



UNISEC

GLOBAL

A Year in Review

20

21

Remembering Prof Plamen Dankov



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20

21



"National boundaries are not evident when we view the Earth from space. Fanatical ethnic or religious or national chauvinisms are a little difficult to maintain when we see our planet as a fragile blue crescent fading to become an inconspicuous point of light against the bastion and citadel of the stars."

– Carl Sagan, Cosmos

2021 – A year of challenges

The 10th

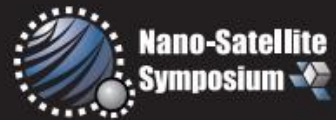
Nano-Satellite Symposium

The 8th

UNISEC-Global Meeting

July 8-13, 2020

Istanbul Technical University, Istanbul, Turkey



July 8-11, 2020
10th Nano-Satellite Symposium
nanosat10th.itu.edu.tr
Abstract Due on Feb 29, 2020



July 11-13, 2020
8th UNISEC-Global Meeting
unisec-global.org
Pre-7th Mission Idea Contest
spacemic.net



Associated Event
July 7, 2020
LeanSat Workshop
lean-sat.org
July 5-6, 2020
HEPTA-Sat Training
hepta-sat.unisec-global.org

Postponed meetings/activities:

-8th UNISEC Global Meeting

-10th Nanosatellite Symposium

-HEPTA-Sat Training

-CLTP11

Opportunities through adversity



7th Mission Idea Contest (Hybrid)



International
Academy of
Astronautics



The University of Tokyo,
Institute for Open Innovation

Online Lecture series

**Advancing space education in Asia-Pacific:
best practices and policy challenges ahead**

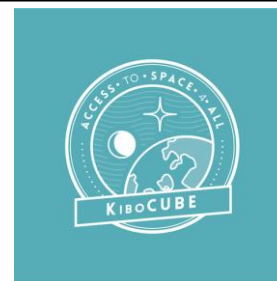


Quentin VERSPIEREN

Assistant Professor, Graduate School of Public Policy
Science, Technology, and Innovation Governance (STIG) Program
The University of Tokyo



東京大学
THE UNIVERSITY OF TOKYO



KiboCUBE Acedemy



APRSAF

ASIA-PACIFIC REGIONAL
SPACE AGENCY FORUM

Higher Space Education
Working Group

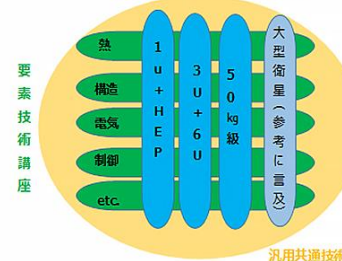


UNITED NATIONS
Office for Outer Space Affairs

58th STSC UNCOPUOS

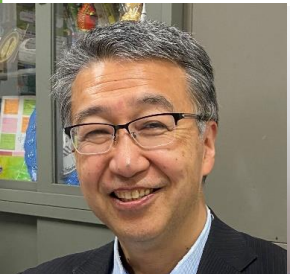
UNISEC Academy

システム実践技術講座
(企画～設計～製造～打ち上げ～運用)



Date	Title	Occasion/Venue
26-04-21	Statement of UNISEC-Global	the 58th Subcommittee of UNCOPUOS (virtual)
31-05-21	Statement of UNISEC-Global	the 60th Legal Subcommittee of UNCOPUOS(virtual)
22-06-21	UNISEC-Global Past, Present and Future	SEIC Guest Lecture, Kyushu Institute of Technology (virtual)
28-06-21	Introduction to 7th Mission Idea Contest	7th Mission Idea Contest, Thailand's National Presentation Round by UNISEC-Thailand(Virtual)
25-08-21	UNISEC-Global initiative on government policies in support of space education	the 64th UNCOPUOS(virtual)
1-09-21	Statement of UNISEC-Global	the 64th UNCOPUOS(virtual)
25-09-21	UNISEC-Global's approach for "Satellites for Everyone and Space for Everyone"	the 9th Indian Technology Congress (ITC 2021) on "Satellites for Everyone and Space for Everyone" (virtual)
7-10-21	UNISEC-Global-helping students around the world build and operate satellites	World Space Week New Zealand(Virtual)

