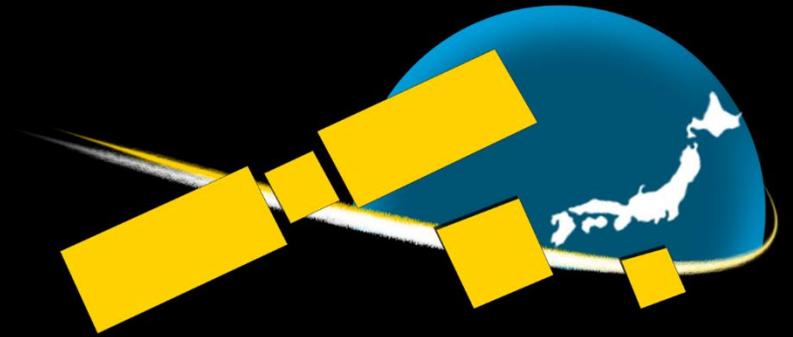


More about PNST and SEIC

G. Maeda (assistant professor)
Kyushu Institute of Technology
“Kyutech”

UNOOSA's PNST Webinar
22 September 2021



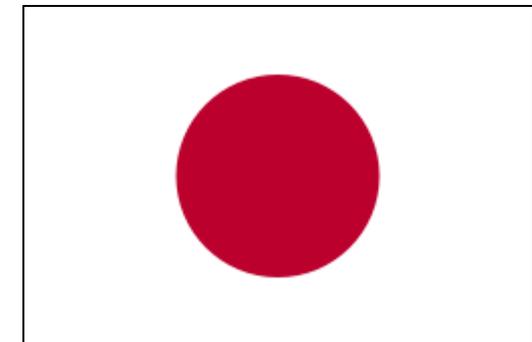
SEIC

Space
Engineering
International
Course



SEIC students celebrating spring under cherry blossoms

**Come to Japan for
a great learning
and cultural
experience ...**



**... it will change
your life**



**The pdf of this
presentation is available
at
UNOOSA's PNST website**

-- there are many links in this pdf



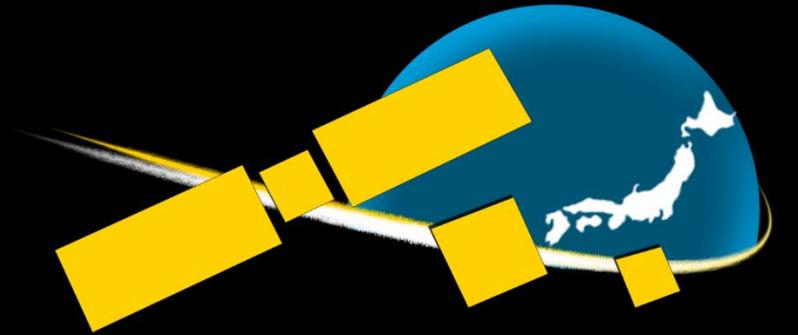
So Ms. Hazuki Mori just made an introduction to PNST, which is a scholarship program jointly run by UNOOSA and Kyutech. The annual intake is 3 Phd students and 3 Master's degree students, and all their studies are carried out at Kyutech.

But if you are going to apply for PNST, you might ask this question:

Exactly what am I getting into?

You are
getting into
this →

The SEIC logo was designed by Hala,
a Sudanese PNST graduate
(Class of 2015).



SEIC

**Space
Engineering
International
Course**

What is SEIC?

It is a post-graduate engineering program at Kyutech in Japan.

SEIC leads to a masters degree (takes two years) or a Phd (takes three years). It is taught in English so that we can attract the best engineering students from all corners of the world.



Four SEIC students (**Mexico**, **Nigeria**, **Philippines**, and **Sudan**) receive *Emerging Space Leader* (ESL) awards during 2019 IAC in Washington, DC.



BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

Critical Design Review

MILaIS • 1:00 PM
September 5, 2019

Kyutech
Kyushu Institute of Technology

La SEINE

DO REAL SATELLITE PROJECTS

**SEIC is
explained
as four
topics**

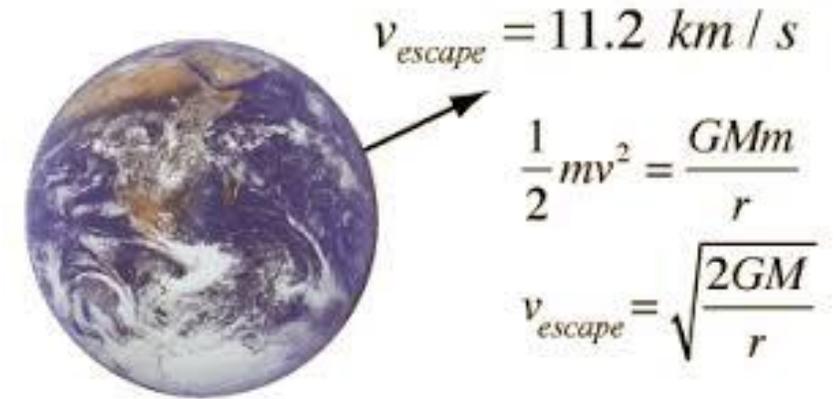


- I. Highlights
- II. Components of SEIC
- III. Career development opportunities
- IV. Space projects

COVERED ON THE NEXT FEW PAGES

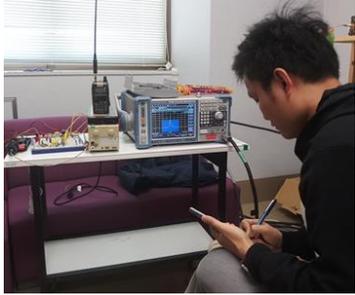
I. Highlights

- ❑ Lectures based in English
- ❑ Rigorous space engineering curriculum
- ❑ Multi-cultural environment
- ❑ Japanese 日本語 lessons are provided
- ❑ Discover superb Japanese food & culture



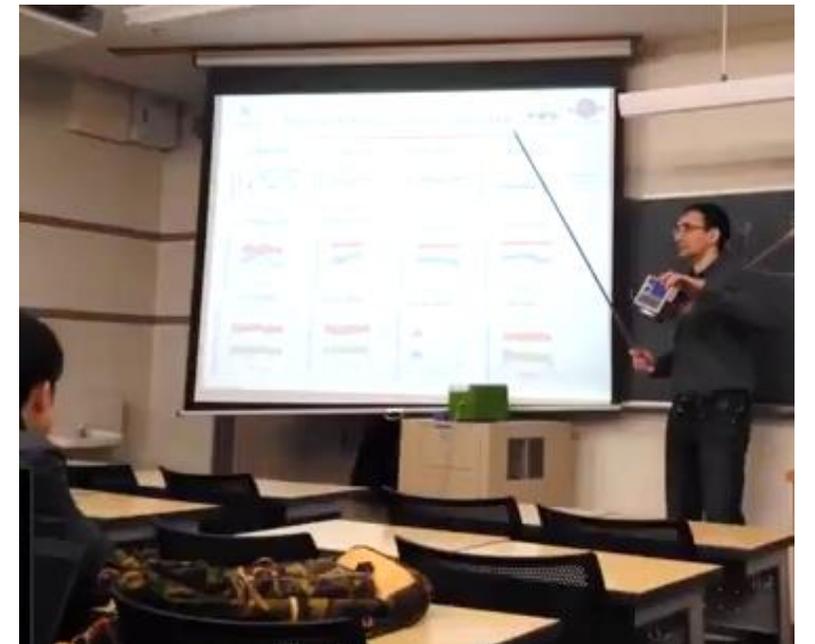
和食

II. Components of SEIC



SEIC is structured around four components:

- Research under supervision of a faculty member toward a Master or Doctoral degree
- On-the-job training through hands-on experience such as performing thermal vacuum tests
- *Project Based Learning* (PBL) through a space project led by Japanese and foreign students
- Lectures on subjects related to space engineering





Note

We will teach space engineering to you at Kyutech but more fundamentally we are teaching *systems engineering* here at SEIC.

