか、自衛隊の集結地として高塔山（高さ124㍍）も登場する。若松出身の俳優で、仮面ライダーの死神博士役で知られる天本英世も出演した。

探訪記

「若松はさみしくなった」。今回の取材を通じて、そんな声を何度も聞いた。旧若松市を含む5市が合併して北九州市が発足したのが1963年。ドゴラ公開の前年だ。高度成長期のまっただ中で、街が発展していたからこそ、映画の舞台に選ばれたのかもしれない。半世紀が過ぎ、若松を取り巻く環境は変わったが、かつての活気を感じさせる街であり続けてほしい。（森永健太）

洞海湾と若戸大橋の景色を楽しめる若松南海岸通りは、ＪＲ若松駅から歩いて５分。通りには旧古河鉱業若松ビルや石炭会館など、明治・大正期の建物が残る。問い合わせは若松区役所総務企画課企画係（093・771・3559）へ。若松駅から車で５分の高塔山公園からは洞を一望できる。

Scanned on 29 June 2020 for Space Industry News of SEIC

読売新聞　2020年(令和2年)6月29日（月曜日）

よみうり

聖地を訪ねて

ゴジラやモスラなど怪獣映画は、東京タワーや大阪城といった建造物の破壊シーンが見どころの一つだ。1964年に公開された宇宙大怪獣ドゴラ』では、開通して間もない若戸大橋（北九州市）が「標的」となった。

洞海湾に架かる若戸大橋は、若松区と戸畑区を結ぶ全長約2・1㌔で、62年の開通当時は「東洋一のつり橋」と呼ばれた。近くの若

映画「宇宙大怪獣ドゴラ」（北九州市若松区）

03. Handover Ceremony of BIRDS-4 Project

Photo by Dr. Kim of LaSEINE

BIRDS-4 HANDOVER CEREMONY OF 24 SEPT 2020

BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

Tobata Campus of Kyutech

The ambassador of Paraguay arrives at Kokura Station at 9:15 AM on 24 Sept. 2020

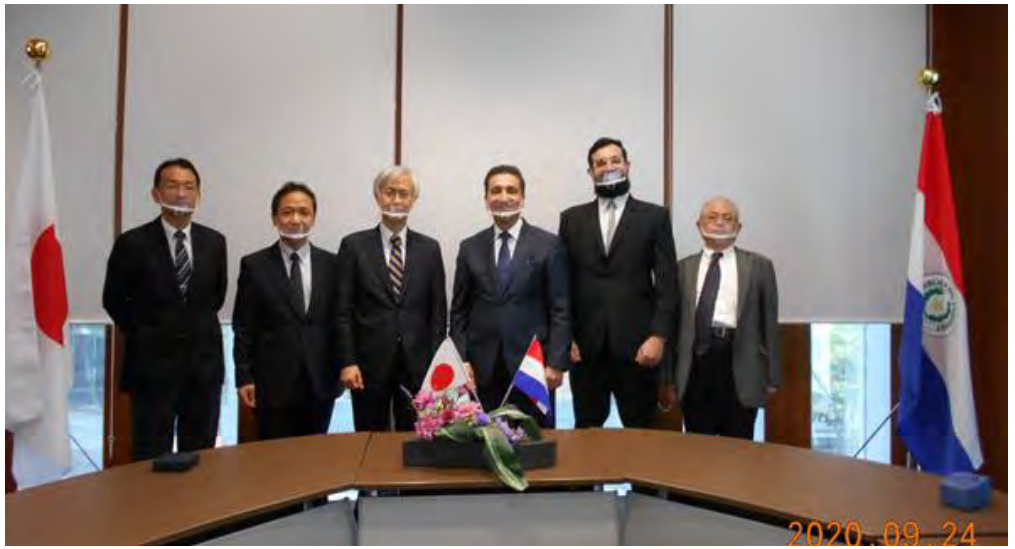
A

Ambassador Raul Alberto FLORENTIN ANTOLA

B

Mr. Miguel Dario Teodoro MALDONADO GABRIAGUEZ, Second Secretary and Consul of the Embassy of Paraguay in Japan

Brief meeting (10:30-10:45 AM) between the Paraguay delegation and Prof. Oie, President of Kyutech



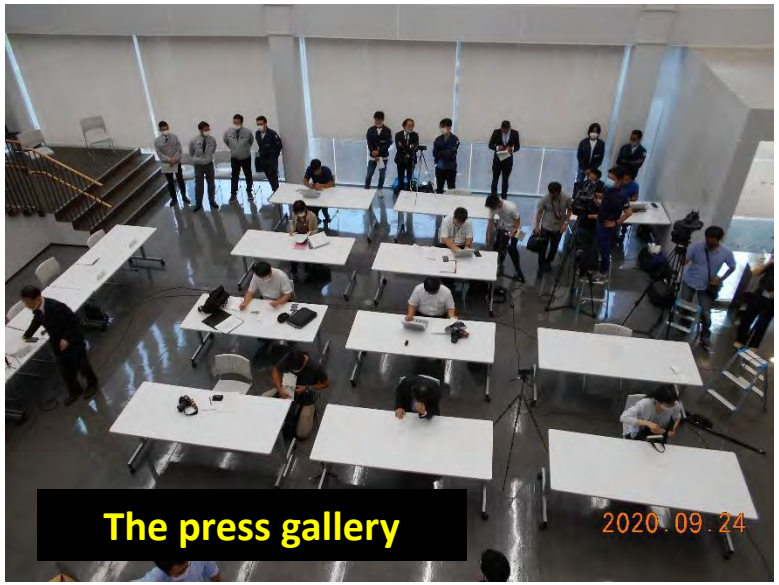
The 2nd floor of Nakamura Memorial Hall

Preparing for the event (it started at 11:00 AM)

2nd Secretary, Makino san, and Ambassador

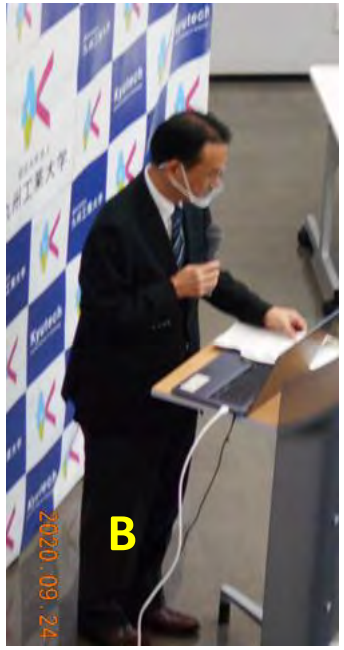
VIP panel

Film crew of local television stations



The press gallery

Prof. Oie and Ambassador

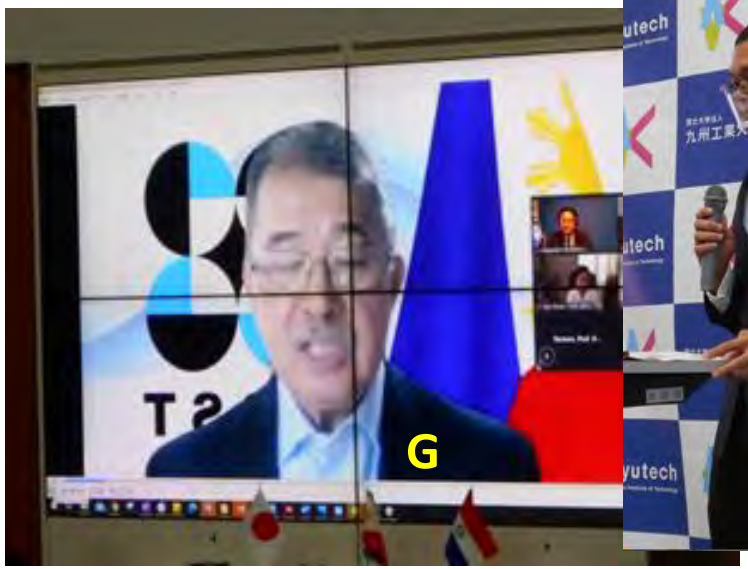


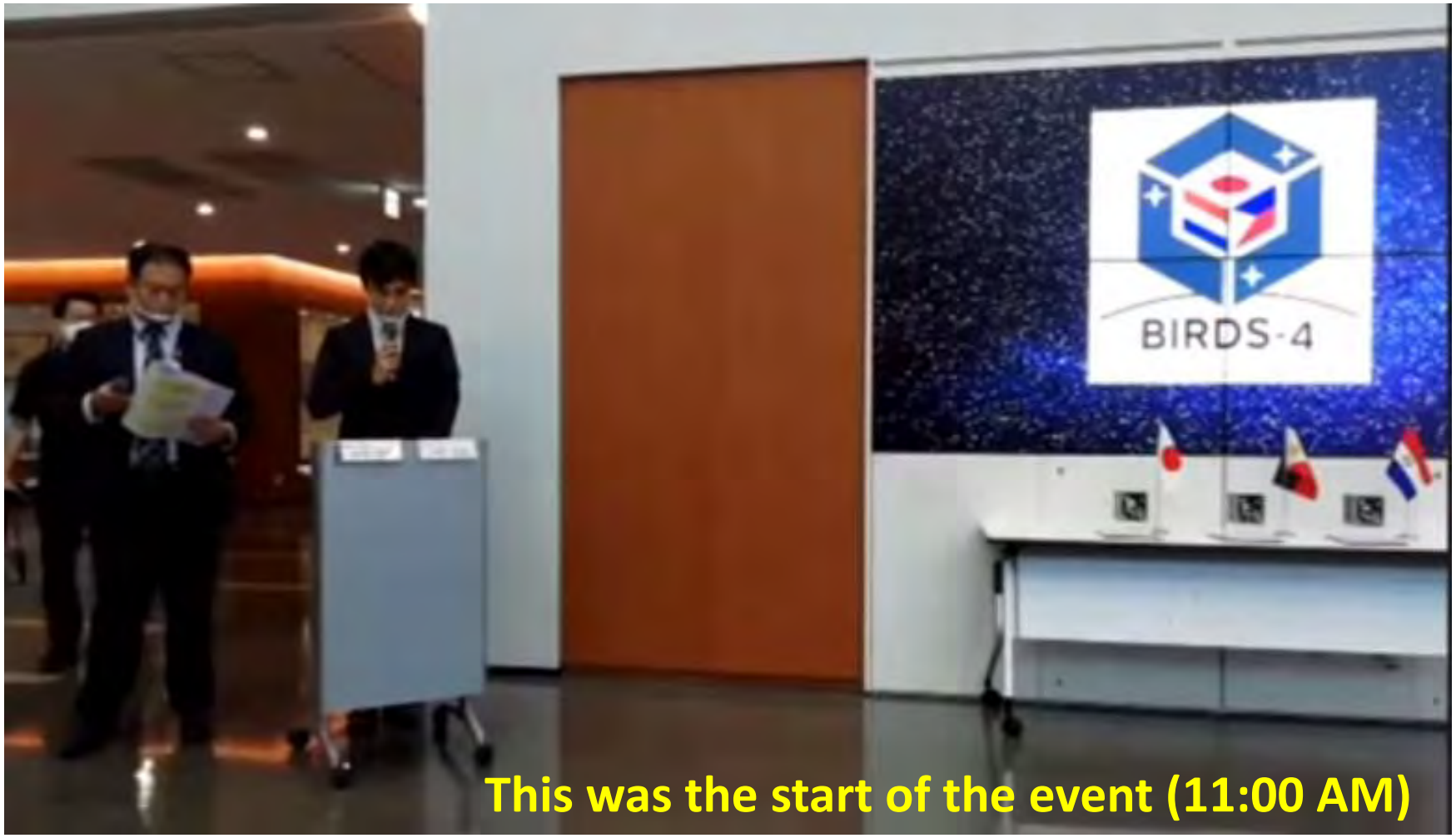
The speakers:

A) Prof. Oie
B) Prof. Cho
C) Ambassador of Paraguay
D) Colonel Vielman, president of AEP (space agency of Paraguay)
E) Dr Kurita, AEP, translator for above
F) Ambassador of the Philippines
G) Secretary of the Department of Science and Technology, Philippines
H) BIRDS-4 project manager Izrael
I) Student Nakayama, translator for above

Dr Masui also did a lot of translation (English into Japanese)

The speeches of the ceremony



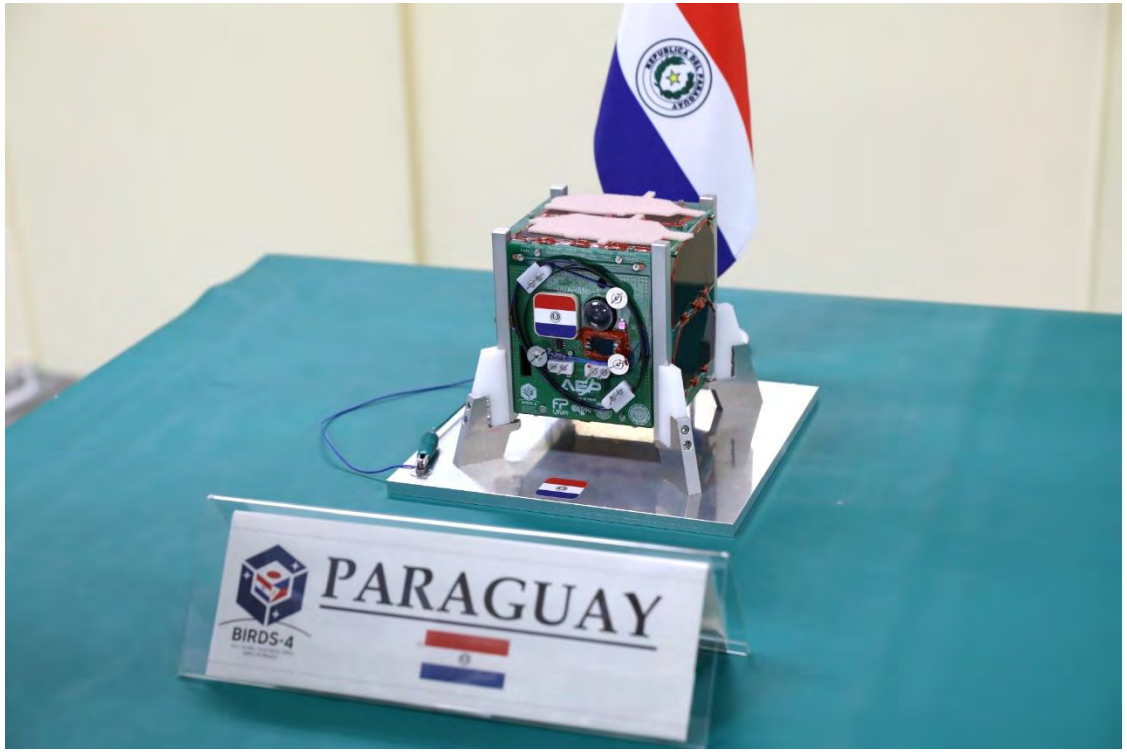


You can view and listen to all the speeches at YouTube – see the link below

BIRDS-4 Satellite Project Handover Ceremony and Media Press Conference

The full video is here: https://www.youtube.com/watch?v=46JUhDMqrpQ&feature=youtu.be

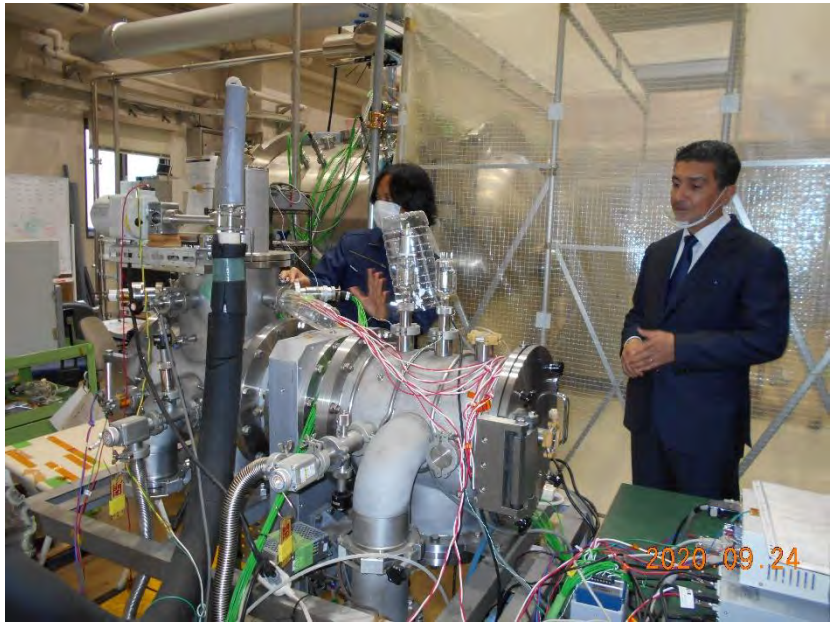
Ambassador Florentin and Prof. Cho with flight models



A visit (around 12:00 noon) to the BIRDS-4 clean room to see the flight models – these will be delivered to JAXA

Kyutech swimming pool is next door

BIRDS-4 student Marloun gives the Paraguay delegation a special tour of the test facilities (12:45-13:00)



Thermal vacuum chamber

Very tender and tasty duck

Prof Cho took the Paraguay delegation to *Café Rouge Blanc* for lunch (13:00 – 14:00)

Soup, salad, and bread

Four newspaper articles about this historic event

人工衛星3機完成

九工大 パラグアイ・比も参加

3カ国の研究機関が参加して完成させた超小型衛星

Asahi Newspaper; 25 Sept 2020

2020年9月25日（金）朝日新聞［朝刊］25面

九工大が超小型衛星公開

フィリピン、パラグアイ 留学生ら3基開発

宇宙で太陽電池実験など

Yomi-uri Newspaper; 25 Sept 2020

2020年9月25日（金）読売新聞［朝刊］27面

Two more on the next page

九工大の超小型衛星

フィリピン、パラグアイと開発

3基 来年打ち上げへ

九州工業大がフィリピン、パラグアイの政府・研究機関と共同開発した3基の超小型人工衛星

Nishi Nippon Newspaper; 25 Sept 2020

2020年9月25日（金）西日本新聞［朝刊］25面

JAPAN

超小型衛星 共同打ち上げ

九工大、民生部材を追加

パラグアイなどと来年

Nikkei Newspaper; 25 Sept 2020

2020年9月25日（金）日経新聞［朝刊］39面

POST EVENT MESSAGE FROM THE AMBASSADOR OF PARAGUAY

Subject: Thank You from Paraguayan Embassy
From: <rflorentin*embapar.jp>
Date: 2020/09/30 10:42
To: "'George Maeda'" <maeda*ise.kyutech.ac.jp>
CC: "'Liduvino Diaz'" <lvielman*aep.gov.py>, <mmaldonado*embapar.jp>

Dear George Maeda,

Thank you once again for taking care for us during our visit to Kyutech. It was a honor to meet the President of Kyutech and exchange some words before the Hand over Ceremony of our first satellite. As I mentioned before, we felt very honored to be able to assist to the presentation of the first satellite of our country, which is a very important milestone for our technological development. We congratulate Kyutech and in particular Prof. Cho for establishing the BIRDS projects, which is an excellent possibility for countries like Paraguay, to advance in the technological development and in the preparation of human capital in this field.

For the future we hope to strengthen the relation between the Paraguayan Space Agency, which is successfully managed by Cnel. Liduvino Vielman, and Kyutech, as well as JAXA. We look forward to participate in the next future of the launching of our satellite into its orbit. Thank you also for the photos you send me through email and in paper.

Best regards,
Raúl FLORENTÍN-ANTOLA
Embajador

EMBAJADA DE LA REPÚBLICA DEL PARAGUAY EN JAPÓN

Tel: (+81-3) 3265 5271 | Fax: (+81-3) 3265 5273 | <http://www.embapar.jp/> www.embapar.jp

Ichibancho TG Bldg. Nr. 2, 7th Floor,
2-2 Ichibancho, Chiyoda-ku, Tokyo 102-0082, JAPAN

END OF THIS SECTION ABOUT THE HANDOVER CEREMONY

04. Check out monthly virtual meetings of UNISEC-Global

Home > Meetings > Virtual Meeting

言語を選択

Virtual Meeting

The 2nd Virtual UNISEC-Global Meeting

Date: Octorber 10, 2020

Program

Click for Registration

The 1st Virtual UNISEC-Global Meeting

Date: September 12, 2020

Moderator: Mansur Celebi, Sabanci University, UNISEC-Turkey

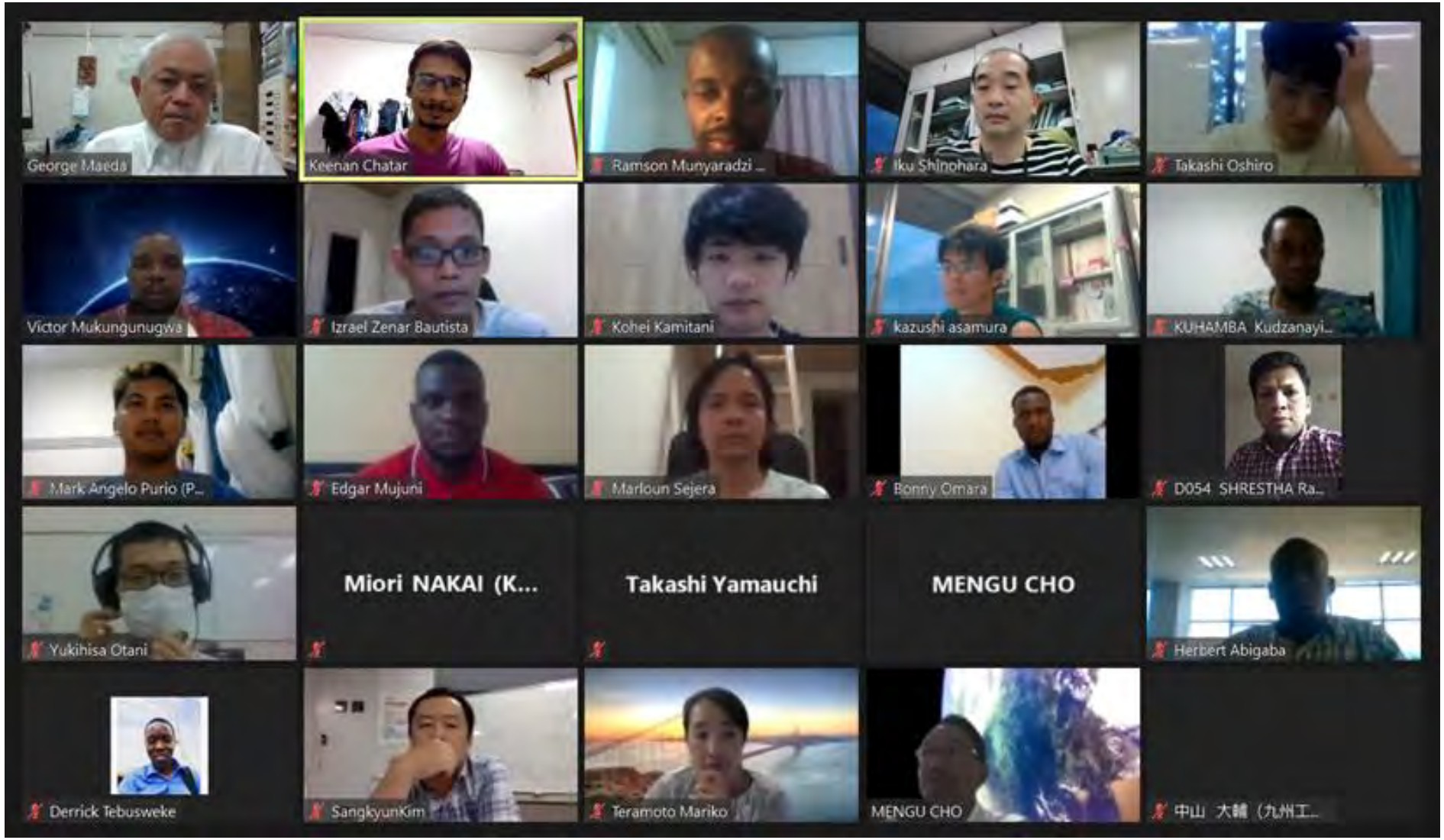
Title of presentation	Presenter
Opening Remarks	KAWASHIMA Rei, UNISEC-Global
When collaboration (cooperation) works more than competition	CHO Mengu, Kyushu Institute of Technology, POC of UNISEC-Japan
Expectation to UNISEC-Global	Mohammed Khalil Ibrahim, Egyptian Space Agency
CubeSat, Space Education in Nepal and the Question of Moving Forward	Abhas Maskey, Kyushu Institute of Technology, on behalf of POC of UNISEC-Nepal (in the founding process)
How COVID-19 is affecting the new space and how engineering education can be realized in difficult time?	JUANG Jyh-Ching, National Cheng Kung University, POC of UNISEC-Taiwan

UNISEC-Global is now conducting monthly virtual meetings – info is maintained at the link below. Come join these meetings!

You can download the presentation files of the past.