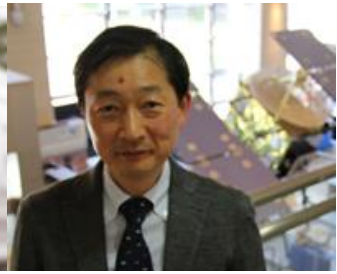
Hybrid MIC 7 & Lecture series



Shinichi Nakasuka,
Univ of Tokyo



Ryu Funase,
Univ of Tokyo



Munetaka Ueno,
Kobe University



Rainer Sandau,
IAA



Herman Steyn,
Stellenbosch University



Naoya Ozaki,
ISAS/JAXA

2900+ Views

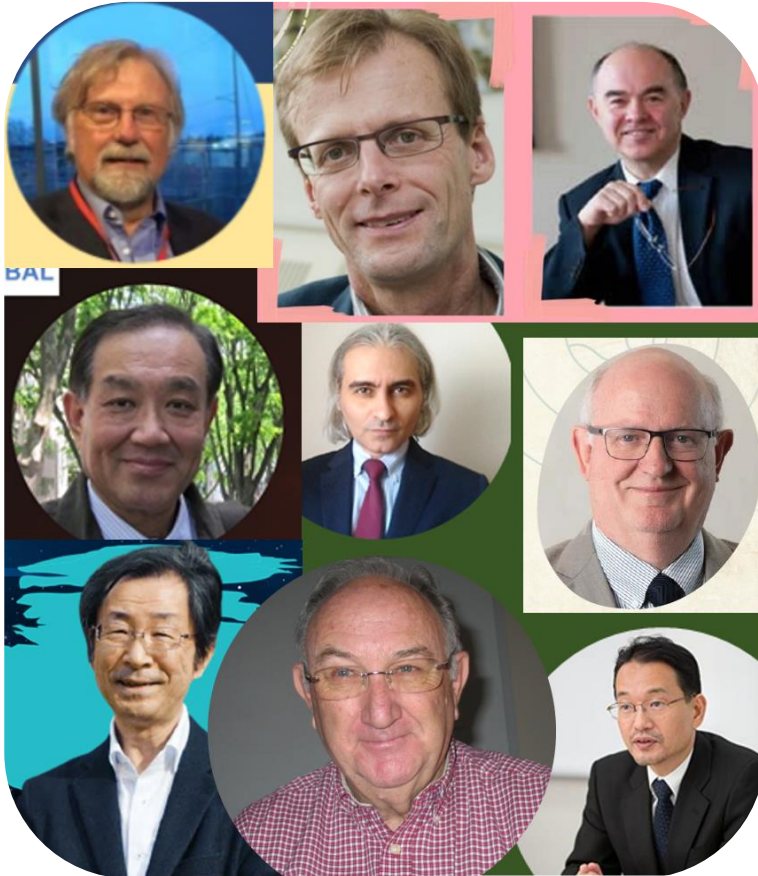
1ST PLACE WINNER

PARS: Precursor Asteroid Remote
Survey

Batu Candan, Cansu Yildirim, Derya Sarmisak,
Mehmet Esit, Sahin Ulas Koprucu, Sefa Cengiz,
Semra Sultan Uzun, Sirin Yakupoglu, Middle East
Technical University



Virtual UNIGLO-Meetings



34

Special
guest
speakers

	Month	Theme	Presenter	Country
UNIGLO 5	21-Jan	Mixed	Yuichi Tsuda, Project Manager of Hayabusa-2, ISAS/JAXA	Japan
			Robert Twiggs, Destination Space -STEM	USA
			Shinichi Nakasuka, the University of Tokyo	Japan
UNIGLO 6	21-Feb	Mixed	Tatsuya Arai, Oceaneering Space Systems	USA
			Rei Kawashima, UNISEC-Global	Japan
UNIGLO 7	21-Mar	Mixed	Ken Biba, AeroPAC	USA
UNIGLO 8	21-Apr	Acces to Space for All	Jorge Del Rio Vera, United Nations Office for Outer Space Affairs (UNOOSA)	
			Quentin Verspieren, Researcher, Science, Technology and Innovation Governance (STIG) Program	Japan
UNIGLO 9	21-May	Space weather	Takahiro Obara, Tohoku University	Japan
			Ayman Mahmoud Ahmed, Egyptian Space Agency	Egypt
			Carlos Rodriguez, Tecnológico de Costa Rica	Costa Rica
UNIGLO 10	21-Jun	Space Education Rating	Quentin Verspieren, the University of Tokyo	Japan
UNIGLO 11	21-Jul	Mixed	Juan De Dalmau, ISU	France
UNIGLO 12	21-Aug	Space Education Policy	Yeshurun Alemayehu Adde(Kibret), Ethiopian Space Science & Technology Institute	Ethiopia
UNIGLO 13	21-Sep	Your faith, your story	Michael Davis, Chair, The Andy Thomas Foundation	Australia
UNIGLO 14	21-Oct	Dark night sky	Masatoshi Ohishi, National Astronomical Observatory of Japan	Japan
UNIGLO 15	21-Nov	MIC7	Ryu Funase, the Univeresity of Tokyo	Japan
			Batu Candan, Middle East Technical University	Turkey
			Sumeth Klomchitcharoen, Mahidol University	Thailand