Therefore, when you graduate, you will be able to find work in a wide variety of industrial sectors – not just in space.

III. Career development opportunities



On 25 Jan 2018, Prof. Jordi Puig-Suari (Cal Poly) delivered this lecture: "CubeSats as Workforce Development".



During 2018, Dr Werner Balogh (UNOOSA) gave a 2-credit course called "The Int'l Dimension of Space Activities: Space Law and Policy for Engineers".



In July 2019, Dr Danielle Wood (MIT) taught a short course called "Space Technology for the Sustainable Development Goals".



On 2 Oct 2019, Mr. Kittanart Jusatayanond (CEO of Astroberry, Thailand) discussed his adventures of starting his own space start-up firm and gave career advice to SEIC students.

Throughout SEIC, we want you to have a multi-faceted experience. The goal is not just to acquire high tech engineering skills, but also to understand how the **contemporary space industry operates in terms of politics, business, space law, space policy, R&D, out-reach, higher education, and so on.**

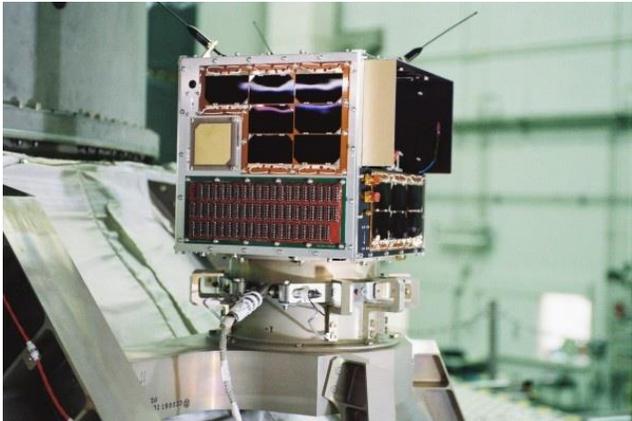
This makes you more attractive to employers inside and outside of the space industry.

IV. Space projects

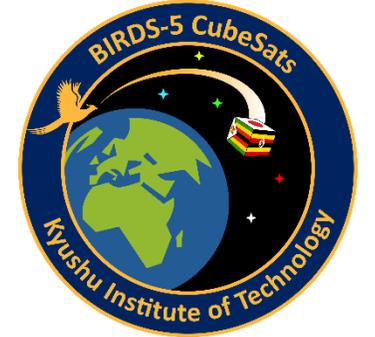


ABOVE: The HORYU-4 development team (46 staff and students from 18 countries)

BELOW: HORYU-4 flight model



(BIRDS-1 Project)



Kyutech always has satellite projects underway – see the next page for a list of our satellites that have been launched. If there is a mutual match, you can get involved.

BIRDS is a special category. It was designed to help non-space-faring nations get their first satellite into space; so the funding came from those nations.