For future meetings go here: http://www.unisec-global.org/virtual-meeting.html

05. BIRDS-5 MDR occurred on 29 September, 16:20-20:30



MDR means Mission Design Review

It was conducted via ZOOM with all members of BIRDS-5


Iku Shinohara
Takashi Oshiro
Victor Mukungunugwa
Izrael Zenar Bautista
Kohei Kamitani
kazushi asamura
KUHAMBA Kudzanayi...
Mark Angelo Purio (P...
Edgar Mujuni
Marloun Sejera
Bonny Omara
D054 SHRESTHA Ra...
Yukihisa Otani
Miori NAKAI (K...
Takashi Yamauchi
MENGU CHO
Herbert Abigaba
Derrick Tebusweke
SangkyunKim
Teramoto Mariko
MENGU CHO
中山 大輔（九州工...
102b Fahd Mou...
MITANI Takefumi
YasTAP
Keenan Chatar (Me)
Bonny Omara (Host)
102b Fahd Moumni
Daisuke Nakayama (Cho-lab D1)
Derrick Tebusweke
Edgar Mujuni
George Maeda
grsi grsi
Herbert Abigaba
Hind
Iku Shinohara
kazushi asamura
Kohei Kamitani
KUHAMBA Kudzanayi Timothy
Mark Angelo Purio (Philippines) - KyuTech
Marloun Sejera
MENGU CHO
Invite
Unmute Me
Raise Hand

06. Highlighting Japan: Sept 2020 Issue, by the Government of Japan

Fabrics of Japan

Go to this link:
https://www.gov-online.go.jp/eng/publicity/book/hlj/20200901.html

07. BIRDS-4: The monthly newsletter by the team

BIRDS-4 Monthly Newsletter

BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

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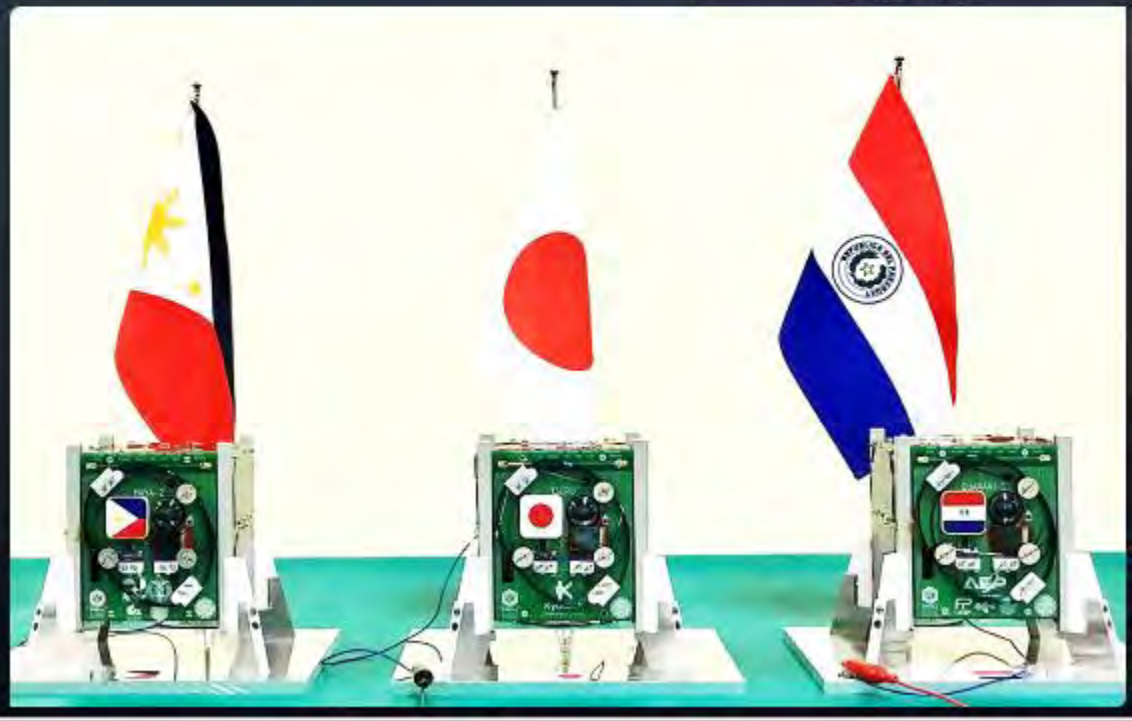
Submitted to the editor on 12 Oct 2020



Adolfo Jara & Anibal Mendoza stuck in Los Angeles

As we both have some issues to board our last flight from Los Angeles to Tokyo Haneda, we stayed in LA for 2 more nights.

In addition to the frustration of loosing our flight, we saw the opportunity to do some tourism in the very well know city of Los Angeles..

We rented a car, and went to different locations around the city.

The cheapest place we found to eat, was McDonnald's, so we ended up buying from there most of our food.

BIRDS-4

Joint Global Multi-Nation Birds Satellite Project

Article by:

Anibal Mendoza

Adolfo Jara & Anibal Mendoza stuck in Los Angeles

We had the opportunity to visit the walk of fame, Santa Monica beach, SpaceX, a park near the Hollywood sign, among others.

BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

Article by:

Anibal Mendoza

BIRDS-4 Handover Ceremony in Kyutech

It was one of the bright days not only for Kyutech but for Japan, Philippines and especially Paraguay. Each of these countries has a ready satellite to-be-launched those will raise their countries flags into space.

On 24th of September 2020, in Nakamura Hall in Tobata campus of Kyutech, the handing over ceremony was held. People and stakeholders have attended the event virtually because of COVID-19 situation but many came in person.

Hosted by the president of Kyutech Prof. Yuji Oie, the Paraguayan Ambassador Mr. Raúl Florentín Antola was the guest of honor of that important day.

Several news agencies and media personnel have attended the event and they have reported it the following day.

The event was attended by very esteemed and high-level guests representing agencies and institutes from all the participating countries.

BIRDS-4 members were attending wearing the distinctive team jacket. They accompanied the guests and showed them the facilities and the infrastructures where the satellites were designed, assembled and tested.

The project manager presented a speech showing the project details.

BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

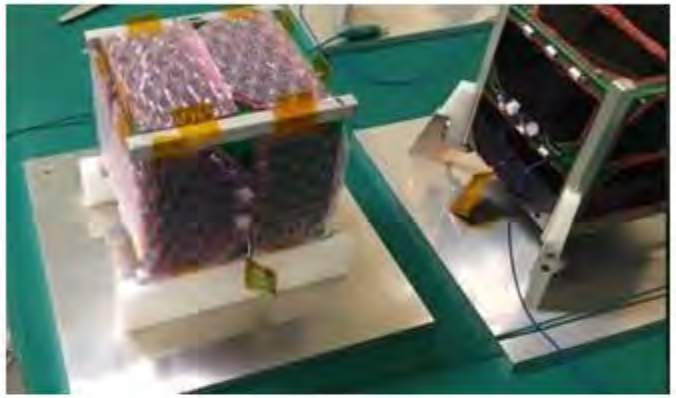
Article by:

Yasir Abbas

BIRDS-4 Delivery to JAXA

Over a week after the handover ceremony, the BIRDS-4 satellites were scheduled to be delivered to JAXA at Tsukuba, Ibaraki. Delivery preparations include charging the satellite batteries and carefully wrapping with bubble wrap before putting inside the pelican case.

Satellites being prepared the day before the travel to Tsukuba, Ibaraki



BIRDS-4
Joint Global Multi-Nation Birds Satellite Project

Article by:

Marloun Sejera,
Izrael Bautista &
Yuma Nozaki

BIRDS-4 Delivery to JAXA

On October 5, we took a five-hour Shinkansen ride from Kokura station to Tokyo station, then another one hour train ride to Tsukuba station.

We were able to meet Hisatsugu who is now working in Ibaraki. We had dinner at a Yakiniku restaurant and ate some delicious Japanese meal

~6-hour travel from Kyutech to Tsukuba. We were able to see Mt. Fuji.

We travelled around 1000 km in less than 5 hours.

Shinkansen is really amazing!

Yakiniku dinner with Hisatsugu, BIRDS-4 member who graduated last March.

BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

Article by:

Marloun Sejera, Izrael Bautista & Yuma Nozaki

BIRDS-4 Delivery to JAXA

The following day, we took a 10-minute bus ride going to JAXA Space Center. The contact person met us in-front of Bldg. W4. Inside the cleanroom, JAXA media and other personnel welcomed us. The satellites were then carefully taken out from the case, and removed the bubble wrap. Photos of each panel of the satellites were taken, fit check in JSSOD, weighing the satellites, and visual inspection were performed. After all were done, JAXA officer handed us the Certificate of Acceptance for each satellites. Group photos and interview with Izrael and Nozaki were the final part of the event.

Some more photos during the satellite delivery.

BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

Article by:

Marloun Sejera,
Izrael Bautista &
Yuma Nozaki

BIRDS-4 Delivery to JAXA

LAST PAGE OF BIRDS-4 REPORT

Happy with the result, the rest of the day were spent visiting JAXA Space Center Museum and Tsukuba Expo Center. Bought some souvenirs too to commemorate our trip and delivery to JAXA. We hope the satellite would be safely launched to ISS in the early quarter of 2021.

BIRDS-4
Joint Global Multi-Nation Birds Satellite Project

Article by:

Marloun Sejera,
Izrael Bautista &
Yuma Nozaki

08. President of JAXA provided a message for Paraguay's 4th Space Conference

The president of JAXA gave a 3-min speech on the occasion of Paraguay's 4th Space Conference (occurs in conjunction with WSW).

Kyutech and Paraguay's first satellite are mentioned in this speech.

View the video: https://www.youtube.com/watch?v=mhXjLoqKhj8&feature=youtu.be

09. Second virtual meeting of UNISEC-Global occurred on 10 October 2020

The 2nd Virtual UNISEC-Global Meeting

Date: October 10, 2020
Time: 22:00–24:00 (Japan standard time, GMT+9)
Please check your time. (https://24timezones.com/difference)

Moderator: MAEDA George, Kyutech, UNISEC-Japan (subject to change, as of Oct 8, 2020)

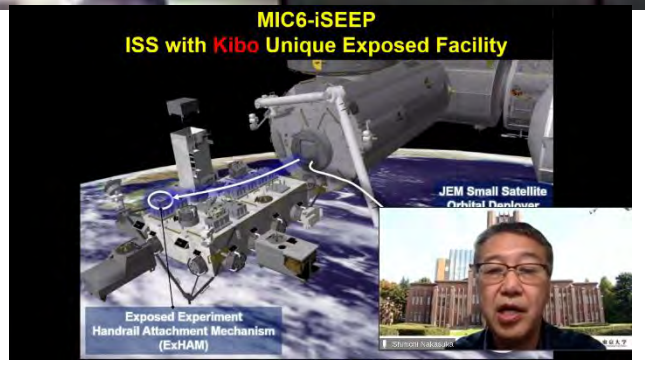
(JST)	Title of presentation	Presenter
22:00–22:05	Welcome and Opening remarks	KAWASHIMA Rei, UNISEC-Global
22:05–22:25	**Introduction to the 7th Mission Idea Contest (MIC7) – Deep Space Mission Challenge**	NAKASUKA Shinichi, the University of Tokyo
22:25–22:55	**Mission Design for Deep Space Nano/Micro Spacecraft Utilizing Lunar Orbital Platform-Gateway Opportunities**	OZAKI Naoya, JAXA/ISAS
22:55–23:25	**Breakout discussion and sharing**	Moderator: MAEDA George, Kyutech
23:25–23:40	**Current situation and future plans of Lebanese universities space programs**	Amin A.Haj-Ali, Lebanese International University, POC of UNISEC-Lebanon (in the founding process)
23:40–23:50	Acknowledgement of new local chapter and new members	KAWASHIMA Rei
23:50–24:00	Announcement, Closing	

The 2nd virtual meeting of UNISEC-Global occurred on 10 Oct 2020 and we enjoyed a fantastic turn out.

Prof. Nakasuka was also a presenter, but he had to leave for another meeting

Participants – continued on the next page

Participants from all over the world



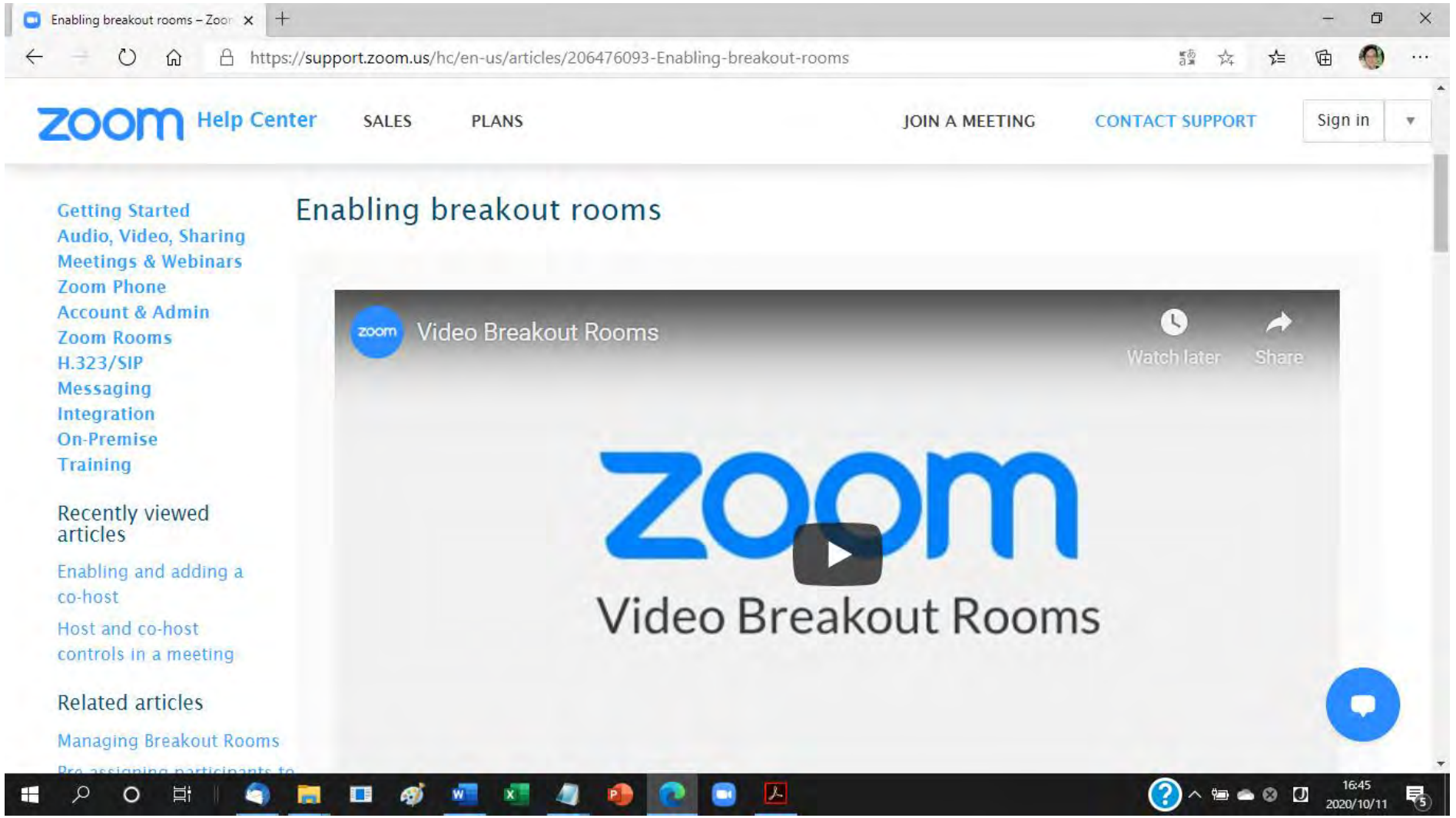
← This is Prof. Nakasuka during his presentation about MIC-7


Garvey McIntosh (NASA), guest commentator


UNISEC Global
Rei, Host of this event
UNISEC office


Dr Ozaki, the 2nd presenter
Naoya Ozaki
Mission Design for Deep Space Nano/Micro Spacecraft Utilizing Lunar Orbital Platform-Gateway Opportunities
Naoya Ozaki
Institute of Space and Astronautical Science,
Japan Aerospace Exploration Agency
2020/10/10
1


Dr Amin, the 3rd presenter
LIU
SPACE PROGRAM INITIATIVE IN LEBANON
CURRENT SITUATION AND FUTURE PLANS OF
Amin Haj-Ali, Ph.D.
Dean, School of Engineering
Lebanese International University
Member of the Lebanese Space National Committee
UNISEC-Global Lebanon POC
amin.hajali@liu.edu.lb
Amin Haj-Ali

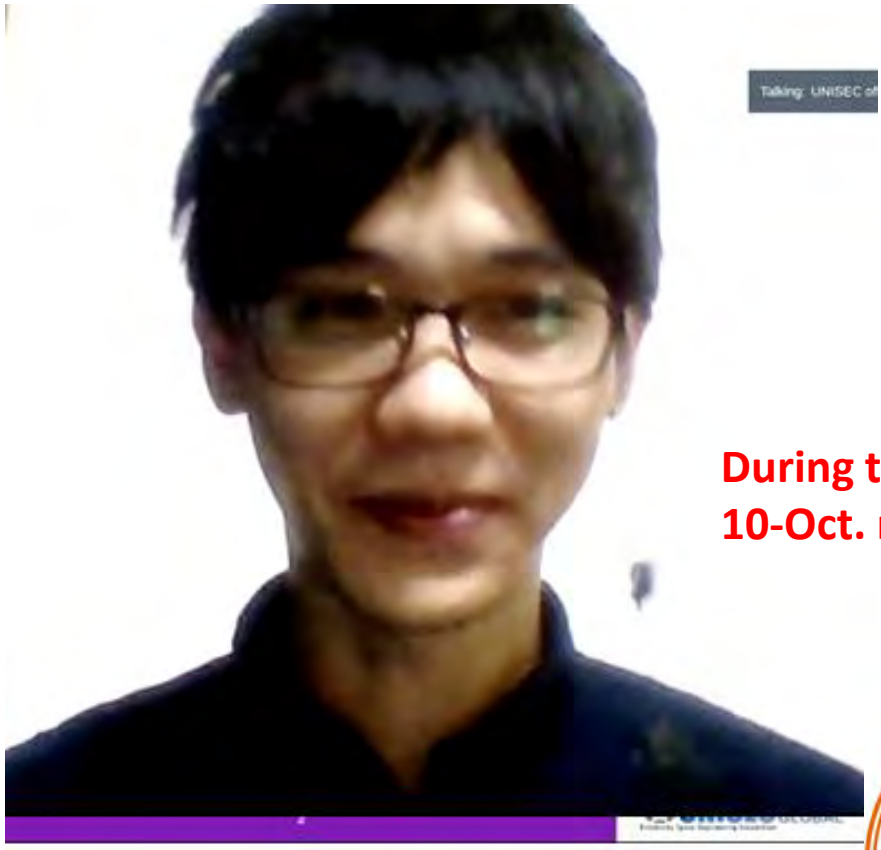


Do you also want to do Breakout Sessions in your ZOOM events?

It is easier than you think.

View this short video: https://support.zoom.us/hc/en-us/articles/206476093-Enabling-breakout-rooms

Rei welcomed
UNISEC-Thailand
--- newly established local chapter



During the 10-Oct. meeting

Responsible professor at KMUTNB:
Dr Pom (Dr Phongsatorn Saisutjarit)
มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าพระนครเหนือ
KING MONGKUT'S UNIVERSITY OF TECHNOLOGY NORTH BANGKOK

2nd Virtual UNISEC-Global Meeting Notes
– by Nathan "Nate" Taylor, Adelaide, Australia.

Note: Future meetings can mute participants on entry as an option to be selected in the Zoom account.

22:00-22:05 Welcome and Opening remarks KAWASHIMA Rei, UNISEC-Global
-Why can't humans go back to the moon or deep space missions?
-New chapter celebration

22:05-22:25 Introduction to the 7th Mission Idea Contest (MIC7) - Deep Space Mission Challenge; NAKASUKA Shinichi, the University of Tokyo
-Began 2010, Winner mission ideas, ISS
-Deep space science and exploration mission
-Problem solving importance Design | Functions : Inverse problems
-Problem solving skill training, motivation, teamwork (Satellites are mission success problem solving) Goal -> scenario -> orbit -> spacecraft : Requires multiple disciplines
-Rationale: LEO field established already, deep space missions provide frontier spirit and require additional technological innovation providing opportunities for learning. Small satellites are viable for DS missions.

QUESTIONS

Christian Chavez: Dear Dr. Nakasuka, thanks for the motivating talk. Question: It is possible to propose a mission mainly based on trajectory analysis only? To what extent should be cover the AOCS, EPS and other subsystems?

-Can split system designs into sub-teams

Thameur Chebbi: Dr. Nakasuka, following your interesting presentation, I would like to know what are the must have nanosatellite technology that should be equipped with for a deep space mission?

-Accommodate inner thrusters, communication system should be long wave system

Marco Romero: Thanks a lot Dr. Nakasuka the body to be visited is a decision factor ? following that the toll used or the mechanism used for the trajectory analysis or the System Design is also considered on the evaluation ? Or only the accuracy of the data used and output produced ?

The body to be visited is not a decision factor, but the scientific value for visiting this body is to be evaluated. If you have special design and analysis tool which are your own original things, please show that in the contest. If that is very interesting and useful, it will give additional points to your works.

22:25-22:55 Mission Design for Deep Space Nano/Micro Spacecraft Utilizing Lunar Orbital Platform-Gateway Opportunities; OZAKI Naoya, JAXA/ISAS

- Lunar orbital platform Gateway (utilize for DS mission objectives) Artemis One mission > 10 cubesats to deeps space each year.
- UNISEC has helped develop many satellites we can achieve deep space missions
- Halo orbit can be found around a Lagrange with different energies. Gateway will be in L2 Halo orbit
- Halo orbit is unstable but easily reachable and escapable. Halo orbits are preferable for communications. NRHO energy orbit never experiences eclipse.
- Utilise Lunar swing-by. Can select stable trajectory on manifold orbits to transfer to L1/L2. Landing on Lunar surface requires large delta V (approx 2.5 km/s) and can be calculated via 2-body problem and orbital-invariance-energy conservation law
- Can transfer via solar-tidal force to reduce delta v (approx 10 m/s).
- Gateway metro map shows how to transfer to different orbits (to be made available).

QUESTIONS

Thameur Chebbi: Mr. Ozaki, comparing LOP-G and HTO, what are the main advantages of the matter one, if we consider both for a deep space mission in terms of costs and time?

Stella: Q: What was the major reason for choosing the Halo orbit for the Gateway station?
The accessibility of the Halo orbit requires a small delta-v and the communications are easy. Can also cover the side of the moon not visible from the Earth.

22:55-23:25 Breakout discussion and sharing Moderator:
MAEDA George, Kyushu Institute of Technology, Tobata, Japan.

Discuss Agenda – One representative selected per room.

Room 1: It is a good idea and good opportunity. The moment is right.

Room 2: Utilise existing supply and collaborative projects international to bolster capability of emerging nations.

Room 3: Right time. UNISEC is the right platform to start the discussion as emerging nations don't have the access. This course will be motivating for university students. Build capacity.

Room 4: Happy for the plan but hesitant as collaboration of nations needs to be improved. Many universities are not part of the program.

Room 5: Collaboration and competitions. Communications and limited launch capability and complexities of systems. Developing countries may be outside of the scope (balancing budgets) getting them involved in LEO first is more important.

Room 6: Emerging nations can participant with ground stations for projects and they can also help develop software and include collaboration of universities. Networking from UNISEC is important.

Room 7: Communication is the largest issue.

Room 8: Emerging nations should develop operational capabilities and help develop these missions with nanosatellites may motivate young engineers.

Room 9: Difficult for emerging nations to contribute substantially for deep space missions. More expertise, facilities and collaboration is required. This will also bolster these nations capabilities.

Room 10: Developing countries can also participate via collaborations. Increase education benefits for emerging nations. Astronauts to support missions to develop launch capabilities.

23:25-23:40 Current situation and future plans of Lebanese universities space programs
Amin A.Haj-Al, Lebanese International University,
POC of UNISEC-Lebanon (in the founding process)

Lebanon has a UN centre located in Jordan. Space activities date back to the 1960's (1962 Cedar III rocket. National centre of remote sensing (did not own satellites and relied on external sources).

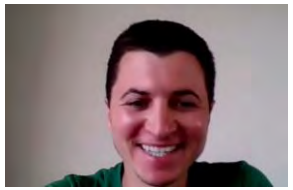
Objectives: Develop capacity building; Establish Space Program Governance (LNSC)
Future plans: Run online courses in space and nano-satellite technologies; Develop specialized entry level multidisciplinary online courses (for Lebanese universities). Develop joint Master degree.

23:40-23:50 Acknowledgement of new local chapter and new Members; KAWASHIMA Rei

23:50-24:00 Announcement, Closing

Dr Ozaki: New experience hearing that Gateway is too early for emerging nations. The Gateway opportunity is important for future missions and its availability is limited. Launching deep space missions will be much easier with Gateway.

A.I. Solutions (corporate sponsor of UNIGLO) :
From Moataz Abdelazi... to Everyone:1:26 AM
https://ai-solutions.com/freeflyer/freeflyer-university/
My email is Moataz.abdelazim@ai-solutions.com



Comments from participants (written in *Chat*)

From Eric Dominic Ma... to Everyone:1:27 AM
I just want to express my gratitude. It's my pleasure being here. ❤❤

From Rene Laufer to Everyone:1:27 AM 👋😀

From Oliver Sierra to Everyone:1:27 AM; thank you verdad much!

From Eric Dominic Ma... to Everyone:1:28 AM; Feels like everyone is connected to each other. ☺☐

From Cristian Chavez... to Everyone:1:28 AM
Thanks for the nice meeting dear Rei, just want to say that today is my birthday, so I promise to send you (all of you) a picture of the pie!

From Chris Welch to Everyone:1:29 AM
Thank you all and thank you to Rei for today. Looking forward to the next one. And happy birthday to Christian!

From Berny Weiss to Everyone:1:30 AM; thanks for all!

From John Mark Calfo... to Everyone:1:30 AM; thank you for the meeting.

From Berny Weiss to Everyone:1:30 AM
Love the meeting and it's a good thought to make it a regular meeting! love to Participate

From Cristian Chavez... to Everyone:1:30 AM
Thank you very much!! What a nice way to celebrate it!

From Reynel Josué Ga... to Everyone:1:31 AM
Thank you very much! The break out sessions were a great idea!

From Satoru.Kurosu@l... to Me: (privately)1:31 AM
Hi Nate, nice seeing you. Take care!

From evely raguindin... to Everyone:1:31 AM
Good night. So excited to be part of UNISEC

From Marco Alvarez R... to Everyone:1:31 AM
It is a pleasure to meet you each month!

From Min Thet Zan to Everyone:1:31 AM
Good night

From Naoya Ozaki to Everyone:1:31 AM
Good night!!

From Eric Dominic Ma... to Everyone:1:32 AM
Yeeey ❤

From Thameur Chebbi to Everyone:1:32 AM
Good Night all

END OF COMMENTS

HOW TO DOWN LOAD THE PRESENTATIONS OF ALL VIRTUAL MEETINGS BY UNISEC-GLOBAL

Go here:

http://www.unisec-global.org/virtual-meeting.html

The next UNISEC-Global virtual meeting is

Saturday, 14 November 2020

Mark your calendar !