Virtual UNIGLO-Meetings

Space Weather Breakout Room Scenario Activity

For over 25 years the Solar and Heliospheric Observatory (SOHO) has played a critical role in monitoring coronal mass ejection activity (CME), however cumulative damage to SOHO's solar panels have finally left the satellite inoperable*. Several other satellites performing similar missions are also reaching their end-of-life such as the Advanced Composition Explorer (ACE) which is expected to run out of propellant in 2024, and the Solar Terrestrial Relations Observatory (STEREO). New instruments are planned for launch, but will likely begin operation after current instruments fail. You and your teammates have formed a specialist working group and completed an investigation into how small-satellite solutions may fill gaps in the current observatory network. As you prepare to deliver a report on your findings, your team must determine the priority of each observable listed in Table 1, providing justification for each case. If you previously completed the optional pre-meeting task, or had additional ideas, please enter these data in Table 1.

Instrument	Description
Magnetometer	Magnetometers can measure the direction, strength, or relative change of a magnetic field at a particular location. Both Earth and the Sun both produce a magnetic field. Charged particles enter the Earth's magnetic field via the poles.
Electric field sensor	Electric field sensors can be used to detect electric charges on conductors as well as in applications of voltage breakdown and shielding from electro-magnetic radiation.
Particle detector	Particle detectors are used to detect, track, and/or identify ionizing particles, such as those produced by the Sun. Particle energy, momentum, spin, charge and type are typical measurements. X-rays are high energy electro-magnetic radiation with a wavelength between 10 picometers to 10 nanometers. All stars produce X-rays with a greater flux produced during solar flares. The energy range covers soft X-rays (0.5-5 keV) and hard X-rays (5-10 keV).
X-ray spectrometer (0.5-15 keV)	Langmuir probes are used to detect electron temperature, electron density, and electric potential of a plasma. Plasma affects space craft charging, electrostatic discharging and ionospheric drag.
Langmuir probe	Plasma-neutral interactions occur in the atmosphere influencing the momentum and energy among particulates such as electrons, ions, and between the ionized plasma and electromagnetic fields influencing ionospheric drag.
Neutral pressure sensor	Ionospheric winds distribute gasses and charged particles changing ionospheric conditions and potentially interrupting signals.
Wind metre	Mass spectrometers measure the mass to charge ratio of a particle to determine the particle weight (and composition). Neutral compounds are important for drag measurements.
Mass spectrometer	Flux probes can be used to represent the transport of mass, momentum, and energy across the ionosphere.
Flux probe	White light coronagraphs telescopes designed to view the very faint electron emission of the solar corona in the region close to the sun recording coronal emissions in the inner heliosphere from the solar disk to the orbit of Earth. These data may help explain star mass loss.

Breakout room activities

Eco-system Model of University Space activities



Community announcements

GOMSPACE

a.i. solutions

GranSystems

NEW
Nakashimada Engineering Works, Ltd.

MITSUBISHI ELECTRIC
Changes for the Better

CUBE SPACE

TEACHING SCIENCE AND TECHNOLOGY, INC.