**The 21
satellites
that we
have
launched
so far
(more than
any other
university)**

Kyutech Satellite History

G.Maeda, 10 July 2021

No.	Satellite name	(a) Date of Launch (b) ISS deployment	Nations involved	Note
1	HORYU-II	(a) 2012/5/18	Japan	
2	Shinen-2	(a) 2014/12/03	Japan	
3	HORYU-IV	(a) 2016/02/17	Japan	
4	AOBA VELOX-III	(a) 2017/01/19	Japan and Singapore	
5	BIRDS-I : Ghana	(b) 2017/07/07	Japan and Ghana	Ghana's first satellite
6	BIRDS-I : Mongolia	(b) 2017/07/07	Japan and Mongolia	Mongolia's first satellite
7	BIRDS-I : Nigeria	(b) 2017/07/07	Japan and Nigeria	
8	BIRDS-I : Bangladesh	(b) 2017/07/07	Japan and Bangladesh	Bangladesh's first satellite
9	BIRDS-I : Japan	(b) 2017/07/07	Japan	
10	BIRDS-II : Philippines	(b) 2018/08/10	Japan and Philippines	
11	BIRDS-II : Malaysia	(b) 2018/08/10	Japan and Malaysia	
12	BIRDS-II : Bhutan	(b) 2018/08/10	Japan and Bhutan	Bhutan's first satellite
13	SPATIUM-I	(b) 2018/10/06	Japan and Singapore	
14	Ten-koh	(a) 2018/10/29	Japan	
15	AOBA VELOX-IV	(a) 2019/01/18	Japan and Singapore	
16	BIRDS-III : Nepal	(b) 2019/06/17	Japan and Nepal	Nepal's first satellite
17	BIRDS-III : Japan	(b) 2019/06/17	Japan	
18	BIRDS-III : Sri Lanka	(b) 2019/06/17	Japan and Sri Lanka	Sri Lanka's first satellite
19	BIRDS-IV : Japan	(b) 2021/03/14	Japan	
20	BIRDS-IV : Paraguay	(b) 2021/03/14	Japan and Paraguay	Paraguay's first satellite
21	BIRDS-IV : Philippines	(b) 2021/03/14	Japan and Philippines	