OLAYINKA'S WORLD

COLUMN NO 20

Monthly space news from Nigeria

OLAYINKA FAGBEMIRO
ASSISTANT CHIEF SCIENTIFIC OFFICER,NATIONAL SPACE RESEARCH & DEVELOPMENT AGENCY (NASRDA), ABUJA. NIGERIA. HEAD, SPACE EDUCATION UNIT
FOUNDER/NATIONAL COORDINATOR, ASTRONOMERS WITHOUT BORDERS (AWB) NIGERIA
NATIONAL ASTRONOMY EDUCATION CONTACT (NAEC), NIGERIA
PUBLIC RELATIONS AND EDUCATION OFFICER, AFRICAN ASTRONOMICAL SOCIETY (AfAS)

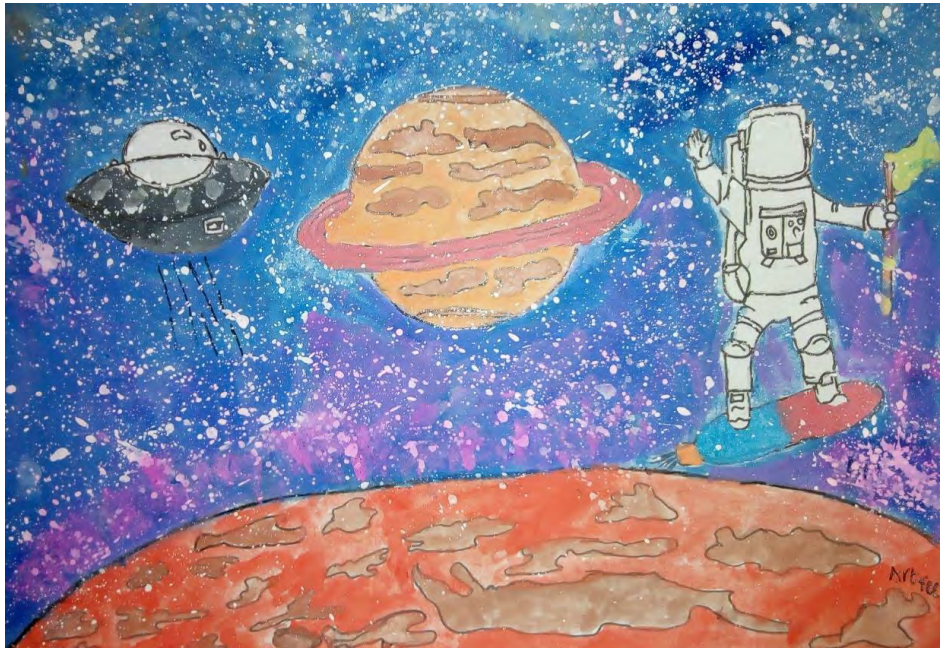
Olayinka's World
...in space to make a difference

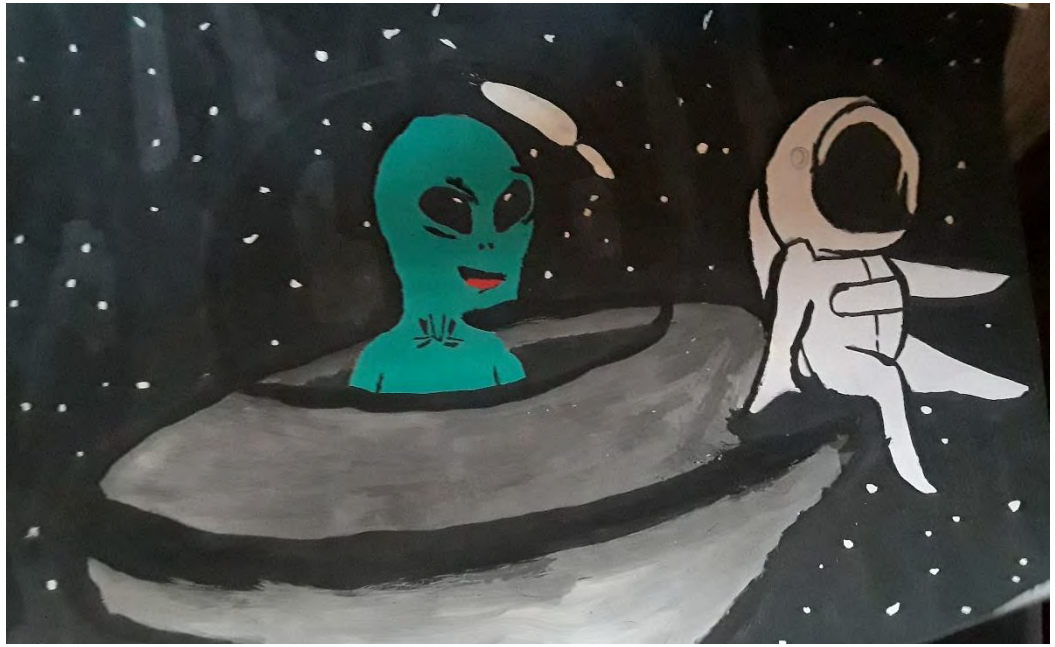
RESULT OF THE ASTRO ART CONTEST FOR ELEMENTARY AND HIGH SCHOOL KIDS IN NIGERIA

The Covid-19 pandemic which resulted in a prolonged lockdown on schools across Nigeria was utilised by AWB Nigeria to launch the first ever Astro Art Contest in the country. For almost 5 months now, students at all levels remained home as schools remained shut due to soaring infection rates. This maiden Edition of the Astro Art Contest for Elementary and High School kids in Nigeria saw 164 entries sent in by participants from across Nigeria. The call for entries which opened on the 8th of July, 2020 saw an extension to the deadline from August 15 to August 31, 2020. The star prizes in this contest being SSVI homemade telescopes (Newton, refractor, two small spectroscopes) signed by the foremost Belgian Astronaut, Dirk Frimout was a great motivation for participants.

We received 164 entries which were judged by a team of 8 Space, Astronomy and Arts experts drawn from around the country. For the entries submission, participants were expected to make paintings on an A4 sized paper accompanied with a short write up (not more than 150 words) describing their art work. At the end, 6 paintings, 3 in each of the 2 categories were selected for the 1st, 2nd and 3rd positions. Entries were graded on the paintings and motivation stories. The motivation story behind each of these selected paintings are amazing!!!

Some of the winning entries





11. News from Bangladesh

RAIHANA SHAMS ISLAM ANTARA

HAS BEEN INVITED AS A JURY MEMBER OF

NASA INTERNATIONAL SPACEAPPS CHALLENGE MOROCCO 2020

- She is a KYUTECH SEIC Graduate (Graduation Year 2017)
- Member of the BIRDS-1 project; Team Bangladesh
- One of the Engineers of Bangladesh's First satellite BRAC Onnesha

- NASA and the Space Apps Global Organizing Team have made the decision to make this year's hackathon an all-virtual event
- Nearly 150 Countries/Territories participated in this challenge
- In morocco 17 teams participated for 23 Challenges
- The event was held virtually on Sunday, 4 October 2020, from 9:30 AM to 3 PM (Morocco Time: GMT+1).

NASA Space Apps 2020 official Partners

Local Organizer

About NASA Space Apps Challenge

- International hackathon for coders, scientists, designers, storytellers, makers, builders, technologists, and others in cities around the world
- Teams engage with the National Aeronautics and Space Administration's free and open data to address real-world problems on Earth and in space.
- NASA-led initiative, managed by the Earth Science Division, Science Mission Directorate, at NASA Headquarters in Washington, DC
- Over 26,000 people from nearly 150 countries joined together in Space Apps 2020

Space Apps 2021 is scheduled for **October 2-3, 2021**!

Sign-up now to receive the latest updates

Source:

NASA International Space Apps Challenge

← Certification from NASA to Antara for serving as a jury member of this app contest.

End of this report from Bangladesh

12. News from Paraguay: How BIRDS-4 collects insect data from the field to combat Chagas disease

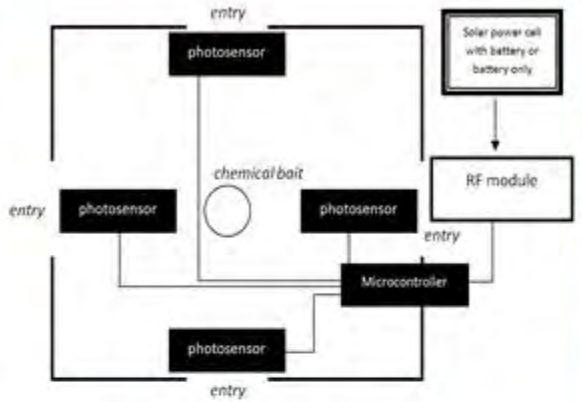
The following 2-page report was submitted by Adolfo Jara (BIRDS-4, Paraguay) on 13 October 2020.

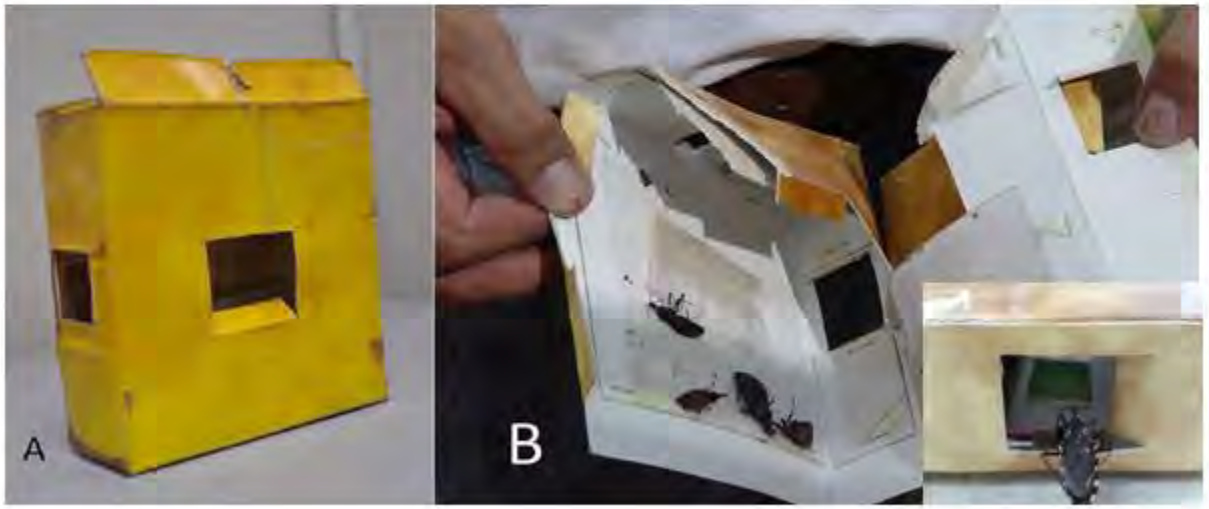
For any region of the world, if cell phone coverage is available then you can collect data remotely. However, if that coverage is missing, then satellites are the only way to fill that gap. And most of the world's oceans lacks cell phone coverage. -- Editor.

Early warning system of Bed bug re-infestation. How does it work?

BIRDS4 Store and Forward mission will collect data from sensors located in Paraguay, but what kind of sensors are they and how do they work?

Between 2016 and 2017, an autonomous detection system for bed bugs (the main transmission vector of Chagas disease) was developed and tested in the field. The traps with sensors have been installed inside the houses and in chicken coops. Infrared photoelectric sensors are used for detecting the insect entrance into a labyrinth trap, which has an insect pheromone attractor. Once the insect is detected the information is collected and transmitted using internet.





BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

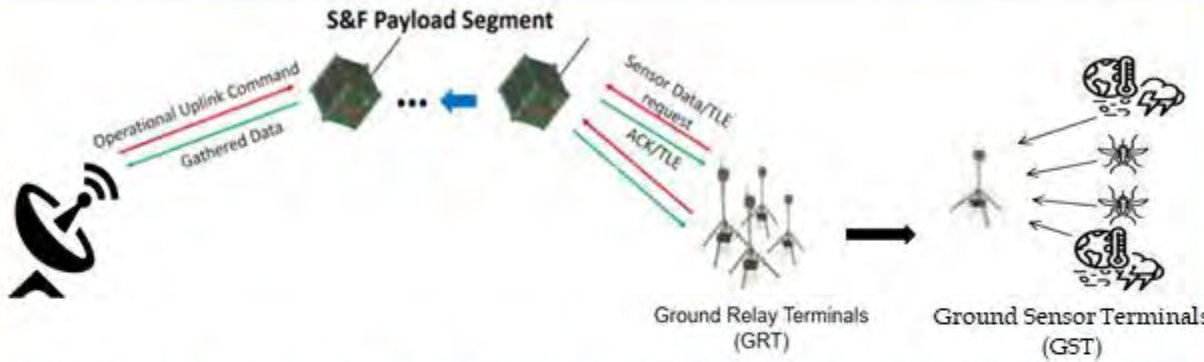
Article by:

Adolfo Jara

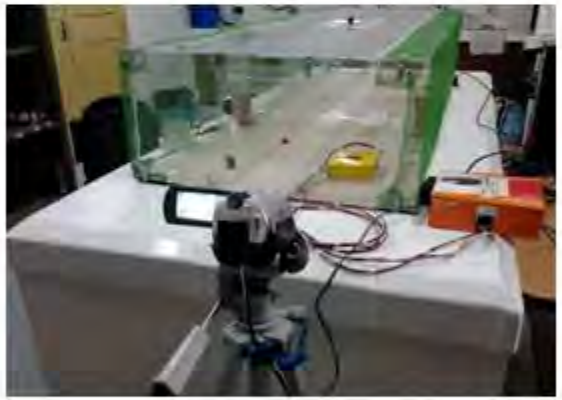
Early warning system of Bed bug re-infestation. How does it work?

The main limitation of this system was the need to be in an area with cell phone coverage to communicate the data collected from the bed bug infestation area. Through Birds4's S&F mission, it will be possible to overcome this limitation, being able to monitor remote areas without depending on cell phone coverage.

The sensor network has been improved during the last two years to make them more efficient in energy consumption, greater robustness in terms of electronic and structural assembly of the trap. The hub has been modified to incorporate satellite connectivity through an omnidirectional antenna, radio and TNC.



Proposed Store-and-Forward Lean Satellite-based Remote Data Collection System of the BIRDS-2 Project



Currently, the trapping system and the hub are performing duration tests in the laboratories of the Polytechnic School of the National University of Asunción.

BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

Article by:

Adolfo Jara

Submitted on 15 Oct. 2020
by the satellite team of
NUM (National Univ. of Mongolia)

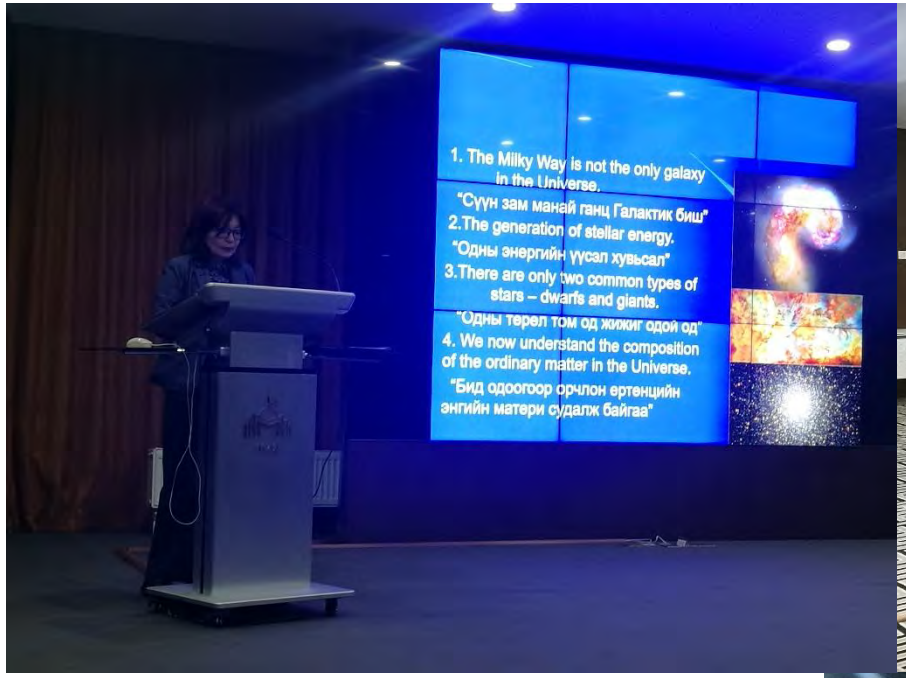
SHINOHARA Foundation, and Kansai and Mongolian Cooperation Association presented a Telescope to support the NUM's space activities

Prof. Tsolmon

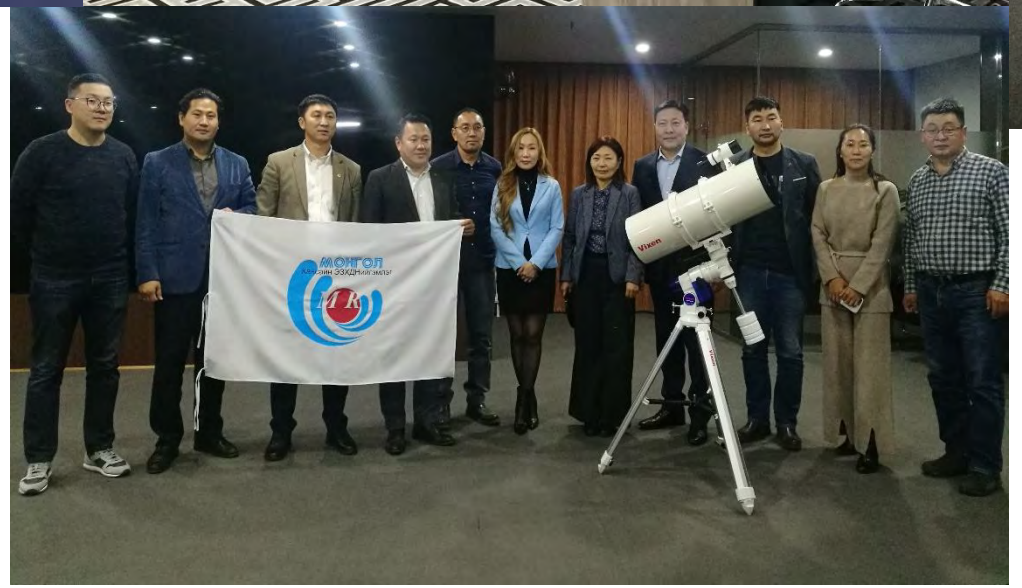
Prof. Ulam-Orgikh

Asoc. Prof. Erdenebaatar

Mr. Batzandan, Head of the Kansai and Mongolian Cooperation Association, Prof. Tsolmon, Prof. Ulam-Orgikh, and Assoc. Prof. Erdenebaatar gave opening remarks at the ceremony.



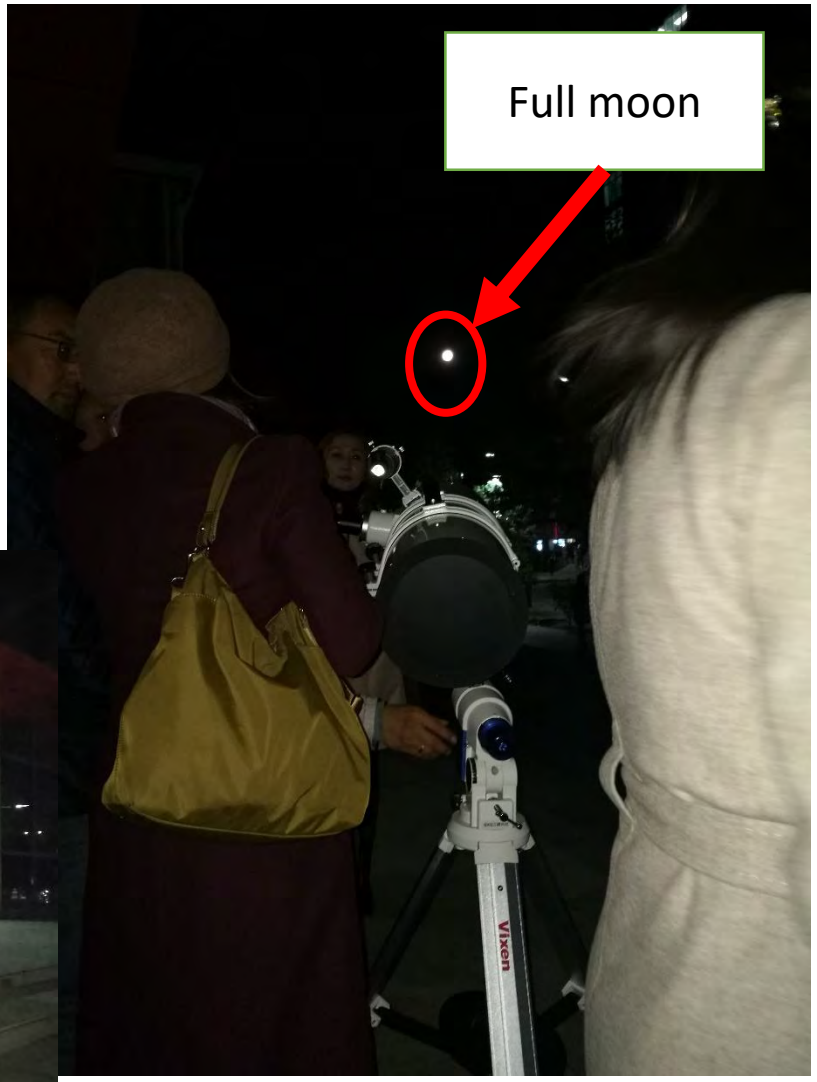
Prof. Tsolmon presented a keynote presentation about the **space science and astronomy**.



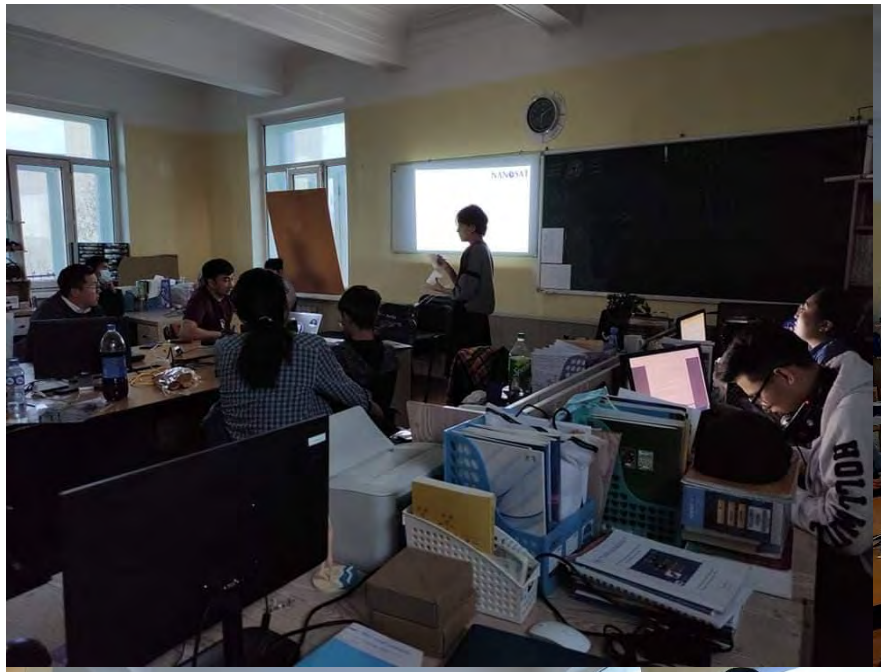
New Telescope - **Vixen Telescope N 200/800 R200SS OTA**

Full moon observation with the new Telescope

On 1 October, 2020, The NUM's Laboratory of Space Science and Laboratory of Nano-satellite Development are organized the **FULL MOON** observation event with newly received telescope



“Temuulel satellite” project work has intensified after the long break due to Covid-19

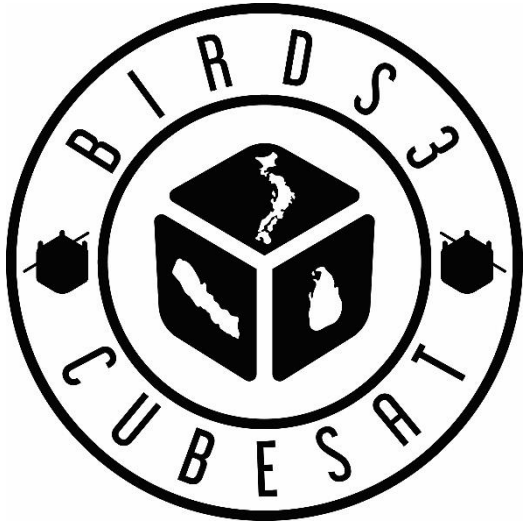


Dr. Erdenebaatar and Dr. Tutogtokh

Students during the weekly project meeting

End of report from Mongolia

Global Positioning System



By Dulani Chamika

What is GPS

- Humans used the stars at the ancient time to find the directions. And we still need objects in the space to find the directions and the positions. Now we use satellites , instead of stars.

- GPS stands for Global Positioning System. It is a satellite based radio navigation system. GPS is a system made with three parts. They are satellites, ground stations and receivers.

Credit: NOAA

BIRDS-3 GPS

- BIRDS-3 used SKYTRAQ Venus GPS receiver.
- We used a ceramic antenna as shown as in the following figure.
- The antenna was fixed in the –X panel board
- A picture of the antenna board of three satellites are shown in the below picture

BIRDS 3 satellites
(showing the –X panel board)

GPS antenna

SkyTraq GPS receiver

BIRDS-3 GPS

- ***GGA - Global Positioning System Fix Data***
- ***GLL – Latitude/Longitude***
- ***GSV – GNSS Satellites in View*** are some of the formats

- We, BIRDS-3 Used GGA- Global Positioning System Fix Data. Mainly this format gives you, UTC of position in hhmmss.sss format, Latitude, Longitutde, Altitude. Depend on your requirement you can choose the format.