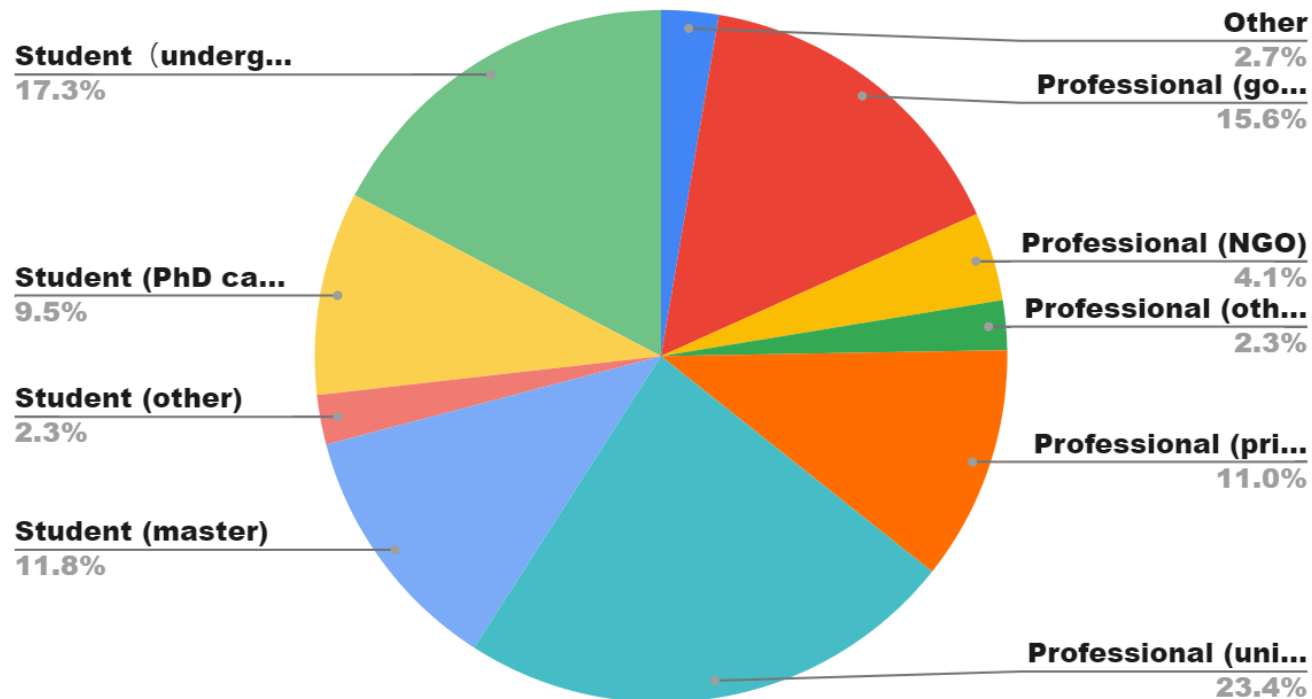


8

Corporate members

Virtual UNIGLO-Meetings

Count of Student or professional?



700

Unique registrants

40.9%

Student participation

60+

Countries /regions

Virtual UNIGLO-Meetings – Your comments

What's the problem in education in the space field in your region?

57 responses

- "If you

Have you participated in the UNISEC-Global Meeting previously?

63 responses

Lack of business /

- Very inte
- and hear

Do you think

135 responses

-

Strongly agree

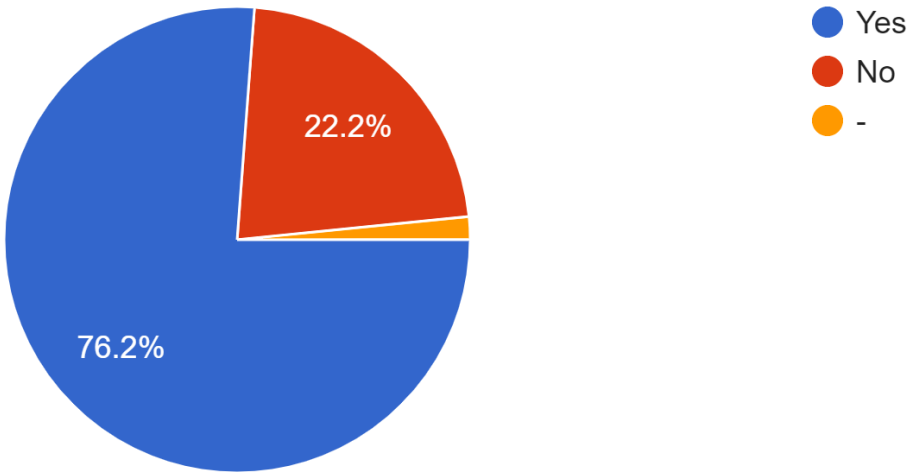
Agree

Do not know

- I'm especially interested in t
- exploration project led

Have you participated in the Mission Idea Contest (or similar competition) previously?

72 responses



- Thank you for all the effort
- you put forward

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s are
logy
o be

formative years

Plans for 2022

Virtual UNIGLO
Meetings
continue

MIC8 launch
facilitating
hybrid event

Planned
recommencement
of in-person
programs (HEPTA,
CLTP)

8th UNISEC
Meeting and
Nanosatellite
symposium to
return

Integrated
Learning
partnerships

Congruent
systems among
UNISEC Local
Chapters

HEPTA-Lite
online learning
platform

UNISEC

GLOBAL

A Year in Review

Thank you for a
fantastic year!