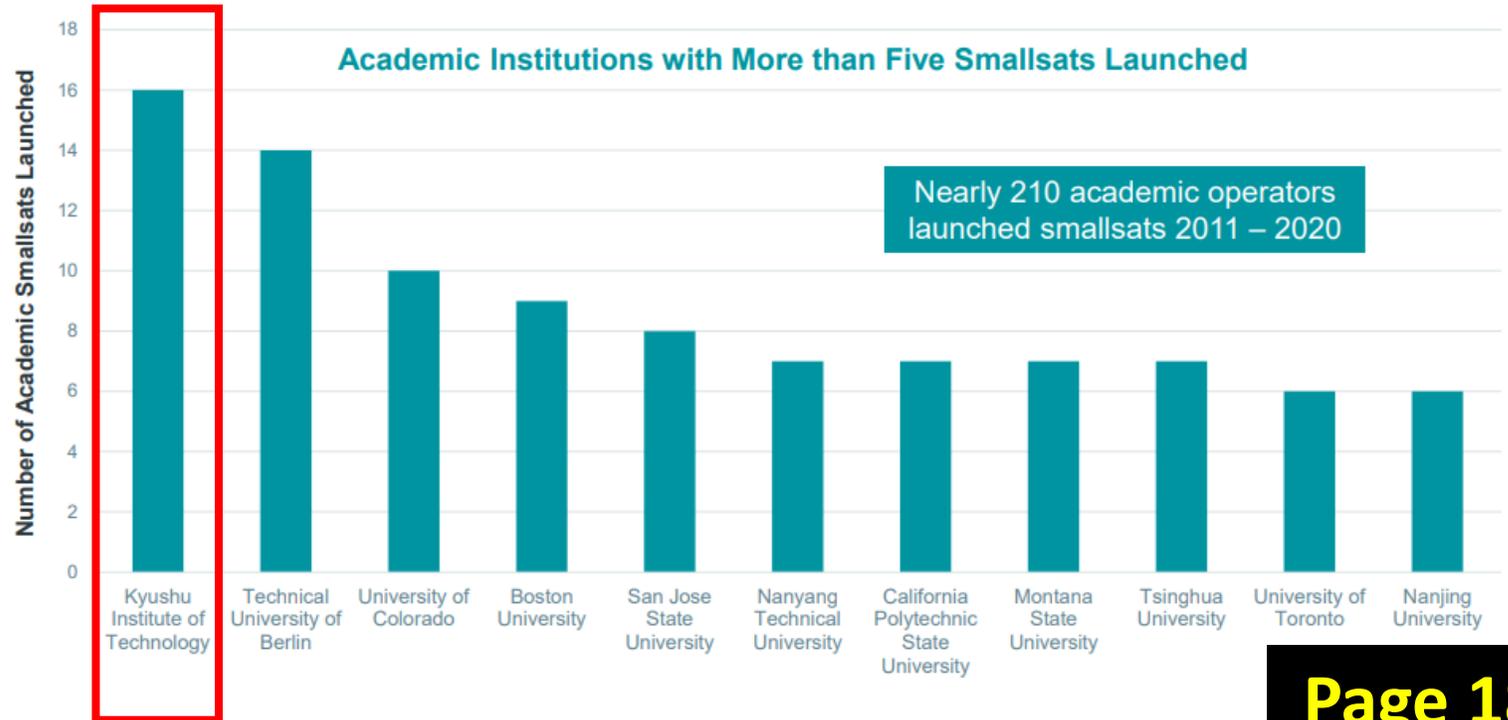


<https://brycetek.com/reports>

If you download the report “Smallsats by the Numbers 2021” produced by **BRYCE SPACE & TECHNOLOGY** (based in Virginia, USA), you will see that they credit Kyutech with the highest number of smallsat launches by any university in the world.