BIRDS-3 GPS Results

hhmmss.sss, Lat, N/S , Lon, E/W, GPS ind ,Sat used, HDOP

004220.000,0000.0000,N,00000.0000,E,0,00,0.0,0.0
004223.000,0000.0000,N,00000.0000,E,0,00,0.0,0.0
004226.000,0000.0000,N,00000.0000,E,0,00,0.0,0.0
004229.000,0000.0000,N,00000.0000,E,0,00,0.0,0.0
004232.000,0000.0000,N,00000.0000,E,0,00,0.0,0.0
004235.000,0000.0000,N,00000.0000,E,0,00,0.0,0.0
004238.000,0000.0000,N,00000.0000,E,0,00,0.0,0.0

The time at this moment according to Reset PIC the time is 2019-07-05, **00:41:43** am[UTC].

Time data from GPS from Uguisu

So the time looks similar to Reset PIC time

UiTMSAT COLUMN

Column No. 10

Editor: FATIMAH ZAHARAH BINTI ALI (*ali.fatimahzaharah@gmail.com*)
PhD CANDIDATE, LABORATORY OF SPACE WEATHER AND SATELLITE SYSTEM
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UNIVERSITI TEKNOLOGI MARA

UiTM Sentiasa Di Hatiku
"UiTM Always in My Heart"

AN INSIGHT INTO THE MIND OF MALAYSIA'S SPACE WOMAN – Part 2

This is the last part of column sharing on the insightful words and point of views by **Professor Emerita Dato' Seri Dr. Mazlan Othman** from the interview session conducted on September 8th, 2020. In this column, the concern and perspective on space industry in Malaysia will be unfolded based on the field of vision from the well-known Malaysia's space woman.

Fig. 1: Prof. Emerita Dato' Seri Dr. Mazlan Othman
(source from pakej.com)

Malaysia is still a developing country albeit the rapid economic development as

reported by Investopedia.com in its 2019 article, “Top 25 Developed and Developing Countries”. Among other major sectors that play part in the elevation of the Malaysia’s economy, space industry is still considered as a tiny sector that contributes less to the Malaysian GDP. Thus, a strategic plan for space development is required if the space sector is needed for demand.

Talking about the space sector development, Dr Mazlan opined that the country should have the good space programmes. These space programmes, at the same time, requires political will in order for it to succeed. People will always question the need(s) to have the space programme in the country as they cannot see the benefits and advantages to the society and to the government or nation. This is a normal situation even to the developed country such as

Fig. 2: The Langkawi National Observatory in Langkawi Island, Kedah, Malaysia offers the astronomy research and studies. Source from nature.com.

Fig. 3: The view of dome screen room in National Planetarium, Kuala Lumpur that offers astronomy or planetarium screening shows to visitors.

United State of America (USA) or China, if the country wanted to carry a space programme, said Dr Mazlan.

As to perform a space programme, an approach to people such as the government and also the society is needed in order to ensure they understand the requirements of the conduct and also to secure supports, especially in terms of financial aspect. To Dr Mazlan, in order for the approach to be succeeded, the heart and the mind of the people are essential to be captured first by the person who is responsible to do the talk. So as to achieve that, it is important for the person to have commitment and passion in space field. The most vital element in that person is conviction, "…speak with total conviction in space", added Dr Mazlan. With these elements (commitment, passion and conviction), the heart of the people can be captured as they can see through the words elucidated by us.

Dr Mazlan suggested on how to have those aforementioned elements towards capturing the people's heart and mind, the person needs to internalize and be passionate about space. "What we want out of space? Why is space important?" will be some of the questions that are needed to be asked.

The Angkasawan (a Malay word for astronaut) Program in 2007 was an idea brought by Dr Mazlan to the government when she was appointed as Director General of ANGKASA. This was an initiative of Dr Mazlan in introducing, initiating, and exposing the space field to the government and the society. It was a success when this program has opened the eyes of people in Malaysia. Honestly, I was interested to know more about space related area when I heard about this Angkasawan Program. It did capture the heart of people who listened to this idea of Dr Mazlan.

Fig. 4: Malaysian first astronaut from the Angkasawan Program, Dato' Dr. Sheikh Muszaphar Shukor Al Masrie bin Sheikh Mustapha, on the left with other crew ready for the space expedition on 10 October 2007.
Source from worthpoint.com.

The space programme involves diverse space activities including development of a satellite. If this programme is carried out, many industries or companies can get the benefits from it. Development of a satellite involves many subsystems, sensors, and components. Based on these interconnected entities, we would know the companies that could provide the expertise, facilities, and product for the development of the space craft. In return, the companies could also expand their profile in space field and get the benefits from providing the component for a satellite.

Fig. 5: Logo used for the Angkasawan Program.

Developing a satellite does not involve a single space company, said Dr Mazlan. The involvement of other companies that could assist or provide components for the satellite development will allow the space industry to be established. The satellite is designed and then sub-designed based on the initial stage of mission planning. These sub-designs are acquired from the respective related companies. Besides, other companies that are not even related to space would also have potential in providing the needs for satellite development. This is based on the application applied for the satellite. From this, the space industry can be expanded and developed.

"We need to have tactical planning", said Dr Mazlan in response to the exigency for space industry development. By looking at the components of the satellite required for the subsystems, sensors, and applications, we can see which companies that will be benefitted from the satellite project.

Dr Mazlan added that to build the space industry base, the technology needs to be transferred into private sector. It is because the private company or institution knows well which company they can work with for a satellite development project. This was why the Astronautic Technology Sdn Bhd (ATSB) was established under the supervision of Malaysian Ministry of Energy, Science, Technology, Environment and Climate Change (newly known as Ministry of Science, Technology and Innovation).

As for the last question, Dr Mazlan was asked to give opinion on the level of knowledge or exposure required from the experts or the beginners who wanted to involve in space field. Dr Mazlan was firm that the space sector requires various fields of study background or expertise. It can come from science fields and engineering fields, as multi-talented young people are essentially significant for space technologies development. However, based on the outlook of Dr Mazlan, as far as it can be seen, "There is disconnection between what we desire (for the space field) and what is actually on the ground". In order to bridge the disconnection, Dr Mazlan opined that the courses offered by universities and sort of industries to nurture are required to be correlated.

<u>Addendum:</u>
Dato' Seri is the title conferred by the Ruler of Malaysia upon the recipient's great contribution to the nation.

End of Column #10

STAMINA SPACE

UPDATES FROM THE PHILIPPINES

October 15, 2020

University of the Philippines-Diliman
Quezon City, Philippines

PREPARED BY:

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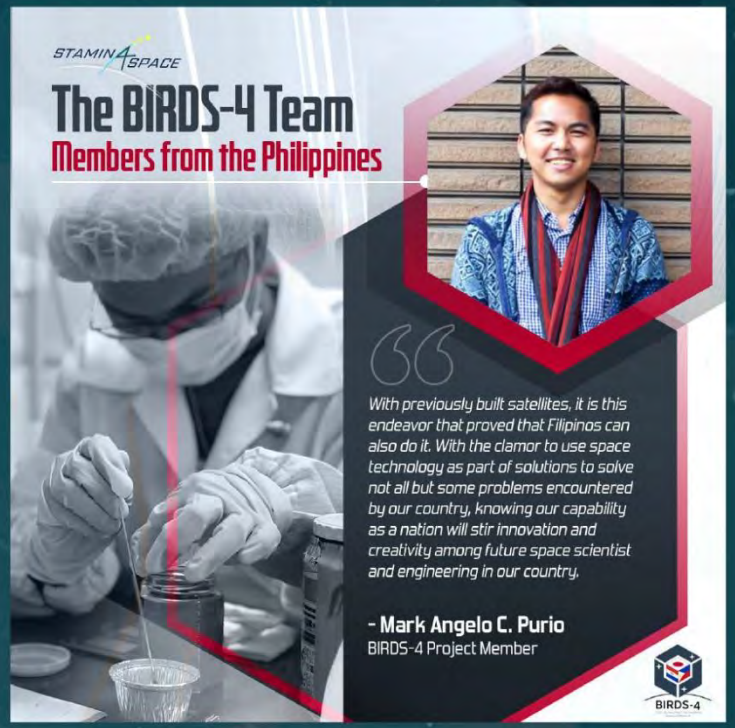
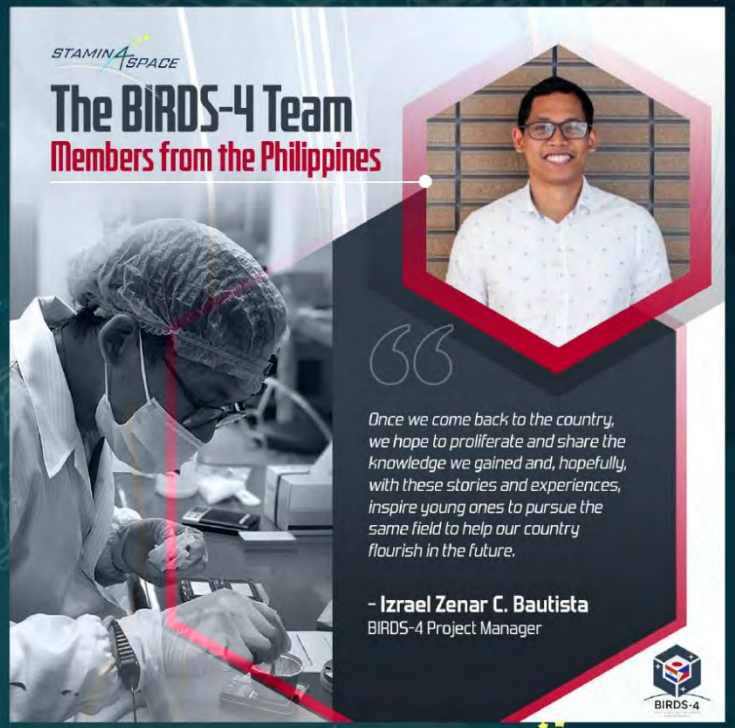
PADAYON! BIRDS-4 members from the Philippines

September 23, 2020

"Padayon" is defined in Wolff's dictionary as to "continue doing something".
Here's what the Filipino members of the BIRDS-4 Project have to say upon completion of the Maya-2 CubeSat.





STAMIN4SPACE PHL MICROSAT

PADAYON!

STAMINA4Space congratulates new graduates

September 25, 2020

Congratulations to the new Department of Science and Technology - Science Education Institute (DOST-SEI) scholars who recently graduated (in alternative, completely socially -distanced ceremonies)!

Meet Dr. Julie Ann Banatao (Doctor of Philosophy in Aerospace Engineering, Tohoku University), Dr. Adrian Cabueñas Salces (Doctor of Philosophy in Engineering, Kyushu Institute of Technology , and Engr. Edgar Paolo Violan (Master of Science in Aerospace Engineering, Tohoku University).

NASA
Space Apps 2020
October 2-4, 2020

The STAMINA4Space Program was invited to be a NASA Space Apps 2020 community partner. Members from the GRASPED Project served as representatives by being mentors to the attendees of this event's hackathon.

Dr. Gay Jane Perez, STAMINA4Space (S4S) Program Leader, and Dr. Joel Joseph Marciano Jr., Director-General of the Philippine Space Agency and former S4S Program Leader, were also invited to deliver messages during the program.

Dr. Joel Joseph Marciano Jr. during his Opening Remarks for NASA Space Apps 2020

Dr. Gay Jane Perez 's gave her message to NASA Space Apps 2020 community

Mentors from STAMINA4Space (Posters courtesy of NASA Space Apps Philippines)

In celebration of
World Space Week 2020

Data Brew 4:

Space and Ground Data for the Betterment of Human Condition

October 7, 2020

Data Brew is a discussion forum that brings together stakeholders in the data science community. The idea is to foster knowledge- and expertise-sharing on how data science affects our various industries and visions of its future in the Philippines.

The event is organized by the DOST-Advanced Science and Technology Institute (ASTI)'s DATOS Project, in partnership with STAMINA4Space, PhilSA, and NASA Space Apps Philippines.

STAMINA4Space researcher Mark Jayson Felix presented on "Space Data for Environment Monitoring"

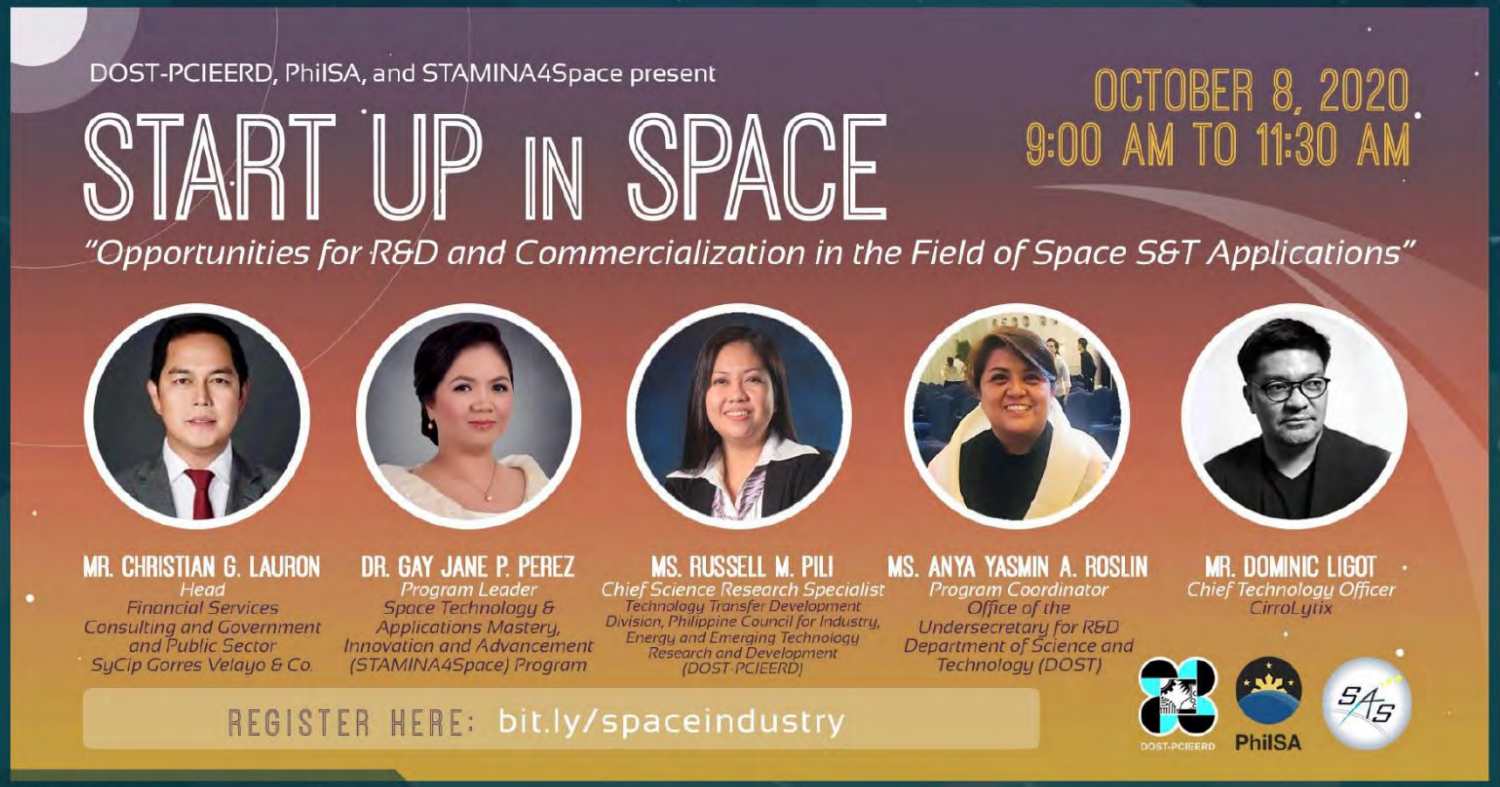
Poster courtesy of DATOS

Start Up in Space:

Opportunities for R&D and Commercialization in the Field of Space S&T

October 8, 2020

As part of the World Space Week 2020 activities, the Department of Science and Technology's Philippine Council for Industry, Energy and Emerging Technology Research and Development (DOST-PCIEERD), the Philippine Space Agency (PhilSA), and the DOST-funded Space Technology Applications Mastery, Innovation and Advancement (STAMINA4Space) Program organized a webinar entitled "Opportunities for R&D and Commercialization in the Field of Space S&T Applications".



In celebration of
World Space Week 2020

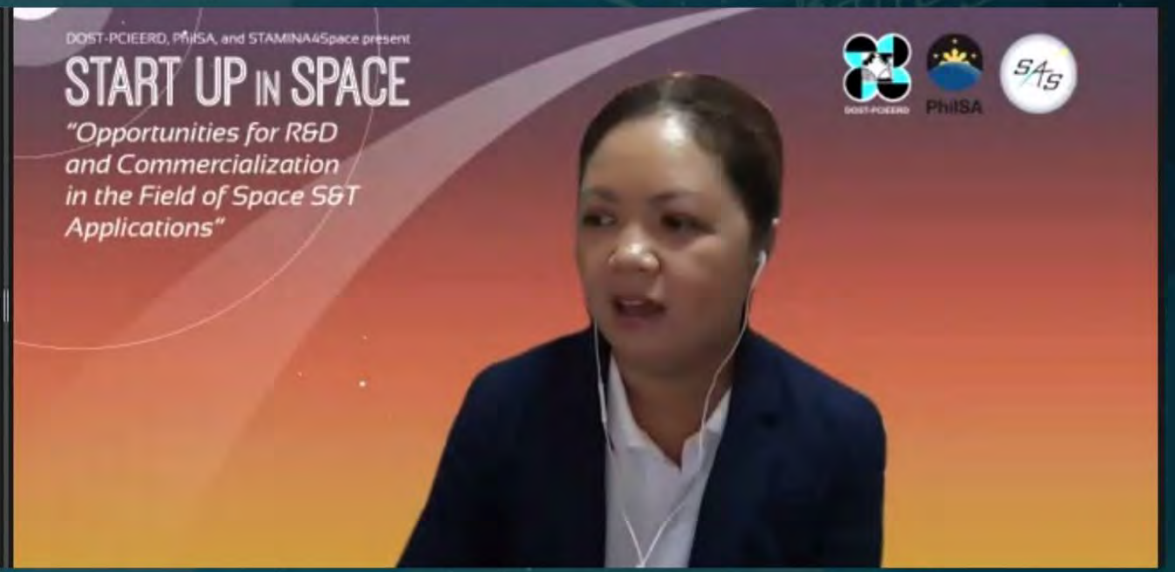
STAMINA4SPACE PHL MICROSAT

Start Up in Space

October 8, 2020

This event was attended by the member of the media and stakeholders, and was also opened to the public. Over 300 participants joined Zoom, and was live-streamed on Facebook via the DOST-PCIEERD page.

The speakers and moderators during the panel discussionand Q&A



In celebration of World Space Week 2020

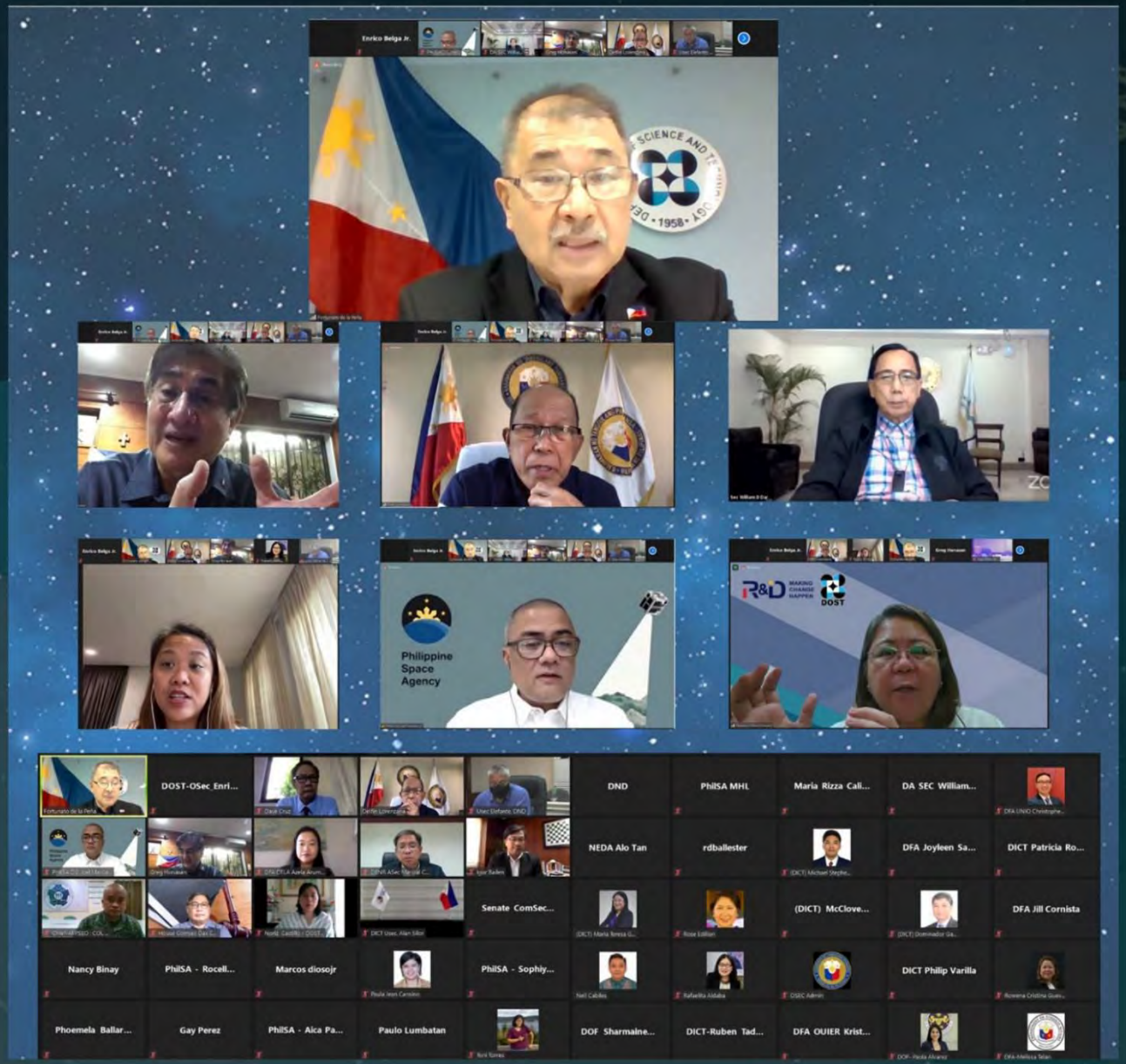
Dr. Gay Jane Perez during her presenttaion about the STAMINA4Space Program.

1st Meeting of the Philippine Space Council (PSC) for the Philippine Space Agency (PhilSA)

October 9, 2020

The PSC (as per R.A. 11363) is mandated to recommend and approve the implementation of the Philippine space policies in accordance with international conventions, ensure appropriate allocation of resources in support of the mandates of the PhilSA, and approve strategic directions and decisions for the implementation of the PhilSA.

Photo courtesy of DOST Secretary Fortunato de la Peña



UNISEC Global Meeting

October 10, 2020

UNISEC Philippines also attended and participated during the 2nd UNISEC Global Virtual Meeting. New member universities were also acknowledged during the meeting.

SPACE-ial Webinar

October 10, 2020

Engr. Julius Noah Sempio, a University Researcher from the GRASPED Project of STAMINA4Space, was invited to be one of the speakers of Kallisto's Webinar: **"Satellites in Orbit".**

Kallisto is a youth organization that hopes to educate the youth on astronomy, space exploration, and our country's very own space program.

KALLISTO

Poster from Kallisto

In celebration of
World Space Week 2020

JULIUS SEMPIO

LIVE AT:
7:25PM – 9:30PM
Philippine Standard Time (GMT+8:00)

Engineer Julius Noah Sempio of STAMINA4Space is a University Researcher at UP Diliman's PHL-Microsat Program. He specializes in space technology and applications, remote sensing, geographic information, and has worked on processing imagery with Filipino-made satellites such as Diwata-1.

Satellites in the Philippines

October 10, 2020

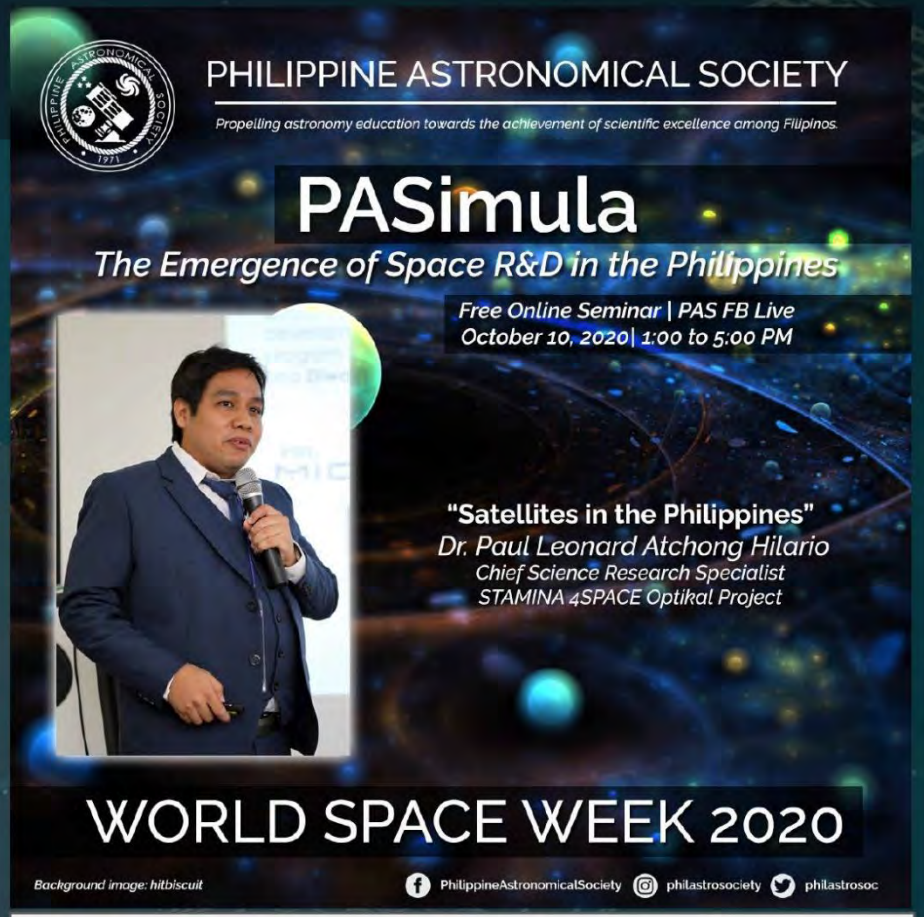


Photo courtesy of Philippine Astronomical Society, Inc.

In celebration of
World Space Week 2020

Dr. Paul Leonard Atchong Hilario, STAMINA4Space Project OPTIKAL Chief Science Research Specialist, presented about satellites in the Philippines for the Philippine Astronomical Society, Inc.'s PASimula: The Emergence of Space Research and Development in the Philippines.

PASimula is part of the Philippine Astronomical Society, Inc.'s celebration of World Space Week.

Updates from STEP-UP scholars

"The thirteenth step..."

October 10, 2020

University of the Philippines- Diliman

Quezon City, Philippines

Prepared by STeP-UP scholars

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Contributing Writer

Marielle M. Gregorio
Contributing Writer

Lorilyn P. Daquioag
Contributing Writer

Maya-4 NIR Mission

Written by: Derick Canceran

One of Maya-4's missions is a demonstration of a near infrared (NIR) camera. The module is built upon the Arducam OV5642 5MP camera, with a longpass filter that allows the light of wavelength 665 nm and longer to pass through.

The NIR wavelength band spans from about 700nm to 1.4μm (compare with the visible band which spans from about 400nm to 700nm). At these wavelengths, vegetation is highly reflective. Together with a Red band, vegetation can be assessed using different indices such as the normalized difference vegetation index (NDVI). The boundary between land and water is also highlighted in this band.

The camera payload, originally an RGB color camera, is repurposed to detect NIR light by attaching a longpass filter (SCHOTT RG665). The camera lens does not include the NIR cut filter (typical for color cameras to capture only visible light) and is IR sensitive.

(Left) Longpass filter to be attached on the lens holder (Right) The assembled camera module.

On the next page is a sample NIR image taken by the camera module. The image has an overall red tint since, at this region, the red channel of the sensor is more sensitive compared to the green and blue channels. It is evident that foliage reflects NIR well, as indicated by their pinkish-white color. For comparison, an RGB image of the same scene is shown.

Maya-4 NIR Mission

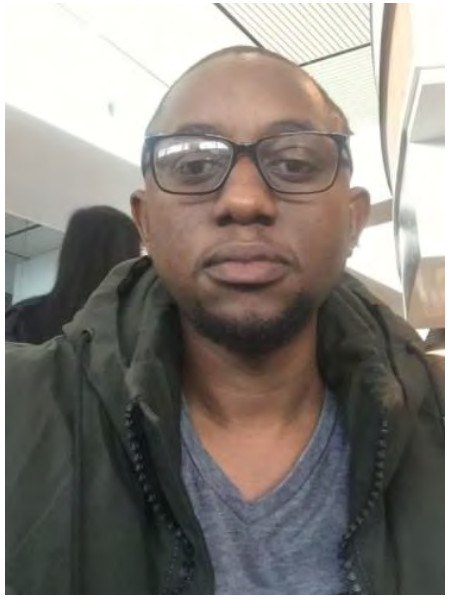
Written by: Derick Canceran

NIR image of a building about 800m away from the OV5642 camera. The camera lens has a focal length of 25mm.

RGB image of the same building taken by a phone camera

End of report from the Philippines

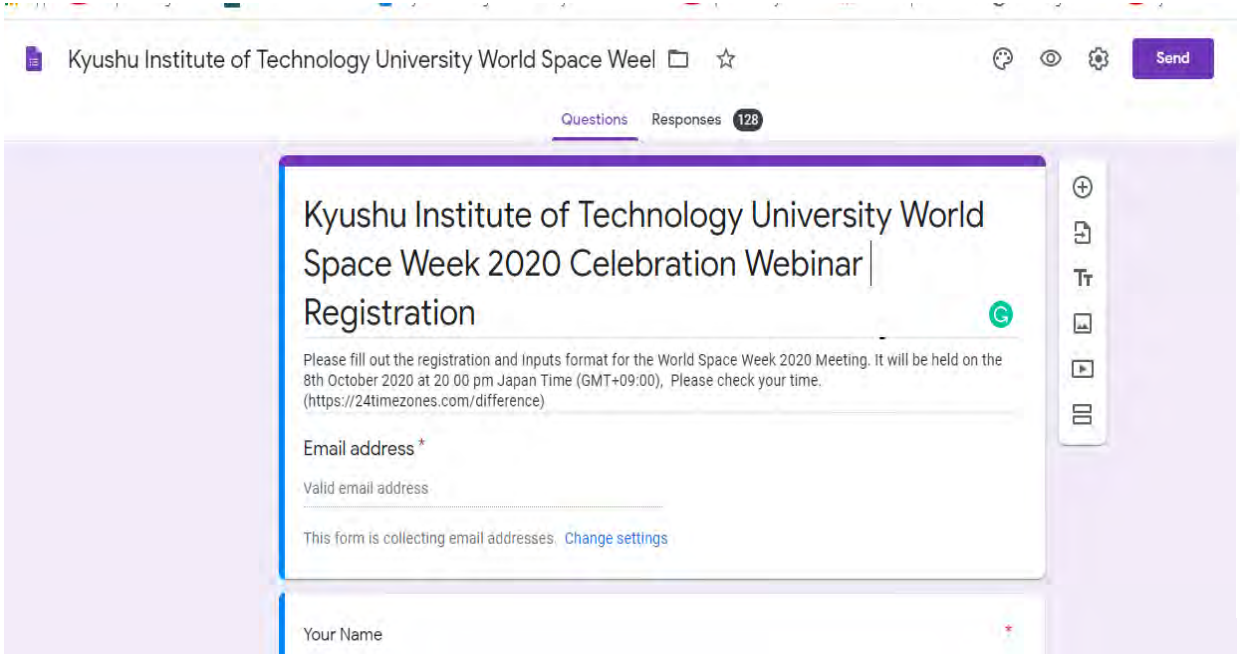
Kyushu Institute of Technology *World Space Week 2020* Celebration Webinar



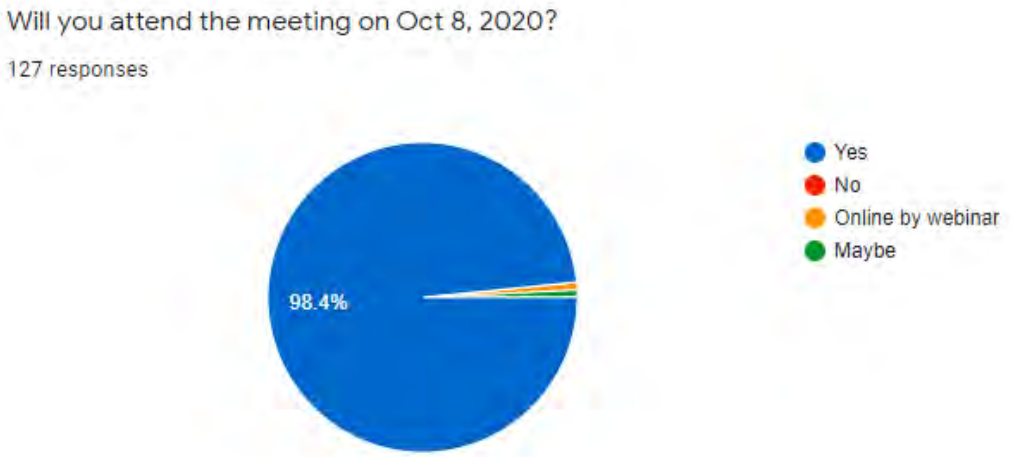
By : Timothy Kudzanayi Kuhamba

Submitted 17 October 2020

Participants' Registration

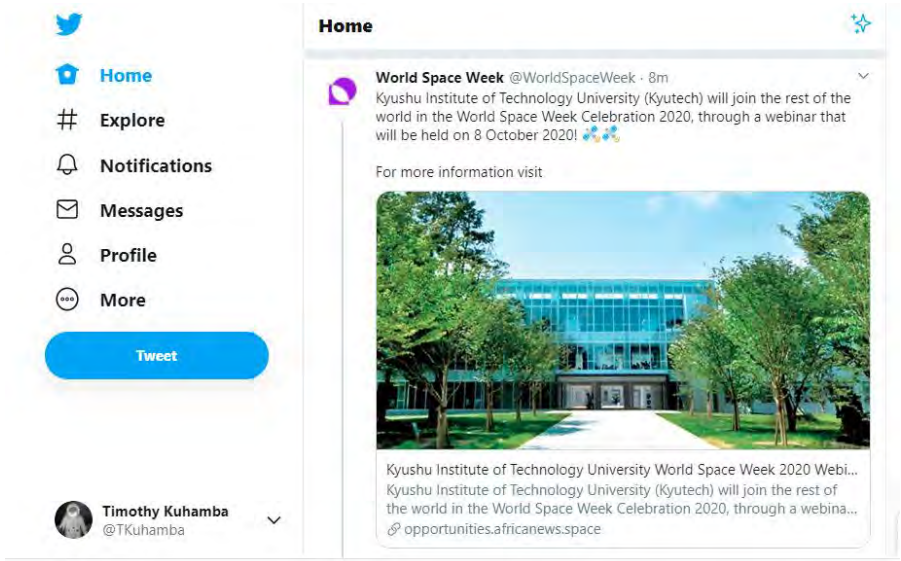


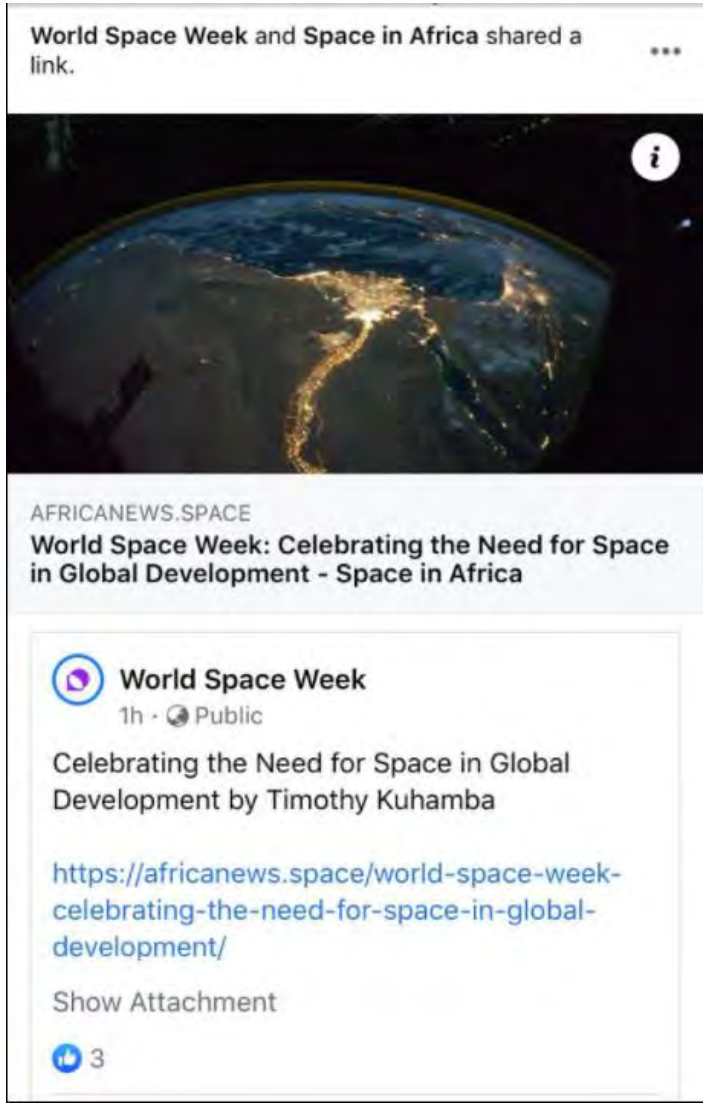
Participants registered to participate in the Webinar



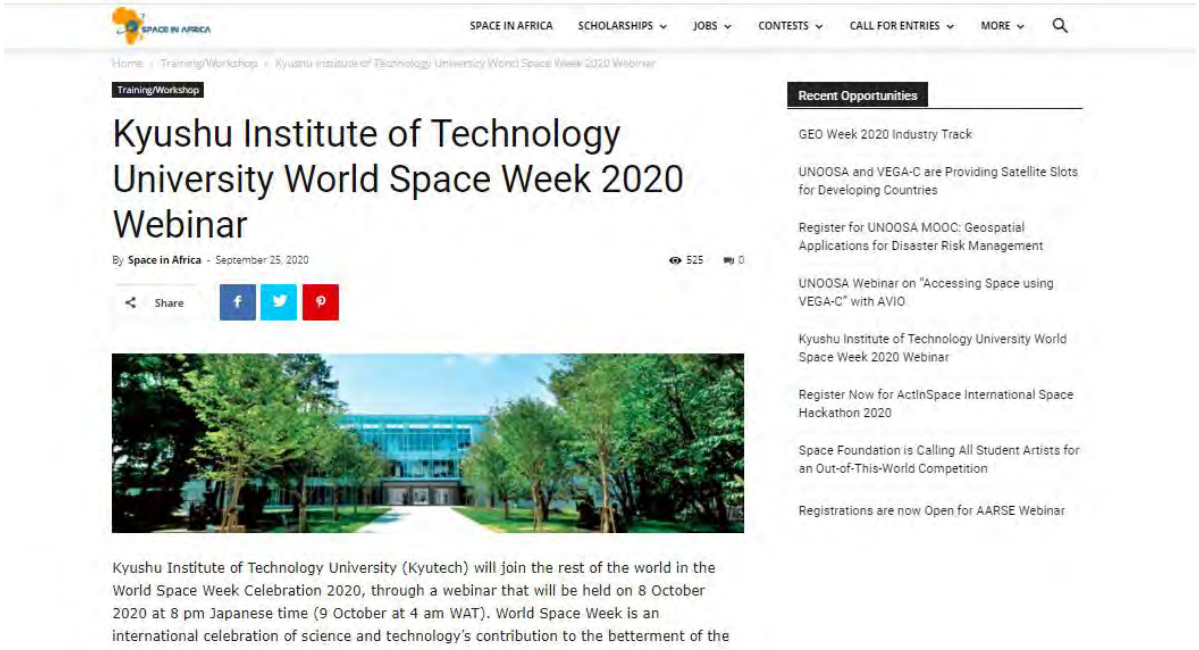
Registered Participants

Publicity of the World Space Week Event





Articles about the event in Space Africa Online magazine



https://africanews.space/world-space-week-celebrating-the-need-for-space-in-global-development/

https://opportunities.africanews.space/kyushu-institute-of-technology-university-world-space-week-2020-webinar/

2020 Theme: Satellites Improve Life

Alex Karl
World Space Week Vice President
– Partners and Programs

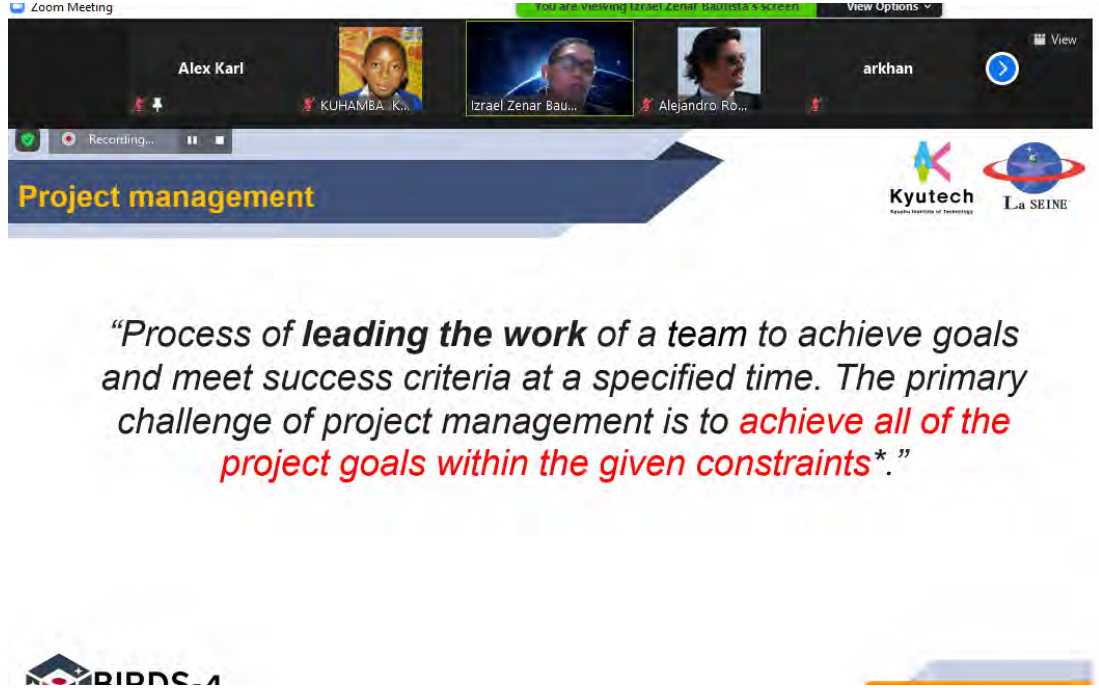
Theme for 2020 WSW

Important Notes from Alex's Presentation

- In 2019, we recorded over 8,000 events in 96 countries;
- Events were organized by the industry, space agencies, schools, planetaria, museums, individuals and others.
- Highlighting the importance of satellites in daily life and how our lives are affected by satellites such as in communications, environmental monitoring, transportation, weather forecasting, science, and in many other ways.

The Role of Project Manager in Satellite Development Process

The presenter

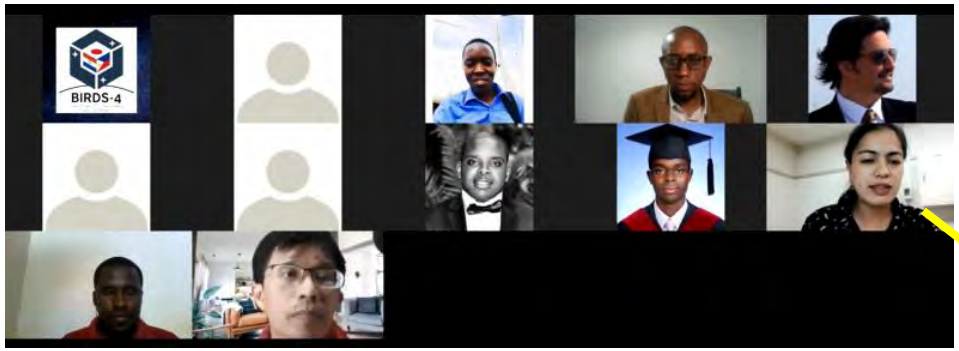


Extract from Izrael's presentation

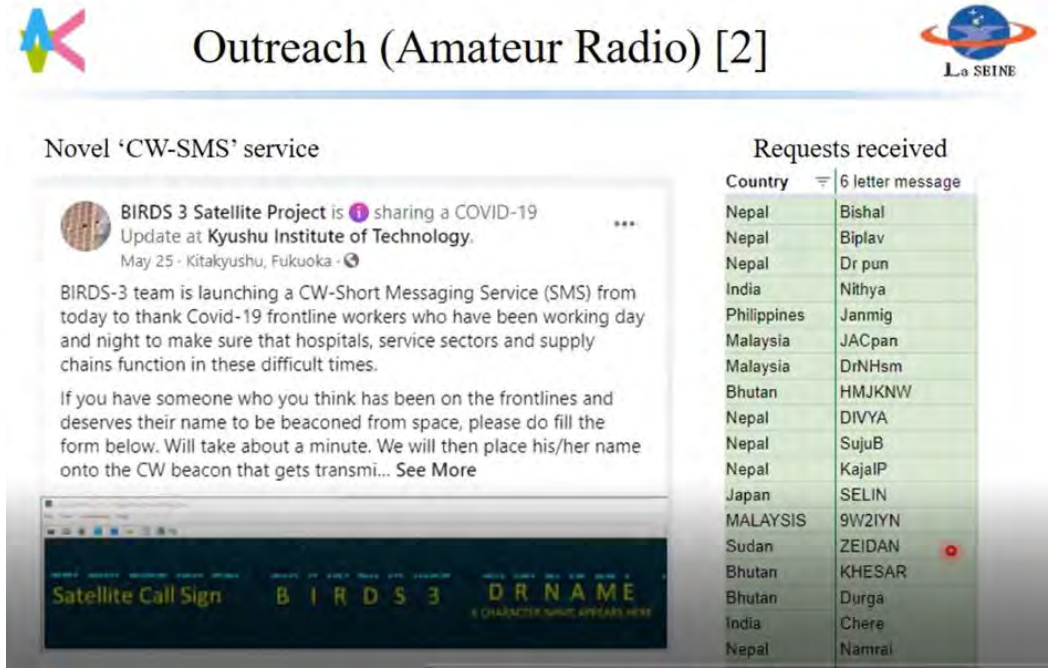
Important Notes from Izrael's Presentation

- Project Management in Satellite development
- Duties of a Project Manager
- Qualities of a Project Manager
  - Handles pressure well
  - Sense of responsibility
  - Decisive
  - Open minded
  - Technical knowledge is a big advantage

BIRDS 3 Missions Status and On-Orbit Results and Operations



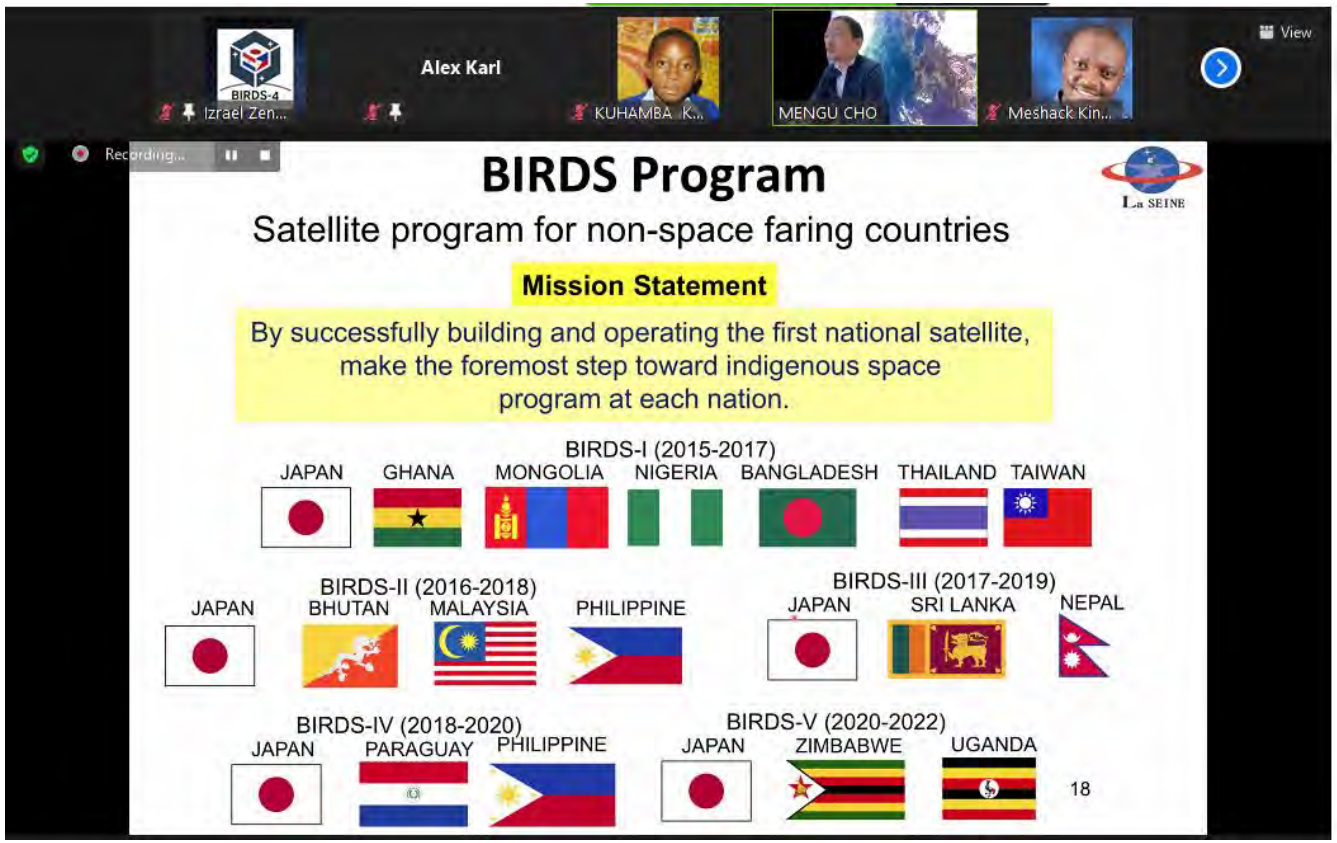
Pooja



Important Notes from Pooja's Presentation

- CW Short Messaging Service to thank COVID -19 front line workers using amateur radio
- BIRD 3 Satellite Missions
- BIRDS 3 Operation Management system
- BIRDS Ground Station Network Support