Number of Academic Smallsats 2011 – 2020, by Institution

Smallsats in Context and Operator/Mission Type Trends

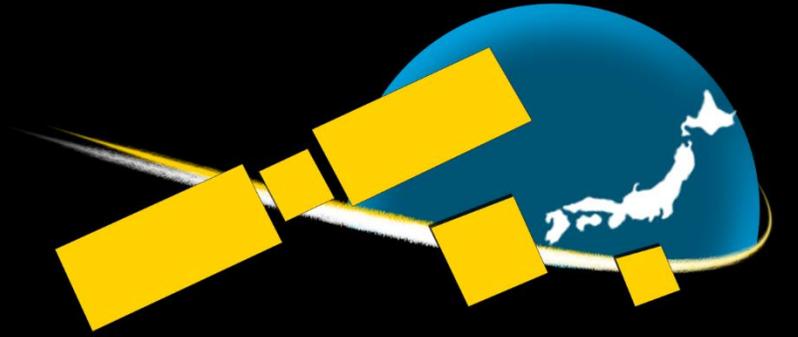


#1

A major factor behind our high number is the BIRDS Project

Page 18

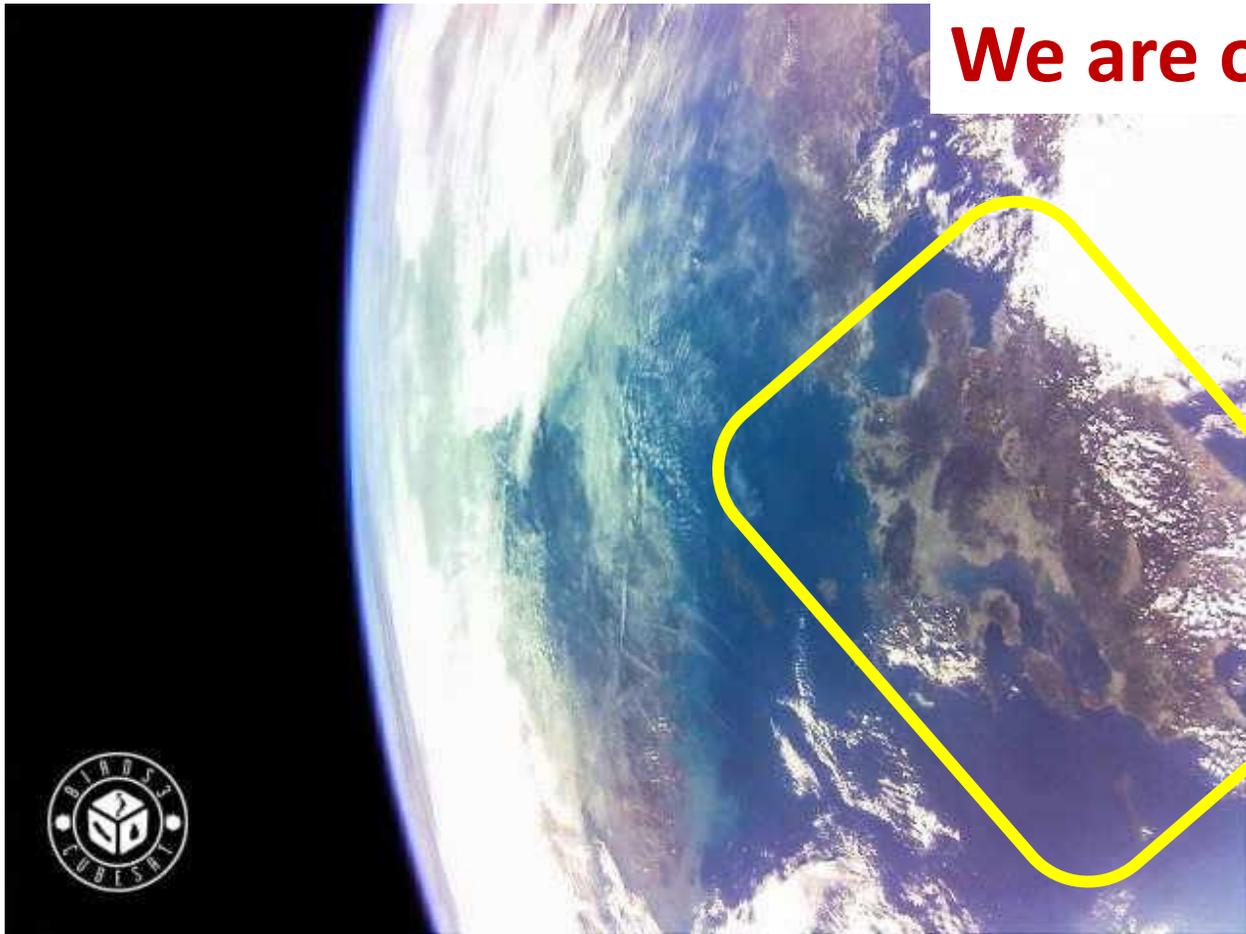
Where is Kyutech located?



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We are on the southern island of Kyushu



A view of Kyushu taken by BIRDS-3

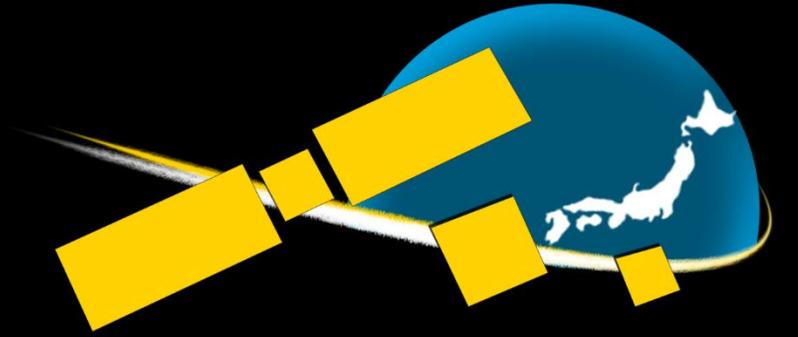


**The
archipelago
of Japan**

Link for a 29-page visual tour of Kyushu:

https://birds3.birds-project.com/wp-content/uploads/2018/12/Kyushu_for_SEIC.pdf

Where do SEIC students come from?