Kyutech success stories and future plans for satellite development



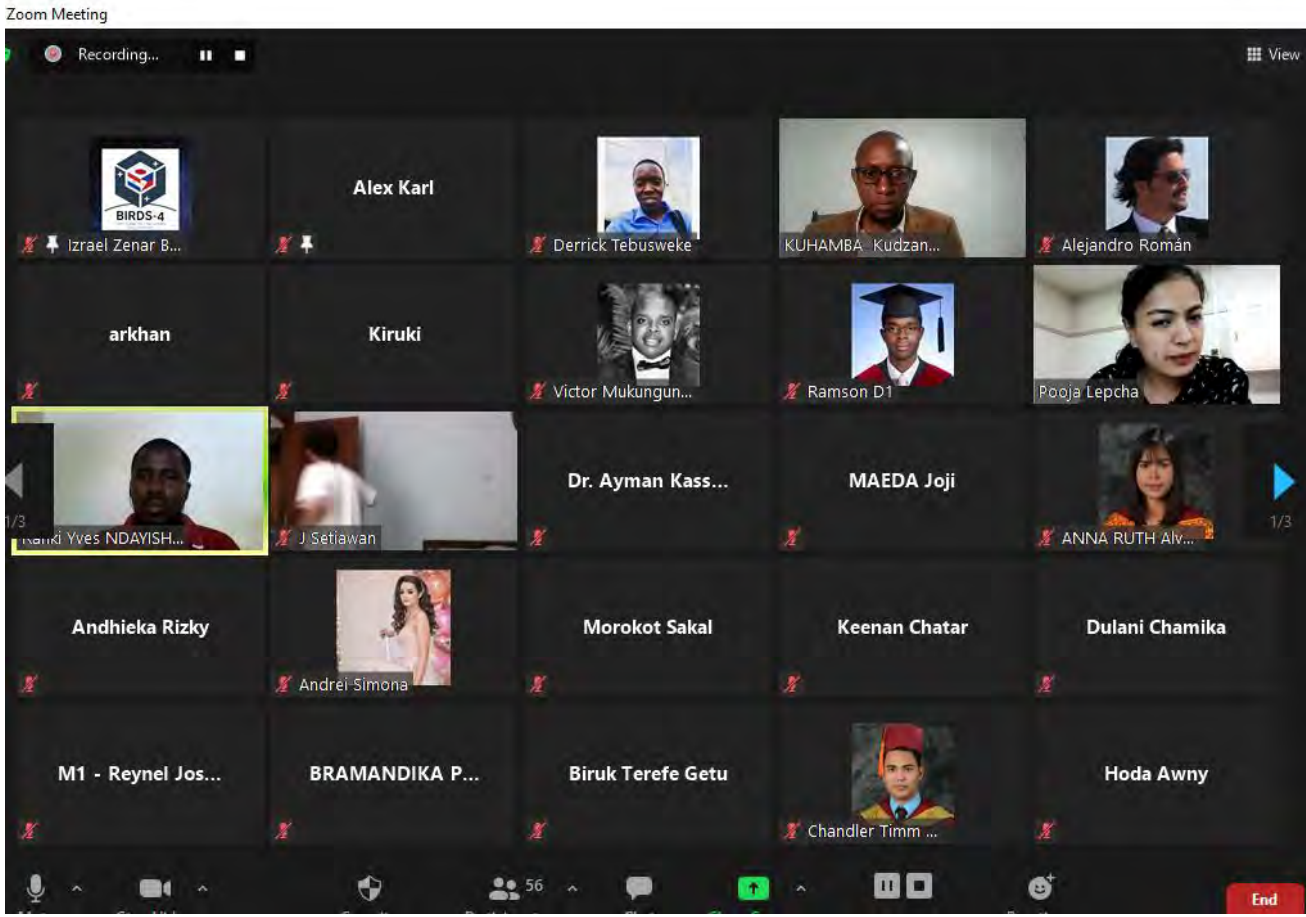
Presentation by Professor Mengu Cho

Important Points from Prof Cho's presentation

- BIRDS Project is two years
- Space Engineering Research at Kyutech
- Center for Nano satellite testing capable for doing all tests for a satellite up to 50cm dimension, 50kg mass
- Kyutech Satellite Heritage
- Capacity building (SEIC and PNST)
- 15 countries have entered space for the past three years through the BIRDS program (BIRDS-1, BIRDS-2, BIRDS-3, BIRDS-4, and BIRDS-5)

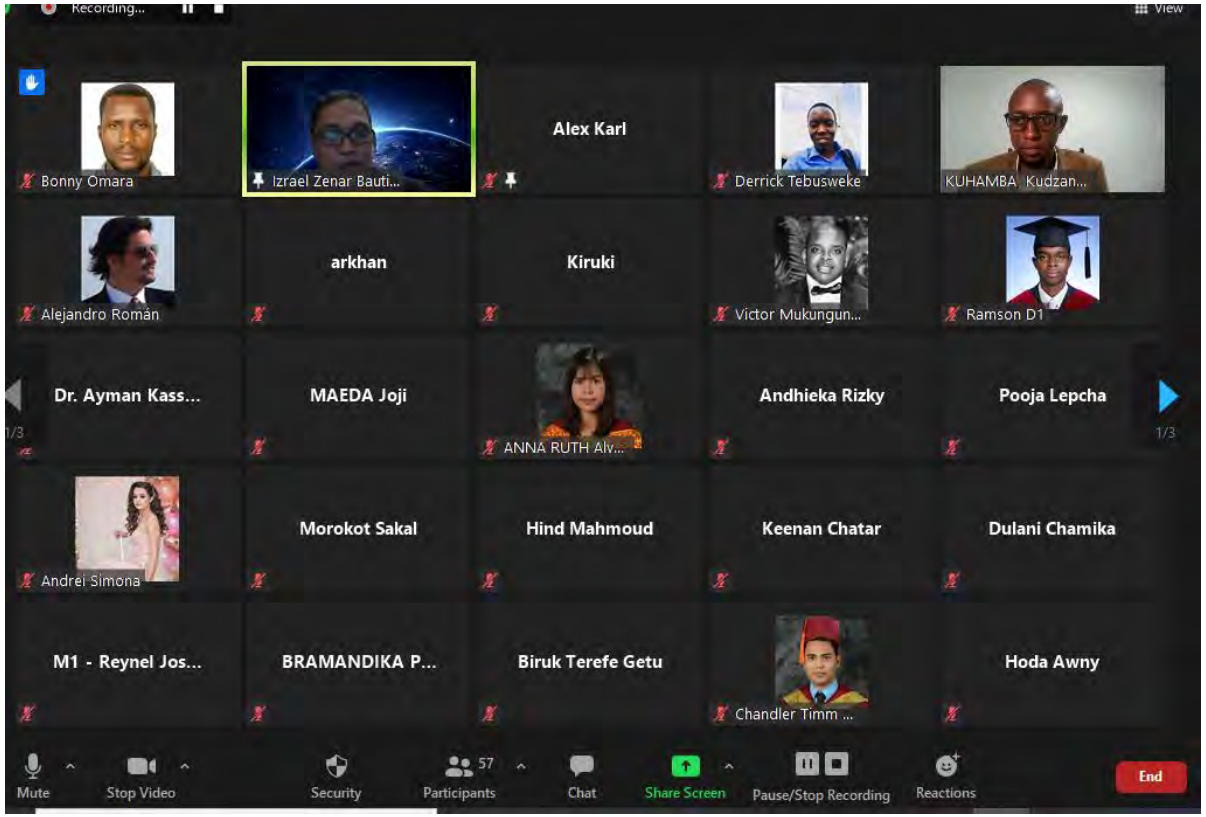
Satellites Improve Life

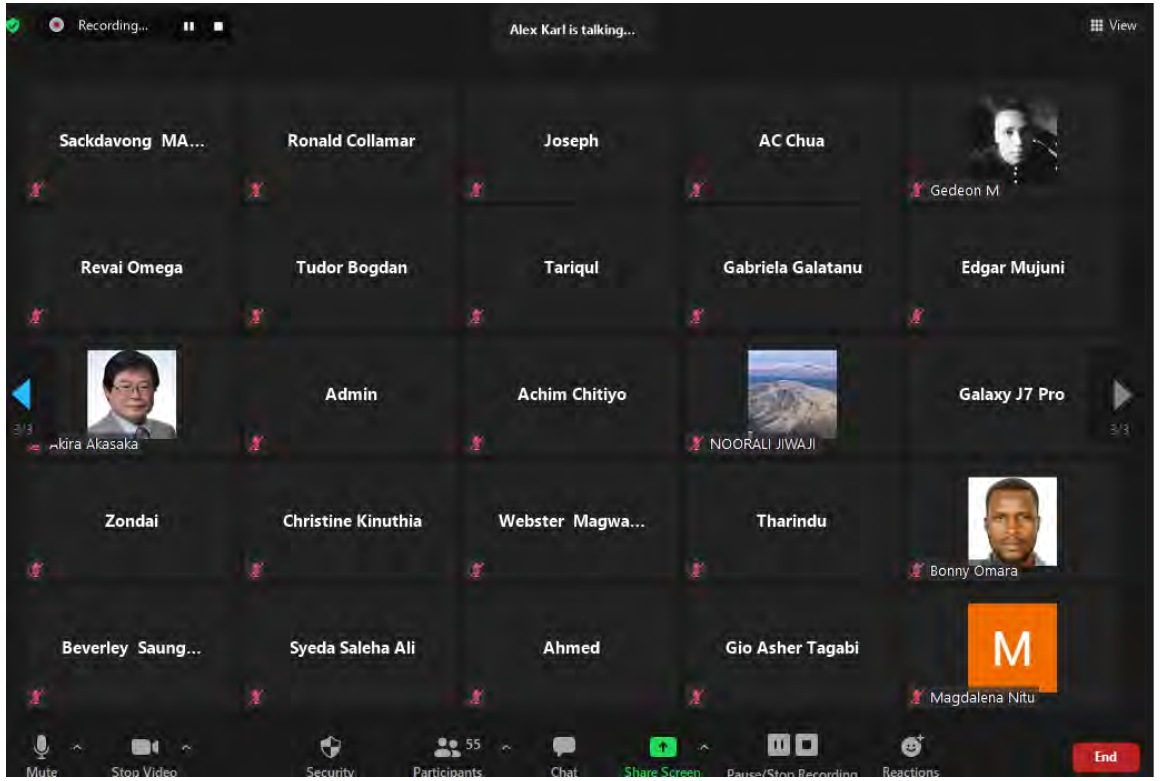
Timothy Kuhamba
– Moderator of this Webinar



Some of the Participants

Webinar Participants





African Union GMES programs

by Meshack Ndiritu

(GMES = Global Monitoring for Environment and Security)

Important Points from Meshack's Presentation

- African Space Policy and Strategy goals
- **GMES programs**
  - Marine and Coastal Applications
  - Monitoring and Forecasting of physical and Biological Oceanography variables
  - Fishing Zones Monitoring and Protection
  - Aquaculture Sites Monitoring and Protection
  - Coastal Ecosystems mapping and assessment
  - Ship traffic monitoring
  - Oil spill monitoring and warning
  - 3 day marine weather forecast

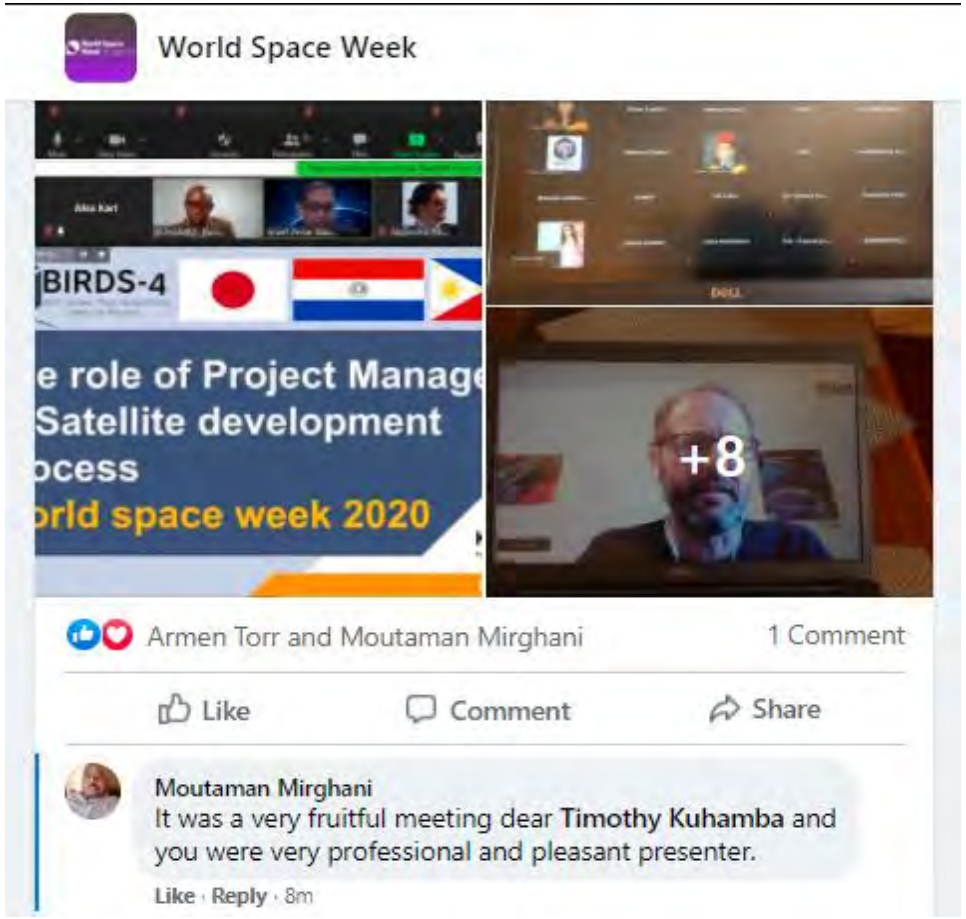
Land and Water Applications

- Water Balance Monitoring
- Water level for fluvial navigability and hydrology cycle monitoring and assessment
- Riverine Floods and Assessment
- Wetlands Monitoring
- Water Abstraction Surveillance Monitoring and Assessment in Irrigated Areas
- Open Geographical Regional Reference Vector Database and Agro Ecological Zonings

Land Degradation Monitoring Assessment

- Natural Habitat Monitoring and Assessment
- Tropical Forests Surveillance Monitoring and Assessment
- Agriculture Seasonal Monitoring Early Warning and Assessment
- Pasture Seasonal Monitoring Early Warning and Assessment
- Wild Fires Seasonal Monitoring Early warning and Assessment

Feedback on the event



To: KUHAMBA Timothy Kudzanayi

thank you for the invite the meeting was so helpful and insightful

To: KUHAMBA Timothy Kudzanayi

Hello Timothy

Congrats for conducting the Zoom meeting very effectively. It was a very useful and eye opening meeting.

Dear Timothy,
Thank you for the invitation and hosting this nice event. Well done!
Best regards,
Alex

Timothy: The event was impressive.
The line-up of speakers was excellent. And most of all: You did a good job tonight.
Organizing something like this is a lot of work --- thank you for doing it.
It seems you have some experience with this kind of thing! Sleep well tonight, G. Maeda.

Dear Timothy,
As Prof. Maeda said, you put a lot of efforts into that and we appreciate you. Hank you for the very informative sessions. Now we wait for BIRD 5 to fly!

Lessons learned in organising the event

- There is a need to organize the event early and have posters for advertisement of the event
- Recording of videos for the publicity of the event
- Some participants missed the event due to the different times zones
- Send reminders to participants starting from 5 days before the event

Special thanks to the speakers Alex Karl from the World Space Week, Professor Mengu Cho, IZ Bautista, Pooja Lepcha from Kyushu Institute of Technology University, Meshack Kinyua from African Union and all the participants. To Professor Maeda and BIRDS 5 team well done for your continued support #WSW2020

BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

BIRDS-5 CubeSats
Kyushu Institute of Technology

THE END

This is a new column !

GST
= Ground Station Terminal

GST Column No. 1

Topic: *Introduction of GST builders*

– Pooja Lepcha, 18 Oct. 2020

For the introduction of GST, please see **BPN Issue No. 51**, pages 133 to 142.
https://birds1.birds-project.com/files/BIRDS_Newsletter_Issue_No.51.pdf

Currently, we have active participants from 7 countries developing GST in their home countries.

Now meet our diverse team …

From the builders…

Ke-Yen Hsu (Taiwan)

Master student of EE of NCKU, who supports operations from ground station in Taiwan.
He is also responsible for satellite communication system and Telemetry, Track & Command (TT & C) of new Cubesat project of NCKU. Now he is Taiwanese GST builder.
Application: Obtain the number of suspended particles in the air, i.e. PM1.0, PM2.5 and PM10

1931
國立成功大學
National Cheng Kung University

From the builders…

Federico Gaona (Paraguay)

I am Federico Gaona, I was born on August 25th, 1986, in Asunción, Paraguay. I am an Electronics Engineer and I have Masters in Technologies' Information. I received both degrees from the Polytechnical School of the National University of Asunción. I have been led the Electronics and Mechatronics' Research Group (GIEM) since 2011. I am in charge of the design and development of the early warning system for bedbug reinfestation, to be used in the S&F mission in Birds4.

With our GST for the KITSUNE satellite, we are pretending to measure variables of the agricultural soil, such as: humidity, temperature and electrical conductivity in order to generate valuable data for the farmers. With this project, we aim to lead our country towards a precision agriculture practice, since it represents one of the most important economic activity in Paraguay.

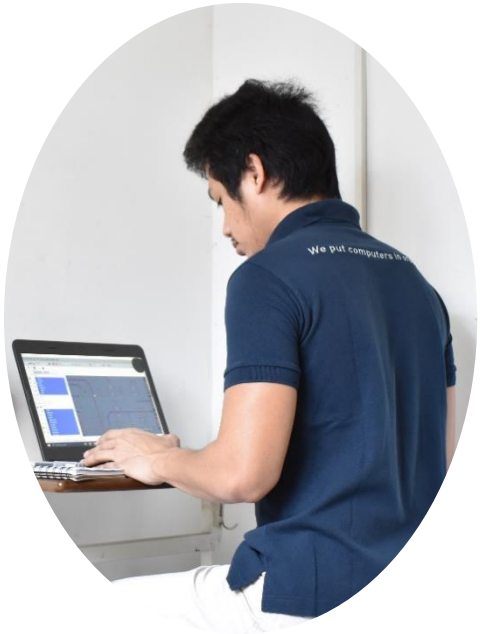
From the builders…

Juan J. Rojas (Costa Rica)

Juan J. Rojas is a researcher and lecturer at the Costa Rican Institute of Technology, he is a staff member of the Space Systems Laboratory and coordinates the Clean Energy Research Program. His research focus on electrical power systems and instrumentation for lean satellite projects. He received a B.S. in Electromechanical Engineering and a M.Sc in Electronics from the Costa Rica Institute of Technology and a D.Eng in Applied Science for System Integration Engineering from Kyushu Institute of Technology.

In Costa Rica, we will use the GST to measure the water level in the wetlands of Palo Verde National Park. Other environmental variables will be measured as well, like humidity and temperature, among others.

From the builders…



Jeric Brioso (Philippines)

Engr. Jeric Brioso is a Research Engineer at STAMINA4Space Program's STeP-UP Project, a program funded by the Department of Science and Technology (DOST) and implemented by the University of the Philippines Diliman and DOST- Advanced Science and Technology Institute. Prior to joining the program, he worked on projects related to disaster management such as Information Dissemination using Television White Space; and Wireless Vehicular Communications. Currently, he is developing the LoRa-based ground sensor terminal for remote data collection and leading the training and undergraduate courses offering related to space science and technology applications. He also assists in the operations of UP Amateur Radio and Satellite Station wherein tracking, telemetry, and command of the country's amateur satellites are conducted.

Objectives/Applications of the LoRa-GST.
1. To demonstrate the capabilities of LoRa for remote sensing applications.
2. To complement the current remote data collections using the APRS Store and Forward of BIRDS cube satellites.

From the builders…

Nik Amirul Aiman Bin Rahmat (Malaysia)

University: Universiti Teknologi MARA (UiTM) Shah Alam, Malaysia

Education: Bachelor of Engineering (Hons.) Electronics Engineering

Field: Satellite Communication

My role in this project

My role is to design the specification of Ground Sensor Terminal required for this project. I am responsible for the hardware and software configurations which involve the duty of selecting the appropriate main mission, antenna design, and system flow.

From the builders…

Dibodh Lamichhane (Nepal)

Currently working in Nepal Academy of Science and Technology (NAST) for BIRDS 3 satellites Ground station including Student outreach activities for school levels. As I am very much excited and motivated for Ground sensor Terminal design and development for KITSUNE satellites after 3rd BIRDS Ground Station workshop at Kyutech Japan.

In Nepal we have many inaccessible areas in the country, weather monitoring of those places are almost impossible because of no telecommunication and internet facilities. To receive weather data from tourist areas in Himalayas and very remote areas Nepal government is paying lots of money for weather satellites of foreign countries.

KITSUNE GST Project is helping capacity development in design and development of Transceiver and antenna system in the Nepal which is going to be very much beneficial for remote weather data collection in Nepal. Weather forecasting division is also much more excited to get weather data which we can provide them in free of cost. Three times real time data in 24 hours is also very much important data for weather analysis and prediction of weather in such important and remote places of Nepal for weather and forecasting division

From the builders…

Kavindra Jayawardena, Director of Communication Engineering

Arthur C. Clarke Institute for Modern Technologies Sri Lanka
Contact: 0094717071813, Email: kavindraaccimt@gmail.com
Experience: 22+ years, project management, embedded control systems
Tasks in this duty: Technical advice, Remote system implementations, integration, stakeholder coordination

Samantha Pushpakumara, Research Scientist

Arthur C. Clarke Institute for Modern Technologies Sri Lanka
Contact: 0094714818712, Email: samanthaaccimt@gmail.com
Experience: 18+ years, project management, embedded control system, design development of embedded control system firmware
Tasks in this duty: Design development of hardware for sensor interfacing, communication protocol, the main system of embedded control solution, Remote system implementations, integration

From the builders…

Kaveendra Sampath, Electronics Engineer

Arthur C. Clarke Institute for Modern Technologies Sri Lanka
Contact: 0094772985395, Email: radkaveen@gmail.com
Experience: 8+years, project management, embedded control system, design development of RF communication hardware and antennas
Tasks in this duty: Design development of hardware for communication protocol connected RF systems, Remote system implementations, integration

G. D. N. de Silva, Assistant Engineer

Arthur C. Clarke Institute for Modern Technologies Sri Lanka
Contact: 0094776590944, Email: dinushadesilva@hotmail.com
Experience: 18+ years, hardware troubleshooting, RF testing, system implementation, and integration
Tasks in this duty: Testing the main system of embedded control solution, Remote system implementations, integration

From the builders…

Rohana Dasanayaka, Act. Director/ Information Technology

Arthur C. Clarke Institute for Modern Technologies Sri Lanka
Contact: 0094714414489 Email: rohanadasanayaka@gmail.com
Experience: 20+ years, Computer Networking, Data Processing and Programming
Tasks in this duty: Data Processing, server connectivity and Integration

That ends the introduction of GST builders for now.
The next issue of ***GST Column*** will feature progress of GST development in each country.

Stay tuned!!

The space agency of Paraguay

Media coverage in Paraguay of the BIRDS-4 Handover to JAXA

Submitted on 8 Oct. 2020 by:
Enrique Niels Martinez - Communications Director, AEP
Alejandro Roman - General Director of Aerospace Development, AEP

Echoes of the BIRDS-4 Handover Ceremony in Paraguayan press.

Enrique Niels Martínez – Communications Director

Alejandro Román – General Director of Aerospace Development

Publications from the office of the President of the Republic of Paraguay and from his Excellency the President himself, congratulating AEP and all the institutions involved for the Handover of the first Paraguayan Satellite.

Headlines and echoes on major printed and online newspapers

ULTIMA HORA

www.ultimahora.com

COMPRA OPCIONAL

Ciudadanos de Paraguarí solicitaron pérdida de investidura de Miguel Cuevas

PQ y Hagamos impulsan la expulsión del Senado de Javier Zacarías Irún

Argumentan uso indebido de influencias e incompatibilidad. En el sector liberal Zulma Gómez quiere reposición de Dionisio Amarilla y María Bajac. Buzarquis pide la vuelta de Payo Cubas.

PÁGINAS 6 y 7

Prevé deuda por USD 292 millones

Hacienda envió paquete de leyes para reactivación de la economía

En Radio Monumental 1080 AM

Paraguay dio un paso en la carrera espacial, sostiene el titular de la AEP

PÁGINA 42

Afecta a unos 300 camiones

Cargas de bananas y carne refrigerada están varadas por bloqueo en Clorinda

PÁGINA 12

Alta puja por conseguir camas para casos Covid

Saturación. Hasta de centros privados piden traslado al sector público porque ya no pueden pagar los costos. Hay otros 15 fallecidos.

PÁGINA 2 a la 4

LIBERTAD PARA

2.275 DÍAS

1.444 DÍAS

17 DÍAS

Formaban parte de la administración de Édgar *Beto* Melgarejo

Dinac reubica y no sanciona a sumariados por tapabocas de oro

PÁGINA 17

SUSCRIBIENDOTE A ULTIMA HORA TENÉS 10%

Mundo

Test final de vacuna Novavax

Paraguay da un paso más hacia la carrera espacial con el GuaraniSat-1

El primer satélite paraguayo, GuaraniSat-1, entraría en funcionamiento en los primeros meses del próximo año. Su primera misión será la prevención del mal de Chagas en el Chaco paraguayo.

Ing. Alejandro Román

Detalles

Escaneado con CamScanner

BIRDS Project Newsletter – No. 57

Headlines and echoes on major printed and online newspapers

Orgullo Nacional means National Pride

https://npy.com.py/2020/09/orgullo-nacional-primer-satelite-paraguayo-es-presentado-en-japon/?fbclid=IwAR0Bc9Va8IaYSuQxRCtrt0yCY1UT_YVT5G3soUx4soOsT7DeosVEMmTHsBg

Headlines and echoes on major printed and online newspapers

abc NOTICIAS EDICIÓN IMPRESA NACIONALES DEPORTES ESPECTÁCULOS MUNDO ABC MARKET tv am730

NACIONALES

Entregan satélite paraguayo a la Agencia Espacial de Japón

Esta noche (hora de Paraguay) se realizó la entrega oficial del GuaraniSat1 a la Agencia Japonesa de Exploración Aeroespacial (JAXA) que lo pondrá en órbita a principios del 2021. El dispositivo, diseñado y construido por dos ingenieros paraguayos en el Instituto de Tecnología de Kyushu (Kyutech), Japón, cumplirá varias misiones, entre ellas, el monitoreo del mal de Chagas en el Chaco Paraguayo.