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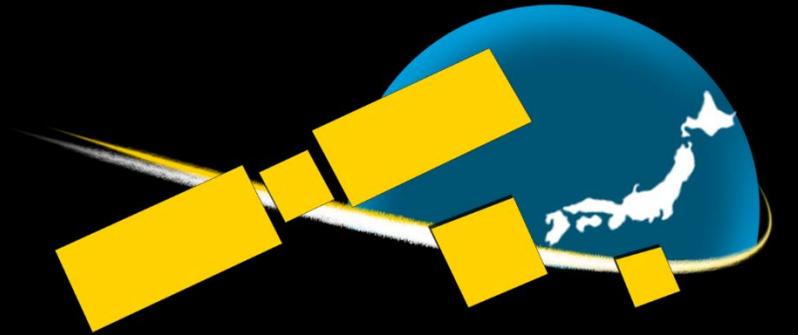
CURRENTLY ENROLLED IN SEIC →

**They
come
from all
over the
world !**

Number of students from each participating country			
15	Japan	1	Honduras
4	Philippines	1	India
3	France	1	Laos
3	Paraguay	1	Malaysia
3	Thailand	1	Mexico
3	Uganda	1	Morocco
3	Zimbabwe	1	Nepal
2	Indonesia	1	Nigeria
2	Myanmar	1	Spain
1	Algeria	1	Sri Lanka
1	Bhutan	1	Sudan
1	Brazil	1	Trinidad and Tobago
1	China	1	Turkey
1	El Salvador	1	Vietnam
1	Ethiopia		

**As much as
possible, we try to
get you into
satellite projects**

(for the following reason)



SEIC

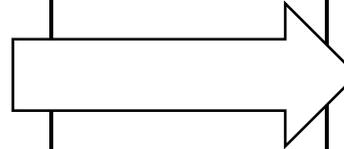
**Space
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All problems are local !

Your country should learn how to build CubeSats to improve the quality of life



Local Expertise
Problem and Solution ID



New Low-Cost
Space Solutions

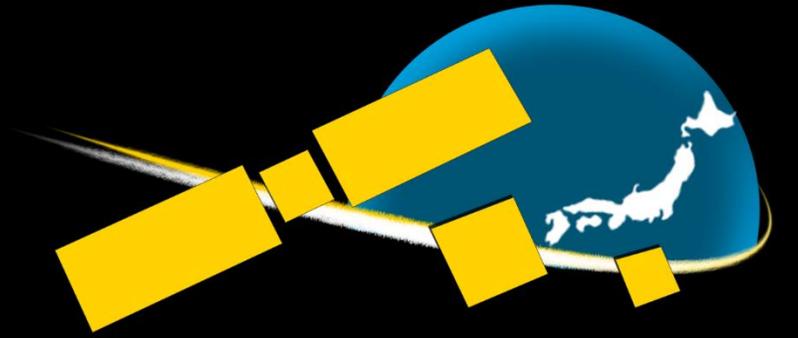


This slide is from Prof. Jordi Puig-Suari of Cal Poly, USA

So in conclusion

- ◆ Read the UNOOSA interview of Fatima, PNST Fellow
- ◆ Review “Introduction to SEIC”, by G. Maeda
- ◆ Check out our SEIC YouTube channel 

=== Explained on the next few pages ===



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Be sure to catch the 2021
UNOOSA interview with
Ms. Fatima Duran,
a PNST Fellow currently
pursuing her master's
degree at SEIC

門司港



READ THE ENTIRE INTERVIEW HERE:

https://www.unoosa.org/documents/pdf/psa/bsti/fellowship/2022/Interview_Article_PNST2021_Fatima_Duran.pdf

To learn more
about SEIC,
I highly
recommend this
38-page
document →

You can down
load it with the
link below.

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



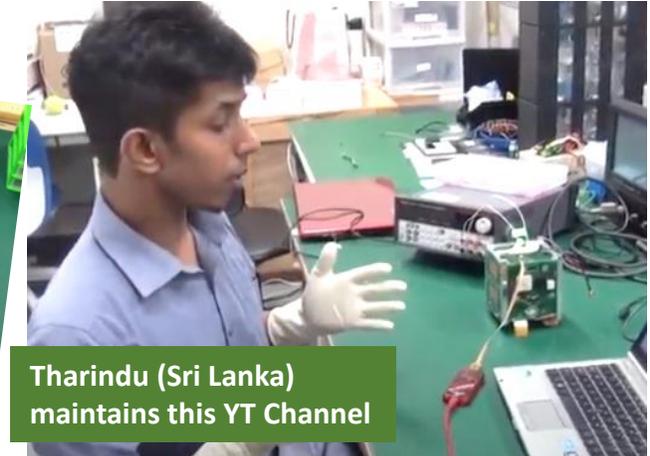
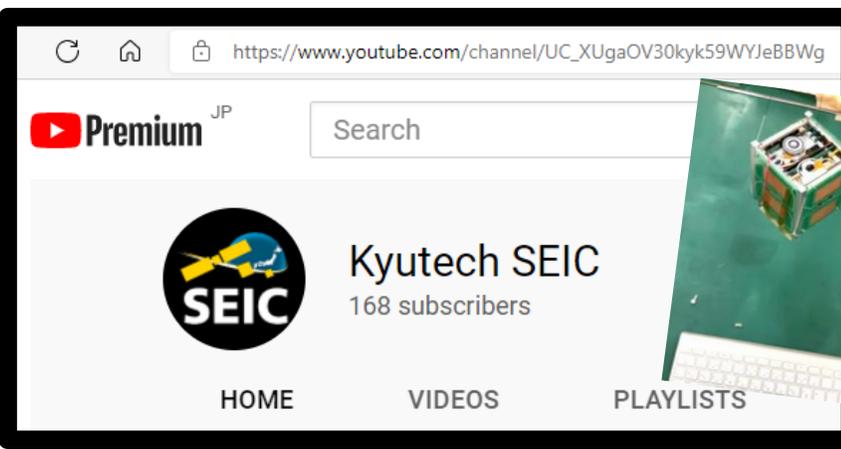
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Kyutech
Kyushu Institute of Technology

DOWN LOAD THE PDF: https://kyutech-laseine.net/download/images/Introduction_to_SEIC.pdf

I also recommend a visit to our "Kyutech SEIC YouTube Channel". It contains fun videos created by our SEIC students.



Tharindu (Sri Lanka) maintains this YT Channel



Mongolia's first satellite (BIRDS-1)



BIRDS-4 Satellites' DEPLOYMENT FROM ISS

MAR 14
7:30 PM (JST)

TSURU

MAYA-2

GUARANISAT-1



BIRDS-4
JOINT GLOBAL MULTI-NATION BIRDS SATELLITE PROJECT

JICA ABE Scholars

	SENIOR SHIMHANDIA		HIND MAHMOUD ELHAJ
Country : Namibia Affiliation: Namibia Institute of Space Technology		Country : Sudan Affiliation: Institute of Space Research and Aerospace (ISRA)	
Scholarship: African Business Education (ABE) Initiative University: Kyushu Institute of Technology Laboratory: Laboratory of Spacecraft Environment Interaction Engineering (LASEINE)			



Weekend trips by students

UNSEEN KYUSHU
KUMAMOTO • ASO
TAKETA • BUNGO-ONO



Deployment of BIRDS-2

GO



Sweet Chilli Shrimp
in less than 15 mins
Our students know how to cook!



BIRDS-2 PROJECT

Check out our YouTube Channel:
https://www.youtube.com/channel/UC_XUgaOV30kyk59WYJeBBWg

The End

Thank you for your attention