POR ABC COLOR
24 DE SEPTIEMBRE DE 2020 - 00:17

abc NACIONALES Entregan satélite paraguayo a la Agencia Espacial de Japón

El embajador Raúl Florentín Aróstegui en la que se conoce como "sala limpia" con el satélite entregado a la JAXA, análogo de la NASA, de los Estados Unidos.

La entrega del dispositivo es la certificación de que este cumple con todos los estándares tecnológicos de hardware y software para ser puesto en órbita. Este el resultado de la cooperación académica y científica entre ambos países. Este modelo de trabajo también ha beneficiado a otros países como Filipinas, que también entregó un dispositivo en dicho acto a la JAXA.

Misiones

GuaraniSat1 cumplirá diez misiones, entre ellas, la principal el monitoreo del mal de Chagas en la zona del Chaco paraguayo. Asimismo, será pionero en testear un nuevo tipo de pegamento de los paneles del nanosatélite de manera a abaratar los costos de construcción de uno, ideal para los países en desarrollo. También innovará en una nueva modalidad de antenas, pues la propia estructura del cubo satelital fungirá de transmisora.

Según el cronograma se espera que en el primer trimestre del 2021, el GuaraniSat1 entre en órbita y así se consolide este proceso que ha sentado las bases de la carrera espacial del Paraguay con futuras misiones que ayuden al desarrollo tecnológico de nuestro país.

abc

Recibí más contenido de ABC

Headlines and echoes on major printed and online newspapers

INICIO NOTICIAS COVID-19 CONTÁCTENOS

Se presentó en Japón primer satélite que representará a Paraguay en el espacio

26 septiembre, 2020

Asunción, Agencia IP.- En la ciudad de Kitakyushu, Japón, se realizó la ceremonia de entrega del primer satélite paraguayo, el Guaranisat-1, desarrollado mediante la 4ª Edición del Proyecto Birds, en la que fueron desarrollados conjuntamente satélites por parte de ingenieros de Filipinas, Japón y Paraguay.

La ceremonia se realizó en el Instituto Tecnológico de Kyushu (Kyutech), situado en la ciudad de Kitakyushu, aproximadamente a 1.000 km al sur de Tokio, Japón.

El satélite Guaranisat-1 fue diseñado, desarrollado y montado por profesionales paraguayos en el marco de un programa académico del Instituto Tecnológico de Kyushu, con el patrocinio de la Agencia Espacial del Paraguay (AEP).

Kyutech ha sido el hogar de los ingenieros Adolfo Jara y Aníbal Mendoza, quienes además de concluir estudios de posgrados muy especializados han sido los padres del primer nanosatélite que representará a Paraguay en el espacio. Además, continúan trabajando en otros proyectos y pronto se sumarán a ellos otros dos ingenieros.

El éxito de este proyecto se debe al inmenso sacrificio y dedicación de estos jóvenes ingenieros y además al invaluable apoyo y compromiso

El éxito de este proyecto se debe al inmenso sacrificio y dedicación de estos jóvenes ingenieros y además al invaluable apoyo y compromiso de la AEP, que no escatimó esfuerzos para llevar a cabo su plan del «Paraguay al Espacio», que tiene como objetivo incluir a nuestro país en un programa de formación de capacidades internacional.

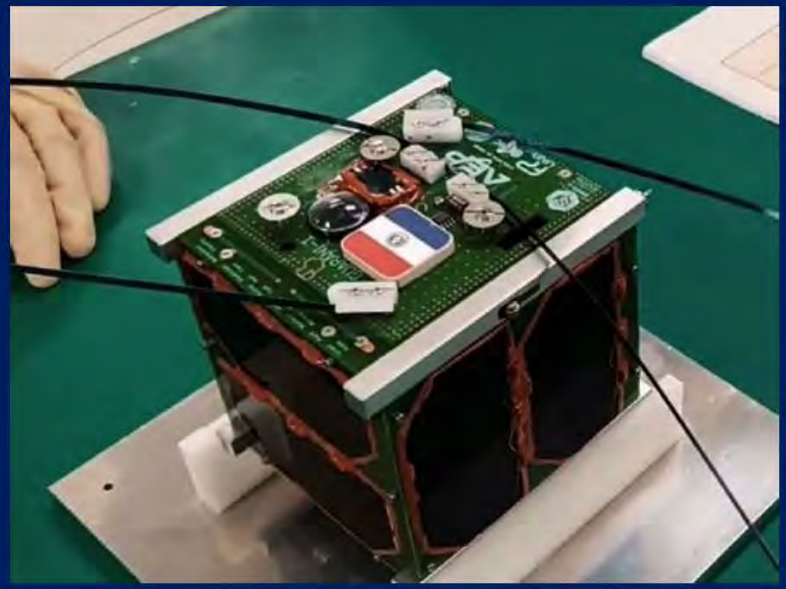
La ceremonia contó con la participación del embajador del Paraguay en Japón, Raúl Florentín, y el acto fue seguido de manera virtual por el canciller nacional, embajador Antonio Rivas Palacios; el presidente de la Agencia Espacial del Paraguay, Cnel. Liduvino Vieldman; la Rectora de la Universidad Nacional de Asunción, Prof. Dra. Zully Vera de Molinas, entre otros.

El embajador Florentín, el Cnel. Vieldman y el presidente del Instituto Tecnológico Kyutech, Yuji Oie, hicieron uso de la palabra para resaltar la importancia de esta fecha histórica para el Paraguay y el valor que tendrá para la formación de recursos humanos altamente capacitados en Paraguay. Pusieron énfasis en la importancia de continuar el proyecto y avanzar en la construcción de próximos nanosatélites con las más avanzadas tecnologías.

Una vez en órbita, el Guaranisat-1 desarrollará 10 misiones el próximo año. Una de ellas consiste en el monitoreo del mal de chagas en nuestro país.

Paraguay se encuentra sumamente agradecido con el Japón, con la Agencia Japonesa de Exploración Aeroespacial (JAXA), con el Instituto Tecnológico Kyutech y con los jóvenes ingenieros de la AEP por este inmenso logro, manifestó la Cancillería Nacional.

Headlines and echoes on major printed and online newspapers



Links Edición digital Diario Ultima Hora 24 de setiembre 2020

https://www.ultimahora.com/el-primer-satelite-paraguayo-fue-presentado-japon-n2906216.html

https://www.ultimahora.com/en-japon-se-presento-el-primer-satelite-paraguayo-n2906273.html

Meridiano Informativo – Telefuturo al mediodía

https://www.youtube.com/watch?v=RF0gfhLkyIY&t=24s

Telediario – Telefuturo
a la noche

National, Air, Cable and Online Television Coverage

C9N Noticiero Central del Mediodía

https://www.youtube.com/watch?v=TDPJHgc7PIw&t=89s

National, Air, and Online Radio Coverage

National, Air, and Online Radio Coverage

Interviews with the President of AEP

National, Air, and Online Radio Coverage

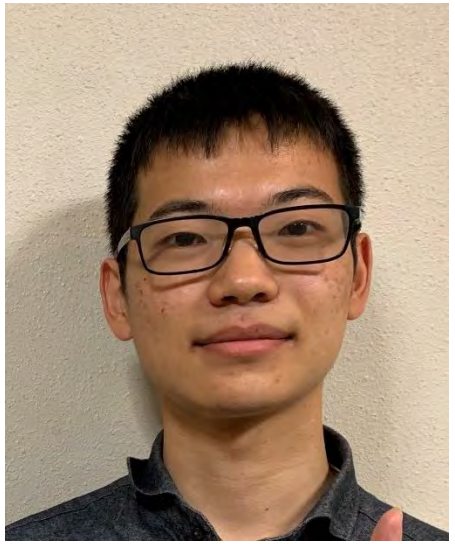
Presence in National and International Events

Presence in National and International Events

End of news from Paraguay

Presence in National and International Events

Kyutech’s Exhibition in the City Center



By : Fahd MOUMNI and Yukihisa OTANI

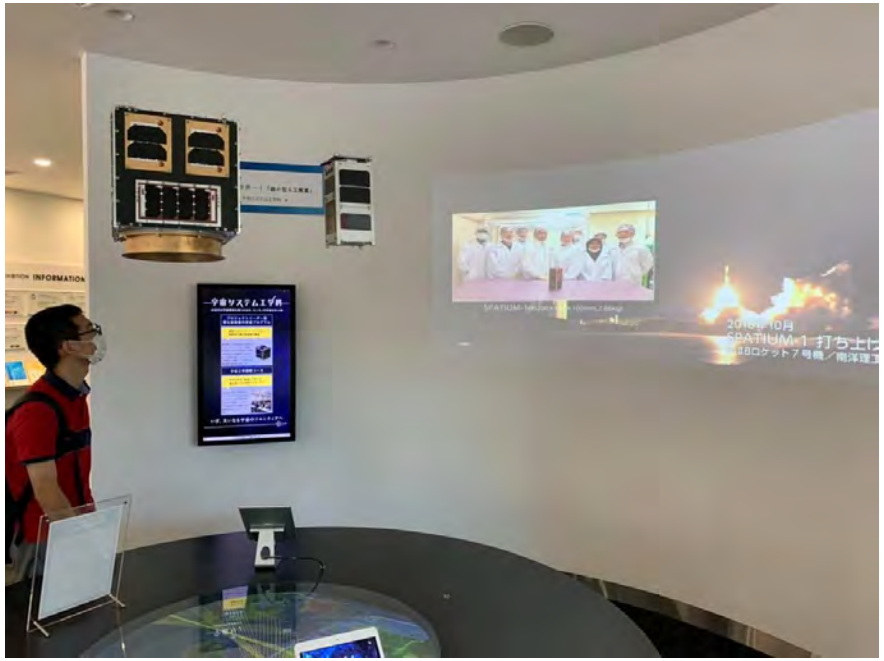
14/OCT/2020

A showroom in the city center

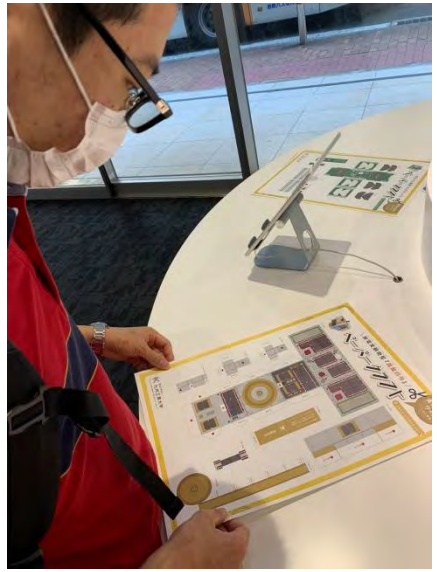
- In cooperation with Kyushu Institute of Technology, the company YE DIGITAL, owned by YASKAWA Electric Corporation, are exposing and advertising about Kyutech through its Space projects.
- Replicas of the cubesatellites are present in the showroom as for an explanatory video and other Kyutech's satellite-related objects.
- The showroom is open for everyone freely, which can be very beneficial for both Kyutech and the company.

Otani san at the entrance of the showroom

Some Exhibition Information at the entrance



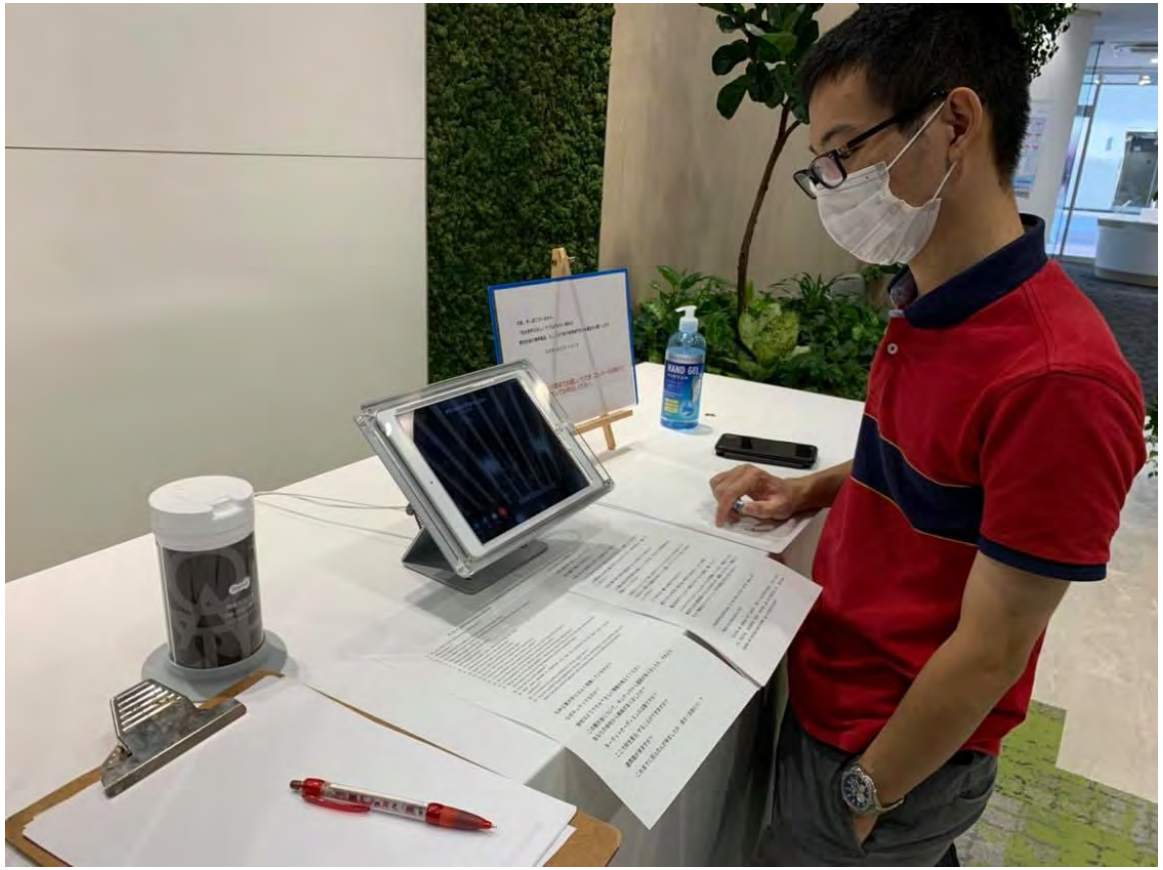
Explanatory video and replicas of satellites



Paper-folding activity for a Horyu-4 replica

Planning the visit & interview

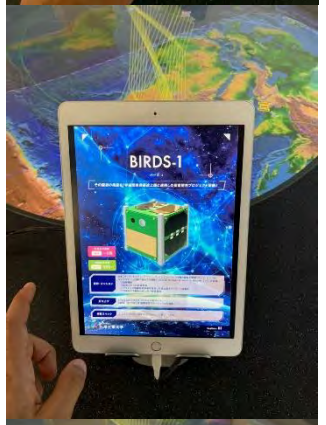
- As the showroom was found unexpectedly by one of our members, decision was made to go get more clarifications about the event and maybe how could that be of use for the BIRDS projects.
- Otani san and Fahd decided to take care of the mission and prepared many questions to get the most of the visit.
- About 21 different questions were asked to one of the company representatives within the showroom.
- The interview was done in Japanese only, hence the great help provided by Otani san.

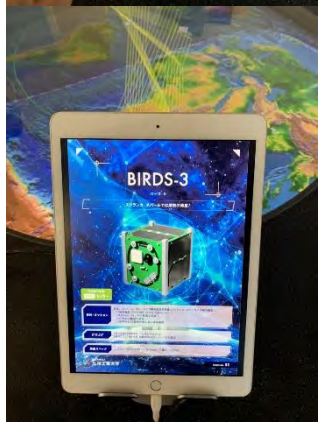


Calling for a representative to do our interview and reviewing the questions as someone came

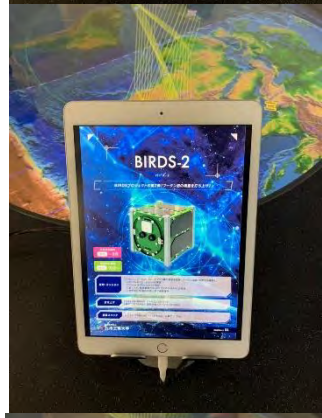
Feedback of the interview

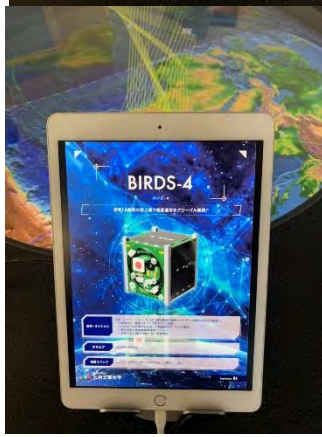
- Yaskawa Electric does support Kyutech projects from quite a time already
- The showroom attracts students, children, adult civilians but mostly partner companies
- Generally the showroom is open until Friday 17:00 for everyone, however partner companies schedule appointments for deeper discussions
- Around 100 visitors come per month when a special event is organized, in a normal time, 30 visitors approximately come monthly
- Among the questions usually asked by visitors : What is the purpose of making the cubesats ? How much does it cost ? What is its real size ? Where do we make them ?
- YE DIGITAL are planning on bringing more young people from the environnement of their employers and their families
- Other means of advertisement are the pamphlets, the web homepage and e-mails containing information promoting Kyutech and their space projects among the company's network
- The number of visitors for now has no limit
- Students from Kyutech can, if they want, share their experience on the company's homepage by contacting them
- The exhibition theme is changed every 3 months



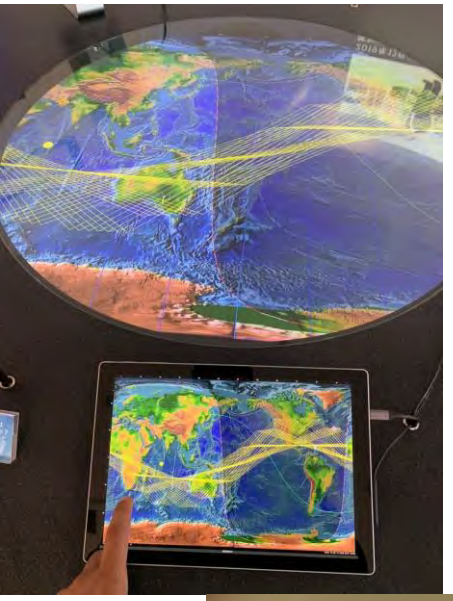


Descriptive information were given about the various projects of LaSEINE starting from Horyu to BIRDS-4 and talking about Futaba, Spatium, Aoba-Velox and others

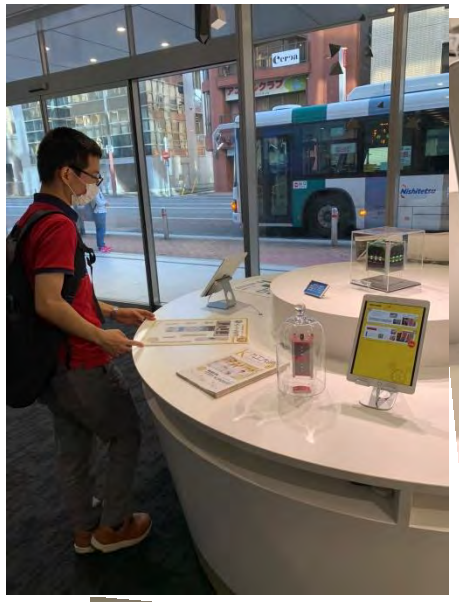


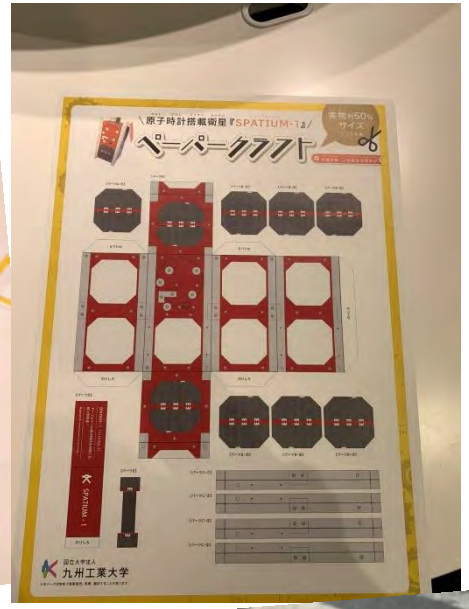


More pictures



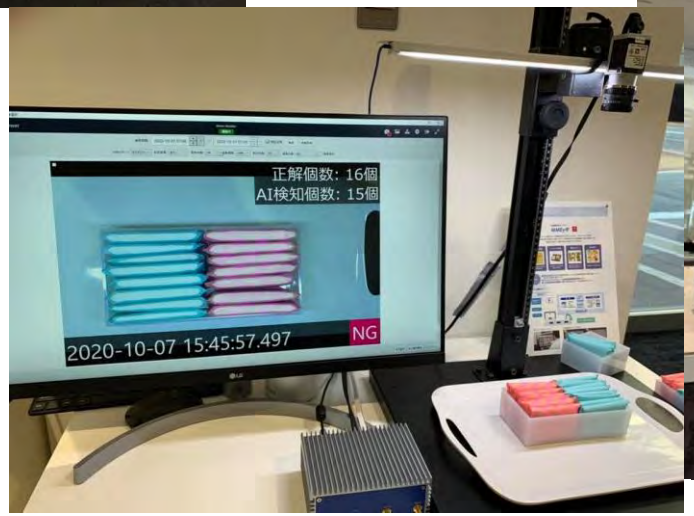
Synchronized vizualisation of the satellites tracks





← Material and tutorials for making a paper version of Spatium-II

Some Machine Learning applications were also exposed



Enjoying Taiyaki on the way back

Being interviewed by a Japanese local radio

By : Fahd MOUMNI

14/OCT/2020

The context

- Living in one of the campuses dormitories make you meet a bunch of people from many parts of the world (mostly Asia) and with different backgrounds.
- The Global Cultivation Center (国際研修会館) is an accomodation for both japanese and foreign students.
- In front of our residence, the Meisen dormitory 明専寮, hosting mostly first year students, animates a weekly session in a local radio, talking about many subjects related to campus life by interviewing students.
- In September, a request was posted on our dormitory's LINE (Japanese Whatsapp) : They wanted to interview one foreign and one japanese student from the same residence about many cultural aspects, but…all in japanese language !!
- I immediately expressed my interest hoping for it to be a motivation to work more on my vocabulary and because I always had this envy to share my culture with as many people as possible !

The Global Cultivation Center

The Meisen dormitory

(Pictures taken from Kyutech's website)

The preparation

- Within one month, I had to prepare the interview : it required lots of vocabulary words. Most important was to focus on expressing ideas as simple as possible ! As long as people understand, there is no need to use very complicated words !
- I first asked what would be the topics of the talk : I was told « to present my country or any other », « to talk about the food and gastronomy », then « to talk about some cultural aspects »…I therefore had to prepare a script in function of these answers (in english then translated in japanese).
- I was a bit confident : In the past (and still now), everyone in the dormitory would ask me quite the same questions about my home-country, so I never bothered answering them even if I made mistakes : answering those typical questions helped me to prepare the interview easier than expected.

blog.gaijinpot.com

It is sometimes difficult to deliver exactly what you want to say

https://blog.lingoda.com/

Speaking to native friends would be the best thing to start with

The day of the interview

- To make me feel more comfortable, the japanese student who came with me (Miyu SHINMOTO san みゆ新本さん) is someone who does speak English well, so in case something would be unclear, or words were to be forgotten, support would have been provided.
- After being briefed, we started the interview animated by Kanta SHIGEKAN san (かんたしげかんさん).
- It took a total of around 1 hour, but time was flying as we felt as just having a normal discussion between friends !
- Here enclosed you can find the **YouTube** Video of the interview : https://www.youtube.com/watch?v=EHATpMNEDVE&app=desktop
- The local radio name is : « FM-KITA-Q »

A little picture after the successful interview

A screenshot of the Youtube video

Unexpected outcome

- The listeners were so numerous, and the Youtube video was shared and watched so many times, that even if we were interviewed on the last days of September, we held the audience record for that same month among many other interviews or sessions !
- Among 1.73K subscribers we reached 622 views (as of the 14th of October) !

BIRDS-5 PINO MISSION

(PINO = Particle Instrument for Nano-satellite)

By : Takashi Oshiro

8 Oct 2020

Our stakeholder: JAXA ISAS

- JAXA ISAS:

宇 宙 科 学 研 究 所
INSTITUTE OF SPACE AND ASTRONAUTICAL SCIENCE

http://www.isas.jaxa.jp/

ISAS (Institute of Space and Astronautical Science) is a research institute of JAXA (Japanese Aerospace and Exploration Agency), which mainly conducts researches on space science. It has contributed to space science in Japan a lot.

The ISAS members joined the BIRDS-5 project as a part of the Japanese team's satellite mission. Since ISAS is located in Kanagawa Prefecture, we meet online to share progress and development between each other.

PINO mission (Particle Instrument for Nano-satellite)

- What are the objectives of the PINO mission ?

◆To demonstrate a compact high-energy electron detector onboard a CubeSat using the Si/CdTe semiconductor.

◆To measure the high-energy electron flux precipitating along the geomagnetic fields from the radiation belt.

- **PINO members**

➢ Dr. Shinohara : Mission leader

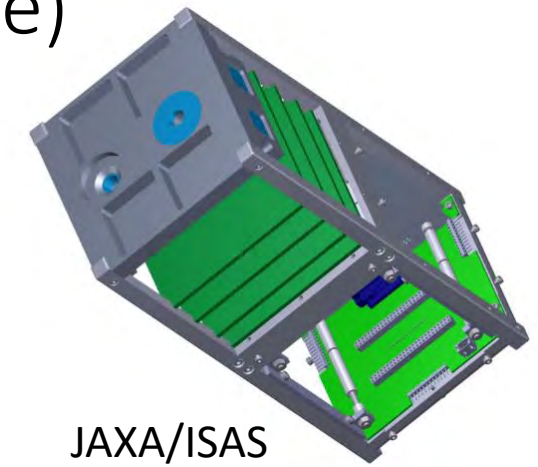
➢ Dr. Mitani : Mission part development

➢ Dr. Teramoto : System interface

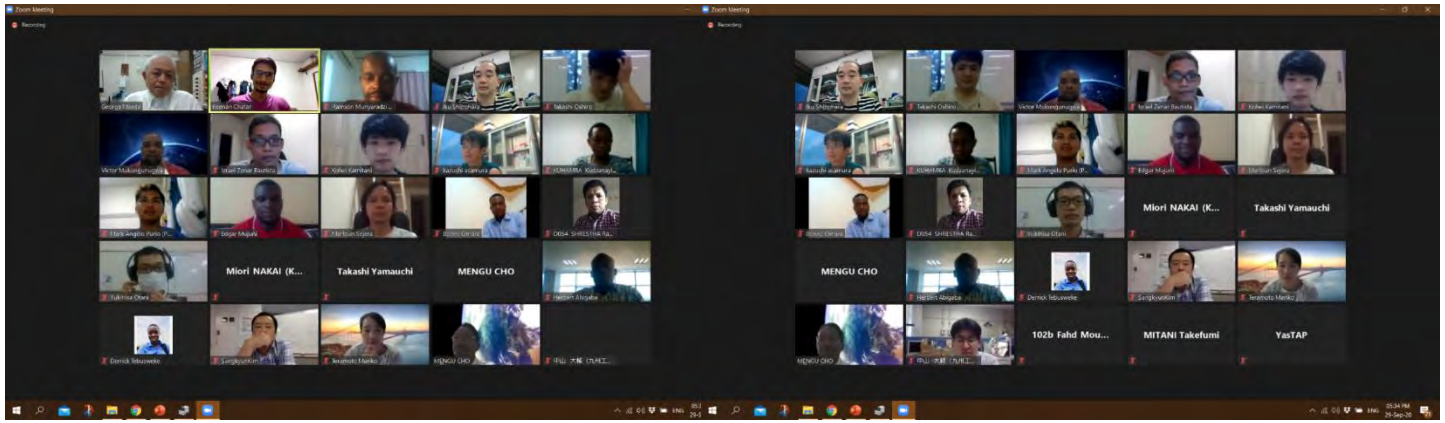
➢ Dr. Takashima : Mission part development

➢ Dr. Asamura : System interface

➢ Mr. Onogi : Software development



JAXA/ISAS



Screenshot of a meeting with JAXA members

The team is supported by JSPS KAKENHI (20H01963).

BIRDS 5 Project Management

By : Victor Mukungunugwa

(Project Manager of BIRDS-5)

13 Oct. 2020

Lessons in project management

LESSONS LEARNT SO FAR

- Communication.
- Accountability.
- Humility.
- Resilience.
- Influence.
- Positivity.
- Delegation.

❖**Early risk identification**

https://digitalsparkmarketing.com/leadership-qualities/

Skills audit among team members

- Identification of the skills among team members
- Identification of grey areas among BIRDS 5 team members
- Assignment to different satellite subsystems was done according to skills of each team member
- Training arranged to capacitate members, done via zoom, by previous BIRDS program members

https://www.indiamart.com/proddetail/training-and-capacity-building-18341955697.html

Skills Audit Among team members

	Background	Research	Programing				PCB Production					CAD		Image processing	
			Python	C	MATLAB	JAVA	other	EAGLE	Soldering	Other	Fusion 360	SOLID WORKS	other	QGIS	ARCGIS	Other
Takashi Oshiro	System engineering	Thermal design														
Yukihisa Otanni	System Engineering	Design the CubeSat Access Port by			-	-	C#, LabVIEW,	-	-	-	-	-	-	-	-	-
Kohei Kamitani	system engineering	Studying SEE (Single Event Effect)														
Miori Nakai																
Fahd Moumni	Materials Science Engineering	Material degradation by irradiation											CATIA			
Keenan	Electrical and Computer Engine	Energy Harvesting/Machine Learning														Computer Vision
Timothy Kuhamba	Physics ,Communication Engine	Antennas														Deep learning
Ramson Nyamukondiwa	Electronics and Communicati	Software Defined Radio					C++, HTML, PhP, Java Script,CSS									
Bonny Omara	Computer Engineering															
Derrick Tebusweke	Electrical Engineering	Hybrid EPS subsystem/OBC														
Edgar Mujuni	Telecommunications Enginee	System automation					C++									
Victor Mukungunugwa	Aerospace Engineerinng	Structure (Machine learning)					MATHCAD						CATIA			Global Mapper

KEY	Colour
0-25%	
26-50%	
51-75%	
76-100%	

https://www.salesforce.com/content/dam/blogs/legacy/2015/01/6a00e54ee3905b883301b8d0b50d4b970.jpg

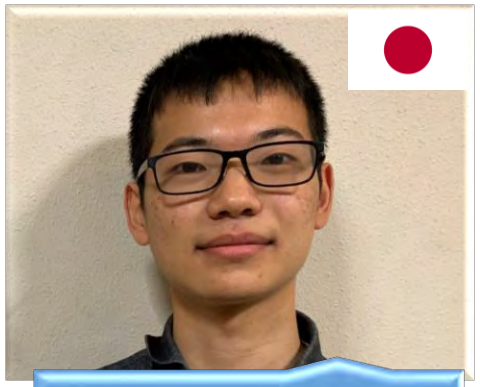
The skills audit gave the Project Manager an insight of his team's capability and an inhouse training is underway to capacitate BIRDS members on the skills required for satellite development.

BIRDS 5 DELEGATION OF SUBSYSTEMS

Japan

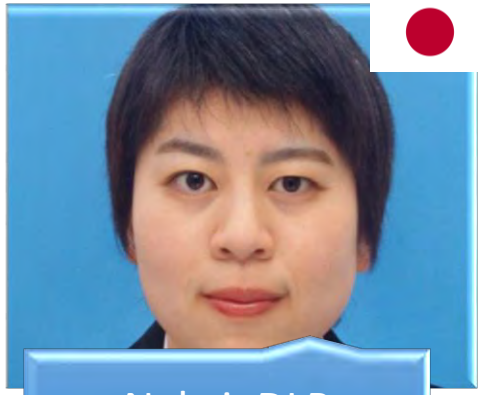
Uganda

Zimbabwe



Otani: OBC

Bonnie: Camera

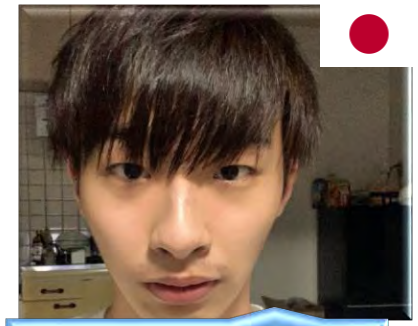


Nakai: DLP

Miori Nakai is the only woman in BIRDS 5

Oshiro: 2U STR

Edgar: S&F



Fukudome : RAB

Ramson: COMs

Languages spoken by these BIRDS 5 Members : Japanese, English, Swahili, Shona, French, South Korean etc.

https://www.pinterest.com/pin/390335492679223857/

BIRDS 5 DELEGATION OF SUBSYSTEMS

Japan

Morocco

Trinidad

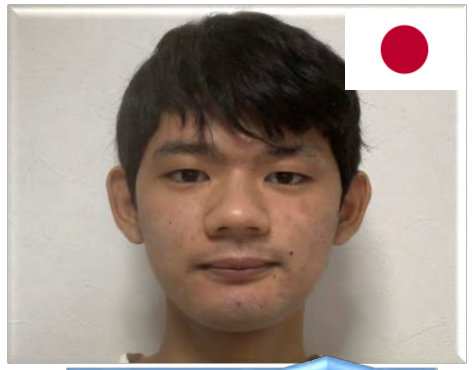
Uganda

Zimbabwe

Timothy: ADCS

Iwase: DLP

Keenan: IC



Kamitani: DLP

Derrick: EPS

Fahd : 1U STR

Victor: PM

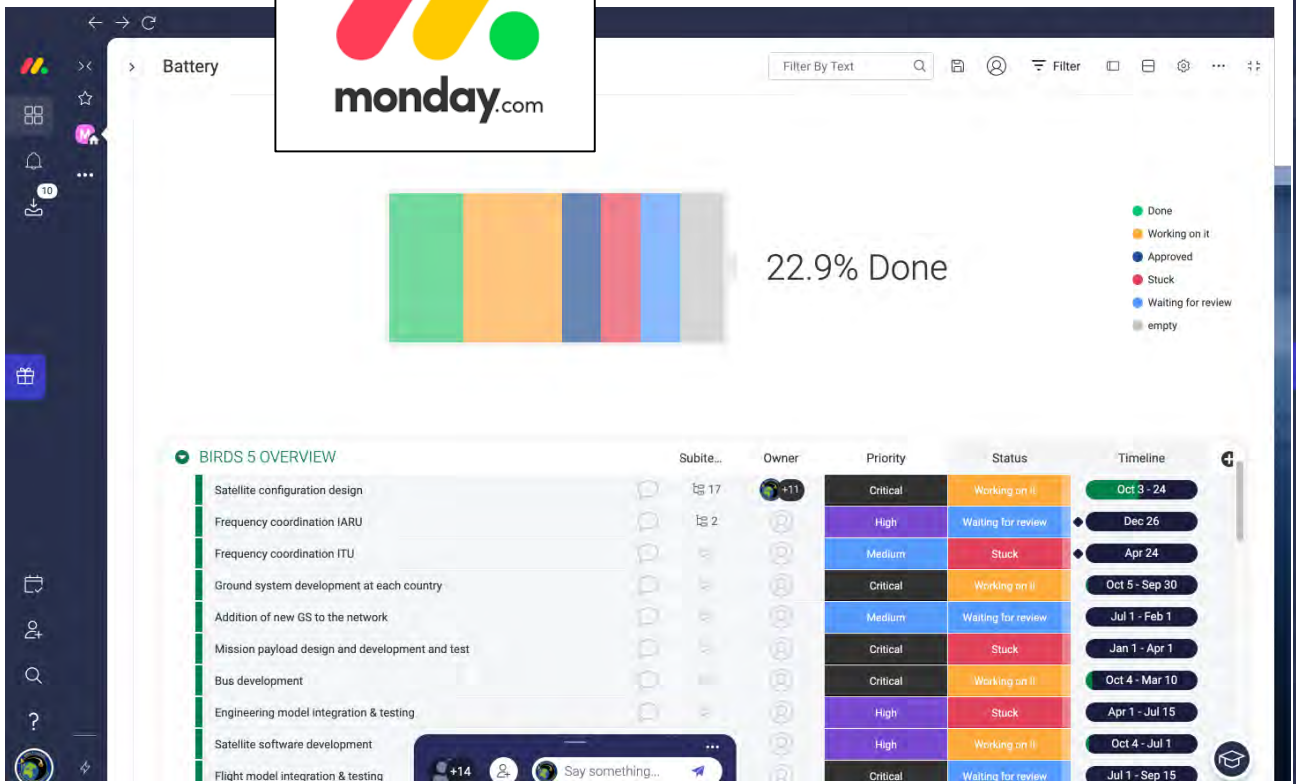
Languages spoken by these Members: Japanese, English, Swahili, Shona, Russian, Arabic, Spanish, French, German, Ukrainian etc.

Key tasks

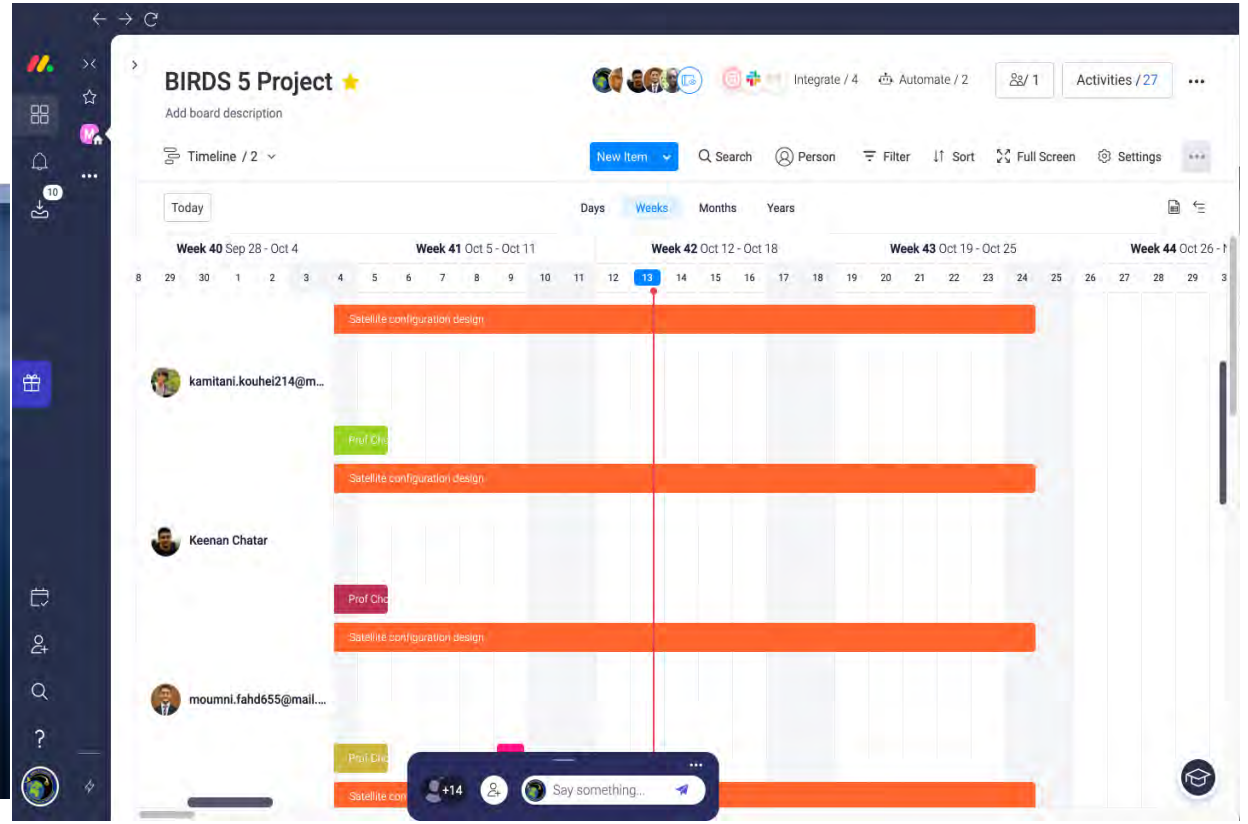
Capacity building (Enhancing team skills through training by previous BIRDS groups) via zoom

- Arranging students meetings via zoom
- Motivating team members
- Team building exercises
- Scheduling and keeping track of tasks assigned using *Monday.com*

Monday.com the tool to an optimized BIRDS 5



22.9% completed for the task to meet the 24th October deadline

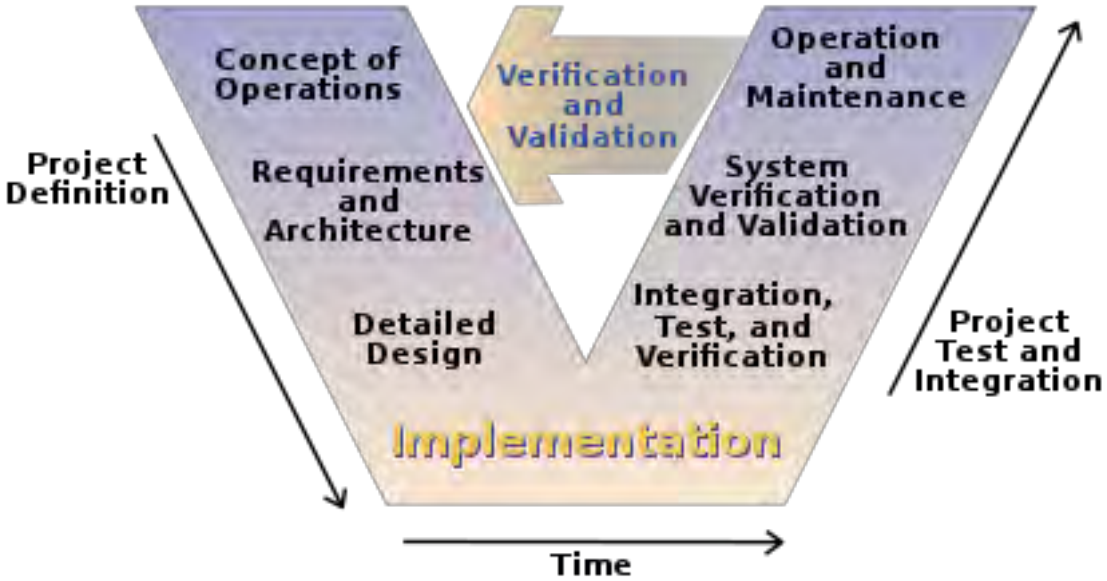


Timelines and tasks until the 24th October

BIRDS 5 Project Manager uses monday.com to track project activities, timelines, due dates, performing and not-well/non-performing members

BIRDS 5 Progress so far

- Mission Design review was done on the 28th of September 2020
- Working towards the Preliminary Design Review
- The milestone for October 2020 is to have a concrete satellite configuration



The V-model of the systems engineering process

https://en.wikipedia.org/wiki/V-Model

END OF PROJECT MANAGEMENT OVERVIEW BY VICTOR

23. BIRDS-5: Ugandan students finally arrive in Japan

Bonny, Edgar, and Derrick, finally arrived in Japan to join the others of the BIRDS-5 Project. They flew from Entebbe Airport in Uganda (via Addis Ababa and Inchon airports). **They arrived at Narita, as shown below**. More details about their arrival will be in the next issue of this newsletter. Between 11 Oct and 26 Oct, they did 15-day quarantine at a hotel near Narita Airport.

Date: 11/OCT/2020
Time: 22:00
Location: Narita International Airport, Japan

24. Startups in Africa, by Nikkei and JICA

Go to here: https://events.nikkei.co.jp/31341/

Webinar

5 November 2020

Details on the next page

As digitalization accelerates around the world, Africa is attracting a lot of attention for new businesses using innovative ideas and technology. Many Japanese companies now become interested in investing in and collaborating with excellent startups in Africa. In this webinar, esteemed Japanese experts will discuss the potential of African new tech businesses, reverse innovations, and business alliances/investments in Africa, from the viewpoints of the resilience against coronavirus-shock. Several African entrepreneurs will also be speaking at this event. If your company is interested in investment from or business alliances with Japanese companies, this will be a good opportunity to learn about trends and interests in Japan.

Nikkei - the Japanese financial media group - will host the webinar in cooperation with Japan International Cooperation Agency (JICA). The webinar will be broadcasted via Zoom platform in English and in French (simultaneous translations from Japanese). We are welcoming your questions to our speakers. Please note that you can ask your question only in English. We will take some polls during the discussion and they are only in Japanese. You need to submit an application form beforehand for joining the webinar. The URL for the zoom will be sent via email by the day.

NIKKEI event&seminar
日経イベント&セミナー

Date	Nov. 5, 2020 (Thur.) 08:00～09:30(EAT), 07:00-08:30(CAT), 06:00-07:30(WAT)
Venue	Zoom
Application Fee	Free of charge
Capacity	3000 people *A lottery may be held if there are more than capacities.
Application due date	Nov. 2, 2020 (Mon)
Organized by	Nikkei Inc., Media Business
Sponsored by	Japan International Cooperation Agency (JICA)
Inquiry	webinar@nex.nikkei.co.jp

25. Int'l Workshop on Lean Satellite - 2020

International Workshop on Lean Satellite – 2020

A "lean satellite" is a satellite that utilizes non-traditional, risk-taking development and management approaches – with the aim to provide value of some kind to the customer at low-cost and without taking much time to realize the satellite mission. These approaches differ significantly from traditional approaches to satellite development. The term "lean satellite" was born during the activities related to the international standardization of small/micro/nano/pico satellite testing starting from 2011. There was no clear definition of the terms "small", "micro", "nano", "pico" that was agreeable to all concerned. So to capture the essence of development and management philosophy -- rather than categorizing based on mass or size -- the term "lean satellite" was adopted.

Every year since 2011, an international workshop to discuss various aspects of lean satellites has been held. The purpose of the workshop is to further promote the study of lean satellites. To deliver the satellite values to stakeholders with affordable cost and permissible delivery time, there are various issues to be examined further, such as standards, testing, operation, manufacturing, interface, project management, etc. Since the beginning of the series, the workshop has focused on standards. It produced two ISO documents, ISO-19683 "Space systems — Design qualification and acceptance tests of small spacecraft and units" and ISO-TS-20991 "Space systems -- Requirements for small spacecraft". Following the workshop in 2019, this year's workshop will put an emphasis on CubeSat interface standardization. There is a strong need to standardize the interface not only among CubeSat components but also between a CubeSat platform (bus) and mission payloads to shorten the satellite delivery time and to promote international trade and collaboration.

CONTINUED ON THE NEXT PAGE

This workshop intends to serve as an open forum for people interested in making and using satellites differently from the traditional ways. Due to the current situation surrounding COVID-19, it has been decided unfortunately that the workshop this year will be held virtually. We will have:

Video presentations about various issues related to lean satellites
(Video files (mp4) on a streaming server will be accessible by the registered participants)
Round-table discussions to discuss the topics related to lean satellites
Presentations are solicited with emphasis on the following but not limited to,

(a) CubeSat interface
(b) Lean Satellite Concept
(c) Satellite Verification & Testing (Hardware and Software)
(d) Project Management (including Lessons Learned)
(e) Constellation (Design, Verification, Manufacturing and Operation)
(f) Cubesats (other than interface)
(g) Satellite Operation (Communication Protocols, Ground Station Networking, etc.)
(h) Lean satellite data mining and distribution
(i) International Projects
(j) New Standards
(k) Frequency Allocation (Radio Spectrum)
(l) Capacity Building
(m) Debris
(n) Safety
(o) Others

The workshop is organized by Kyushu Institute of Technology with the support of the Ministry of Economy, Trade and Industry, Japan.

Preliminary schedule (all in Japan Standard Time)

Deadline of abstract submission:	November 13, 2020
Deadline of video submission:	November 24, 2020
Video presentation viewing:	November 27 ~ December 1, 2020
Round table discussion:	December 1, 2020
	Part-I (7:00~9:00), Part-II (19:00~21:00)

GO HERE FOR FULL DETAILS:
https://lean-sat.org/2020_nets-regist/

26. BIRDS-4: Anibal and Adolfo return to Kyutech

We welcome the return of the BIRDS-4 Paraguay team. They went to Paraguay early in 2020, and then got stuck there for a few months due to COVID-19 measures.

←This photo was taken around 7:00 PM on 23 Oct. 2020, in front of Spina supermarket in Tobata.

They had to spend 2 weeks in quarantine in Tokyo before flying down to Kyushu.

27. Status of KiboCUBE of UN/JAXA collaboration as of October 2020

Kibo CUBE

UNITED NATIONS
Office for Outer Space Affairs

Previous Winners

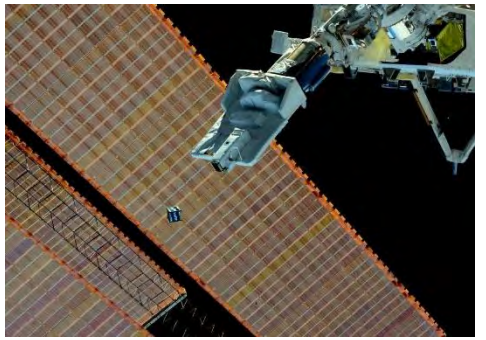
	Winner	Objective	Deployed	Launched	Selected
1st round	KENYA: University of Nairobi "1KUNS-PF"	To monitor agriculture and coastal areas	11.05.2018	04.2018	08.2016
2nd round	GUATEMALA: Universidad de Valle De Guatemala "Quetzal-1"	To acquire remote sensing data for natural resource management	29.4.2020	03.2020	09.2017
3rd round	MAURITIUS: Mauritius Research Council "MIR-SAT 1"	To collect thermal infrared images and to test onboard communication	Currently under development		06.2018
3rd round	INDONESIA: Surya University "SS-1"	To demonstrate remote communication	Currently under development		09.2018
4th round	MOLDOVA: Technical University of Moldova "TUMnanoSAT"	To demonstrate technology and test various components	Currently under development		06.2019
5th round	SISTEMA DE LA INTEGRACIÓN CENTROAMERICANA "MORAZAN-SAT"	To monitor weather variables in remote areas providing early warning during extreme weather events	Currently under development		2020

MORI

Status of KiboCUBE – where UN/JAXA launches at least one 1U CubeSat per year for a non-space-faring nation.

Full details are here:

https://www.unoosa.org/oosa/en/ourwork/psa/hsti/kibocube.html



← This was received from Reynel (SEIC student of Honduras) on 25 Oct. 2020

New publication reminder #1: New BIRDS document

This document consists of 21 pages.


BIRDS
International
Capacity Building Platform

革新的宇宙利用実証ラボラトリー
Laboratory of Lean Satellite Enterprises and In-Orbit Experiments

Sangkyun Kim

1 July 2020

Kyushu Institute of Technology

DOWNLOAD THIS NEW DOCUMENT FROM HERE

https://kyutech-laseine.net/english/download.html

New publication reminder #2: New SEIC document

Introduction to SEIC

✓ What is it?
✓ How to sign up
✓ How to prepare

29 June 2020

Edited by:
G. Maeda
革新的宇宙利用実証ラボラトリー
Laboratory of Lean Satellite Enterprises and In-Orbit Experiments (LaSEINE),
Kyushu Institute of Technology (Kyutech)
Kitakyushu, Japan

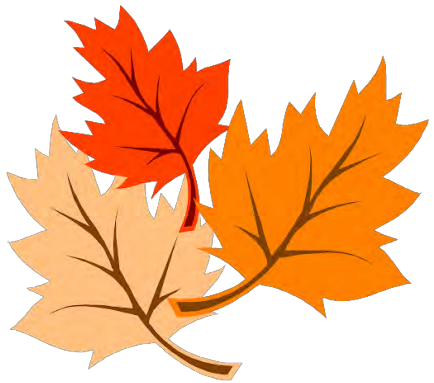
This document consists of 38 pages.

Space Engineering International Course

Kyutech
Kyushu Institute of Technology

DOWNLOAD THIS NEW DOCUMENT FROM HERE

https://kyutech-laseine.net/english/download.html



End of this **BIRDS Project Newsletter**

(ISSN 2433-8818)

Issue Number Fifty-Seven

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.